

FRONT RANGE COMMUNITY COLLEGE
CATALOG
2018-2019



ONE > **YOUR**
FOCUS **SUCCESS**



FRONT RANGE
COMMUNITY COLLEGE

Boulder County Campus • Larimer Campus • Westminster Campus • Brighton Center • FRCC Online Learning

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WELCOME

Our No. 1 priority is student success. We believe that learning is a partnership among students, faculty, and staff, and we are dedicated to providing opportunities for diverse learners and communities. Here are a few of the ways we focus on your success:

We prepare you for the real world.

Our career/technical programs train students for careers in well-established and emerging industries. Precision Machining students learn on state-of-the-art equipment in a \$10 million Advanced Technology Center. Surgical Technology students learn in a replica operating theater before their internships, and their classes align with the guidelines of the Association of Surgical Technologists. An integrated technology building houses the latest equipment to train students in Automotive Technology, Manufacturing and Energy Technology, and Welding Technology. Manufacturing and Energy Technology has a 20-kilowatt steam turbine power plant in a laboratory at the Colorado State University Powerhouse Energy Campus.

Your credits are guaranteed to transfer.

Our transfer students do as well or better than students who start at universities. I'm proud to say that Front Range Community College and transfer partner Colorado State University are among just six "high-performing community colleges and universities" nationwide profiled in a guide to help more students transfer and earn bachelor's degrees. This is just one example of the strength of our transfer degrees. Our Associate of Arts (A.A.) and Associate of Science (A.S.) degrees are guaranteed to transfer to the colleges of arts and sciences at all public four-year colleges and universities in Colorado. You also can graduate from FRCC with a degree with designation in one of 29 pathways that are guaranteed to give you junior standing at public colleges and universities in Colorado. In addition, special statewide transfer agreements guarantee that many credits will transfer in fields such as early childhood education, elementary education, and nursing. With all these transfer opportunities and FRCC's reputation for academic rigor and excellence, it's no wonder FRCC is the number one transfer institution for Colorado State, the University of Colorado-Boulder, University of Northern Colorado, Regis University, Colorado Mesa University, Western State Colorado University, and Colorado State-Global. We also have transfer agreements with Colorado School of Mines and the University of Denver.

Our faculty are dedicated to teaching and learning.

Our highly educated faculty are passionate about teaching and student success. Classes are small enough that instructors know your name and can help you get to where you want to go.

We're cutting-edge.

Classrooms and labs employ some of the best technology in the state. Students work with the latest software and computer equipment, and our state-of-the-art facilities ensure teaching is always at the leading edge.

We partner with high schools.

Our Gateway to College and College Now programs, which allow students to earn high school and college credit simultaneously, are just a few examples of FRCC's commitment to helping young students better their lives through education.

Our students come from all walks of life.

FRCC students come from a wide range of ethnic, socioeconomic, and educational backgrounds. From freshmen coming straight from high school to adult students seeking to further their careers, we embrace diversity and inclusion.

We'll help you figure it all out.

If you are unsure of what you want to do, our Pathways advisors will help you determine your goals, choose classes, and plan your career. If you are concerned that you are not ready for college-level class work, developmental English and math courses prepare you in one semester. A number of those classes are "learning communities" where your teachers and fellow students support you. We also provide tutoring, study-skills seminars, math and science help centers, and a number of other support services.

At FRCC, you will save a bundle.

Starting at FRCC will save you thousands of dollars in tuition, helping you reach your goals affordably. If you are a Colorado resident, apply for the College Opportunity Fund to cover part of your tuition.

We help you succeed.

FRCC has programs and resources that will help you thrive - and have fun while you're at it. Our service learning and mentorship programs enhance your experience. We also believe that not all learning takes place in the classroom. Clubs and student activities, including leadership development programs, offer opportunities to lead and learn.

On behalf of all of our staff and faculty, I welcome you to Front Range Community College. When it comes to focusing on your success, FRCC is unmatched. I am excited that you have chosen to partner with us as you begin or continue your educational journey.

Andy Dorsey, President

Catalog Usage

Which Catalog to Use?

This catalog is effective beginning Summer Semester 2018 for students enrolling at Front Range Community College for the first time. Continuing students who have not had a 12-month lapse in enrollment will be allowed to use the requirements listed in any catalog published while continuously attending the college. Students may not combine requirements from multiple catalogs in order to graduate.

Other Formats Available

This publication is available in alternate formats. Call 303-404-5000 for availability.

Where to Find Catalog Updates?

This catalog is true and accurate at the time of publication. Front Range Community College reserves the right to change provisions, requirements, and/or fees listed in this catalog.

Additions and changes may occur because of updates to state or federal law, CCCS policies or procedures, college regulations or accreditation requirements. Updates, changes and addenda to this catalog can be found on the FRCC website: www.frontrange.edu/catalog.

Nothing in this catalog is intended to create (nor shall be construed as creating) an expressed or implied contract. The College reserves the right to modify, change, delete, or add to, as it deems appropriate, the policies, procedures, and other general information in this catalog.

Academic Calendar

Summer Semester 2018

Class Sessions: START 1

10-Week Classes May 30 - Aug 8

1st 5-Week Classes May 30 - July 3

Weekend Classes June 1 - Aug 5

Class Sessions: START 2

8-Week Classes June 13 - Aug 8

Class Sessions: START 3

2nd 5-Week Classes July 5 - Aug 8

Special Days & Holidays

Independence Day - College Closed July 4th, Normal Weekend Classes Wed. July 4

Grades Due (4:00 pm) Thurs. Aug 9

Fall Semester 2018

Faculty Work Days

9-Month Faculty Report Mon. Aug 13

Class Sessions: START 1

Weekend Classes Aug 18 - Dec 10

15-Week Classes Aug 20 - Dec 11

1st 12-Week Classes Aug 20 - Nov 13

1st 10-Week Classes Aug 20 - Oct 29

1st 7-Week Classes Aug 20 - Oct 9

1st 5-Week Classes Aug 20 - Sept 25

14-Week Classes Aug 27 - Dec 11

Class Sessions: START 2

13-Week Classes Sept 5 - Dec 11

2nd 12-Week Classes Sept 12 - Dec 11

Class Sessions: START 3

2nd 10-Week Classes Sept 26 - Dec 11

2nd 5-Week Classes Sept 26 - Oct 30

2nd 7-Week Classes Oct 17 - Dec 11

3rd 5-Week Classes Oct 31 - Dec 11

Special Days & Holidays

Labor Day - College Closed, No Classes Mon. Sept 3

All College In-Service - College Open, No Classes, Limited Services Tues. Sept 4

Fall Break - All Campuses - College Closed Nov 22 Only

Fall Break - All Campuses - No Classes Nov 19 - Nov 25

Grades Due (4:00 pm) Fri. Dec 14

Spring Semester 2019**Faculty Work Days**

9-Month Faculty Report Mon. Jan 14

Class Sessions: START 1

Weekend Classes Jan 25 - May 12

15-Week Classes Jan 22 - May 13

1st 12-Week Classes Jan 22 - Apr 22

1st 10-Week Classes Jan 22 - Apr 8

1st 7-Week Classes Jan 22 - Mar 11

1st 5-Week Classes Jan 22 - Feb 25

14-Week Classes Jan 29 - May 13

Class Sessions: START 2

13-Week Classes Feb 5 - May 13

2nd 12-Week Classes Feb 19 - May 13

Class Sessions: START 3

2nd 5-Week Classes Feb 26 - Apr 8

2nd 10-Week Classes Mar 5 - May 13

2nd 7-Week Classes Mar 19 - May 13

2nd 7-Week Classes LC Mar 26 - May 13

3rd 5-Week Classes Apr 9 - May 13

Special Days & Holidays

Martin Luther King, Jr. - College Open, No Classes Mon. Jan 21

Spring Break - LC - College Open, No Classes Mar 18 - 24

Spring Break - BCC/WC/BG - College Open, No Classes Mar 25 - 31

Grades Due (4:00 pm) Thur. May 16

Commencement - Larimer Campus Tues. May 14

Commencement - Boulder County Campus Wed. May 15

Commencement - Westminster/Brighton Campuses Thur. May 16

To view your Semester Calendar in more detail, go to www.frontrange.edu/calendar/**Admissions Procedures**

Front Range Community College is an open-door institution and accepts applicants 17 years of age and older. Admission to the college does not guarantee enrollment into a particular course or program.

Application for Admission

Prior to enrolling at the college, students must complete and submit an Application for Admission online at www.frontrange.edu/apply.

For returning students, students who are currently attending a local high school and wish to enroll concurrently at the college, students under the age of 17, or students who wish to attend on an international student visa, please review the Special Admission Procedures in the Admissions section of this catalog.

Special Admission Procedures**Readmission (Former Students)**

Former students who return after an absence of 12 months or more must reapply for admission. Degree and certificate requirements in effect at the time of readmission apply to readmitted students.

High School Students Seeking Concurrent Enrollment Options

High school students attending FRCC may earn both college and high school credit for their course(s). Students approved by their school district may have tuition costs paid for approved classes. A written agreement must be completed, approved by the school district, and submitted to FRCC. Interested students can obtain more information from their high school or speak with College Now staff at Front Range Community College.

Underage Admission

Pursuant to CRS 23-60-103 (3), FRCC admits students who are 17 years of age or older. Students wishing to secure a waiver of the minimum age for admission to the college must meet the criteria as outlined in State Board Policy BP 4-10.

Qualified students must demonstrate readiness for the course by meeting all established placement scores, recommended preparation, and prerequisites for the course.

Students are required to discuss special considerations, including expectations of college enrollment and appropriateness of course selection, with an advisor or designee, as well as complete the underage admission waiver.

The underage admission waiver must be signed by the student and parent, or legal guardian, indicating that the student and parent/guardian have been advised regarding the expectations of the college.

Students aged 15 and younger taking FRCC classes taught at the high school may need approval by the Dean of Student Affairs or designee prior to enrolling. Students aged 15 and younger are not allowed to enroll in FRCC classes taught at the College in any

mode of delivery unless they receive prior approval from the Dean of Student Affairs.

International Students

According to federal law, the college may enroll international students with an F-1 Visa. Please refer to International Student Admissions at www.frontrange.edu/international.

International students must complete the following procedures to be admitted to the college:

1. Complete an Application for Admission online at www.frontrange.edu/apply.
2. Complete the Supplemental Information form and attach required documentation at www.frontrange.edu/international.

Required documents include:

1. Passport
2. Transcripts:
 - a. High school transcript or diploma indicating completion or graduation date
 - b. College transcript from any other college or university attended
3. Certified documentation of English proficiency as indicated by:
 - a. Test of English as a Foreign Language (TOEFL) score of 153 on the computer based exam (FRCC code is 4119), or Internet-Based Test (iBT) score of 53, or
 - b. International English Language Testing System (IELTS) score of 6.0 or higher, or
 - c. Other approved exceptions (i.e., English as a Second Language programs)
4. Affidavit of Financial Support document and a statement of the student's or the sponsor's financial resources. The statement must show minimum funds equivalent to US \$25,000 deposited in a financial institution to cover expenses for each academic year. Arrangement for payment of tuition and fees must be made with the campus cashier by the payment deadline. Students sponsored by foreign governments must submit a valid authorization. While the college bills approved third parties for tuition and fees, international students are ultimately responsible for payment of all tuition and fees.

International students transferring from another college must also submit copies of:

- Visa
- I-94
- Current I-20

To be considered for admission, international students must submit all materials to the Office of the Registrar by these deadlines:

Out of Country

- Summer Semester – April 15
- Fall Semester – June 15
- Spring Semester – November 15

In Country

- Summer Semester – May 1

- Fall Semester – August 1
- Spring Semester – December 15

After materials are reviewed and approved, the college issues the Department of Homeland Security Form I-20. Tuition and fees for F-1 visa students are approximately \$15,000 for full-time enrollment per academic year. Students need approximately \$10,000 for books, supplies, medical insurance, and living expenses during the academic year. FRCC does not have residence halls; therefore, students are responsible for finding their own housing.

After being admitted, international students must complete the following items:

1. Present proof of current and adequate medical insurance by the first day of classes to the International Admissions Officer, or the student will be automatically enrolled and billed for medical insurance. The college has provisions to insure international students under a comprehensive plan. Information may be obtained from the International Admissions Officers.
2. Complete assessment testing for placement into courses. This assessment may be taken online in the student's home country. Contact the Testing Center for more information.
3. International students must meet with an advisor for academic advising, attend required orientation, and complete payment of tuition and fees with the cashier.

Special Program Admission

Some programs, such as nursing and allied health programs, have limited space and have special admissions procedures. Please review program requirements in this catalog, or contact the faculty advisor in those areas.

Physical Examination and Immunization

Physical examinations and specific immunizations are not required for admission to the college. However, a selected instructional program, such as Health Professions, may require specific immunizations.

Denial of Admission

The College may deny admission to any individual whose personal history and background indicates that their presence at the college would endanger the health, safety, welfare, or property of the college community, or interfere with the orderly and effective performance of the college's functions. FRCC has the right to deny admission or continued enrollment to any individual who has misrepresented their credentials or background.

Persons who seek enrollment pursuant to CRS 16-11-212 (Work and Education Release Programs) will be given timely notification of an acceptance or denial of admission as required by the statute.

Review of a denial of admission or denial of continued enrollment or re-enrollment of students shall be in accordance with the college's disciplinary procedures.

Privacy

In completing application and financial aid processes, students must act on their own behalf. Others may not access student academic or financial information without the student's prior written approval. (See Family Education Rights and Privacy)

Student Identification Number

A state law initiated in 2003 requires that each Colorado postsecondary institution assign to each student a unique ID number that shall not be a student's Social Security Number. This number is your Student ID (SID). A Social Security Number is required for Financial Aid and College Opportunity Fund (COF) stipend recipients.

High School and Former College Transcripts

FRCC does not require transcripts from previous high schools or colleges for admission. However, if a student plans to complete a degree or certificate with applicable transfer credit, an official transcript must be sent directly to the college from the issuing institution. As part of this process, students must complete a Transfer Credit Evaluation Request Form, available from the Registrar's Office or on our website at: <https://www.frontrange.edu/getting-in/admissions/transfer-students>. FRCC may deny admission or continued enrollment to persons who misrepresent their credentials or background. (See Denial of Admission.)

FRCC reserves the right to require transcripts from other institutions when appropriate.

About FRCC

History of Campuses

Fall 1968 — FRCC opens its doors in temporary quarters at East 62nd Avenue and Downing Street, Denver. Original name: Community College of Denver, North Campus (CCD-N). FRCC was the first community college created by the State Board for Community Colleges and Occupational Education.

Fall 1977 — CCD-N moves to its permanent home—the Westminster Campus, a new solar-heated facility on 112th Avenue.

July 1983 — Still part of the Community College of Denver system, the North Campus changes its name to Front Range Community College.

July 1985 — Front Range Community College becomes an autonomous community college.

July 1988 — The Larimer County Voc-Tec Center (LCVTC) merges with Front Range Community College to become FRCC's Larimer Campus. LCVTC had offered secondary instruction for the Poudre R-1, Thompson R2-J, and Park R-3 school districts since it opened in 1972, and had offered postsecondary and adult vocational-educational programs since fall 1973.

Fall 1990 — FRCC opens the Boulder Valmont Campus in an office building at 2995 Wilderness Place. The college had been offering classes in Boulder since 1983.

January 1995 — The FRCC Longmont Campus opens, fulfilling a long-standing dream of Longmont residents and the Longmont business community. From 1982 to 1994, FRCC had offered college classes to Longmont residents at Longmont High School and various other locations.

July 1995 — FRCC begins offering classes in the old Fort Collins High School building on Remington Street, which became known as the Remington Campus.

July 1995 — Boulder Arapahoe Campus is formed from a temporary merger of FRCC and the Boulder Technical Education Center (TEC), a subsidiary unit of the Boulder Valley School District (BVSD). The campus reverted to the school district in July 1997 and is no longer part of FRCC.

September 1996 — Having outgrown its Wilderness Place location, FRCC's Boulder Valmont Campus moves to a stand-alone site in Boulder's Gunbarrel area and is renamed the North Boulder Campus.

February 1997 — The Higher Education and Advanced Technology Center (HEAT) opens at the former Lowry Air Force Base in Aurora. FRCC is one of the charter institutions at the new campus. The campus transferred to Community College of Aurora in September 2001.

August 1998 — In response to growing enrollment, the college renovates and expands campuses. The Longmont Campus doubles in size. A new Campus Center and joint-use College Hill Library are added at the Westminster Campus, and a renovated portion of Mount Antero Building and the new Challenger Point, Longs Peak Student Center, and joint-use Harmony Library are added at the Larimer Campus.

January 1999 — The Brighton Center opens in the former Adams County Justice Center, now the Community Education Center. FRCC joins the CCCOnline consortium for online delivery of courses and degrees.

August 2003 — The Boulder County Campuses in the Gunbarrel area of Boulder and north Longmont reach capacity. FRCC combines the two sites into one larger Boulder County Campus located just southeast of the intersection of Hover Road and the Diagonal (Hwy. 119) in southwest Longmont.

December 2008 — The Brighton Center moves to a new home in the newly remodeled Brighton Learning and Resource Center, in the former Platte Valley Medical Center building.

August 2010 — Larimer Campus opens new science building, Sunlight Peak.

November 2011 — Boulder County Campus completes a renovation which includes new science and medical office technology labs, improvements to 16 general classrooms and the creation of two new classrooms, expansion of the Geographic Information Systems lab, and reconfigured office space that allows more academic advisors, financial aid counselors, and new faculty to meet with students.

January 2012 — Westminster Campus opens a Student Services Center in the heart of the campus. A Welcome Center greets students, who can then access Advising, Testing, Special Services, Financial Aid, Cashiers, Admissions and Records, and a 50-station Computer Commons.

March 2013 — Westminster Campus students approve a bond fee for parking lot safety improvements, including a new stop light and pedestrian walkways and additional close-in parking, and improvements to the Student Center, including a coffee bar, upgraded gym facilities, quiet study space, and a multipurpose performance space. Larimer Campus students approve a bond fee to contribute to funding \$32 million in projects, including a new Integrated Technology Building and renovations to other buildings.

January 2015 — Little Bear Peak opens at the Larimer Campus as the first phase of the campus renovation and expansion. Little Bear Peak houses Integrated Technology programs - Automotive Technology, Manufacturing and Energy Technology, and Welding Technology. The Westminster Campus celebrates the improvements to the Student Center. The Student Center houses more student-centered spaces, including a coffee bar, increased lounge space, quiet study rooms, and an upgraded and expanded gym and fitness facility.

August 2015 — The South Classroom Building and a new greenhouse open at the Westminster Campus. The South Classroom Building was renovated to become a visual-art center with a ceramics studio, a 3D lab and two 2D labs as well as a general purpose classroom and an outdoor kiln area. The greenhouse has two parts - a hands-on classroom and the greenhouse. A portion of the exterior site will be used as a teaching lab for irrigation systems and landscape construction skills. A full renovation of Redcloud Peak and a renovation of the north wing of Blanca Peak open at the Larimer Campus as the second phase of the campus renovation and expansion. Redcloud Peak was renovated to house the Creative Arts, Design, and Humanities Department. The north wing of Blanca Peak houses Veterinary Technology and Forestry, Wildlife, and Natural Resources. A five-year \$1.1 million federal TRIO Student Support Services grant will assist FRCC with providing essential services at the Westminster Campus to a growing population in Colorado of at-risk first-generation students.

July 2016 — The Westminster Campus' construction and renovation plan that began with the opening of the Student Services Center in 2012 is declared complete. The last of the projects included upgrades to the Visual and Performing Arts Gallery, faculty offices, renovation of classrooms, construction of a Surgical Technology lab with two mock operating rooms, student lounges, and corridor upgrades.

August 2016 — The renovated and expanded Mount Antero opens at the Larimer Campus. The building is a "one-stop" shop for the support services that help make students successful.

July 2017 — A five-year \$1.2 million federal TRIO Upward Bound grant will provide funding for FRCC staff to serve 60 Westminster High School students each year. The goal is to increase the rate at which participants complete secondary education and enroll in and graduate from institutions of postsecondary education.

August 2017 — Renovation to the leased facility on Prospect Road in Fort Collins accommodates four programs: Licensed Practical Nursing (new), Medical Assisting (new), Emergency Medical Services, and a Law Enforcement Academy (new).

October 2017 — A five-year, \$2.2 million U.S. Department of Education Title III grant will support FRCC's efforts to provide more support to students so more students are successful. The highly competitive program helps eligible higher education institutions expand their capacity to serve low-income students. The award recognizes and supports FRCC's extensive student success efforts that began in 2014.

Accreditation Institutional Accreditation

The Higher Learning Commission accredits Front Range Community College (FRCC).

Higher Learning Commission

230 South LaSalle Street, Suite 7-500

Chicago, IL 60604

1-800-621-7440

www.hlcommission.org

Program Accreditation

All programs in this catalog are approved by the State Board for Community Colleges and Occupational Education (SBCCOE), the Colorado Department of Higher Education (CDHE), the Colorado State Approving Agency for Veterans Education and Training, and the Higher Learning Commission (HLC). In addition to college accreditation, many programs have additional program accreditation, recognition and/or approval by State Departments and/or National Associations. A listing is provided below:

- **Automotive Technology - Accredited by National Automotive Technicians Education Foundation (NATEF)**

- **Automotive Youth Education Systems (AYES)**

- **Dental Assisting** (p. 186): Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the Council on Postsecondary Accreditation and by the United States Department of Education

- **Early Childhood Education** (p. 142): Accredited by the National Association for the Education of Young Children (NAEYC)

- **Emergency Medical Services** (p. 188): Colorado Recognized EMS Education Program by Colorado Department of Public Health and Environment - Emergency Medical Services Division

- **Forestry, Wildlife and Natural Resources:**

- Wildlife Technology (p. 190): Accredited by the North American Wildlife Technology Association (NAWTA)

- Forestry Technology (p. 191): Accredited by the Society of American Foresters (SAF)

- **Health Information Technology** (p. 195): Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)

- **Heating, Air Conditioning and Refrigeration** (p. 196): Accredited by the Partnership for Air Conditioning, Heating and Refrigeration Accreditation (PAHRA)

- **Kitchen and Bath Design** (p. 209): Certificate in Interior Design is Accredited by the National Kitchen and Bath Association (NKBA)

- **Medical Assisting** (p. 213): The Certified Medical Assisting Program is Accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE). CAAHEP, 25400 US Hwy 19 North Suite 158, Clearwater, FL 33756, (727) 210-2350

- **Nurse Aide** (p. 221): Approved Nurse Aide Education Program by the Colorado State Board of Nursing

- **Nursing** (p. 222): Approved Registered Nursing Education Program by the Colorado State Board of Nursing and Accredited

by the Accreditation Commission for Education in Nursing, Inc. (ACEN)

- **Pharmacy Technician Certificate** (p. 229): Accredited by the American Society of Health System Pharmacists (ASHP)

- **Veterinary Technology** (p. 233): Accredited by the American Veterinary Medical Association (Committee on Veterinary Technician Education and Activities)

Directory/Acknowledgements

We credit FRCC's reputation for excellence to the hard work of our many dedicated faculty and staff in fulfilling our mission every day.

We also acknowledge the professional guidance of the State Board for Colorado Community Colleges and Occupational Education, our Area Advisory Council and our College Leadership.

To see a full list of our dedicated FRCC family, please see our directory.

Credits

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The Office of Student and Academic Services produces this catalog

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Special thank you to the many FRCC faculty and staff who contributed to this catalog

PROGRAMS & COURSES

In this section you will find programs listed by location (p. 238) as well as requirements (p. 136). Academic Programs are listed by transfer degree opportunities or by preparing you to enter the workforce through specialize Career & Technical Education training.

In addition, we have program MAPs (p. 11) listed by Career and Academic Community with semester guidance to help you find your path and stay on track.

To learn more about the different types of degrees at FRCC, please see Degree Information & Elective Lists (p. 246) and meet with an advisor to select the best program for you.

My Academic Plans - MAPs

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

Our six Career and Academic Communities will help you reach your goal. Choose your community from the list below and explore our programs.

Business & Information Technology

This Career and Academic Community includes the following programs of study: Accounting, Business & Business Logistics, Computer Information Systems, Computer Networking, Virtualization & Cybersecurity and Hospitality & Culinary Arts Management. To learn more about the program including course requirements and course sequencing click on the program below.

Accounting

ACCOUNTING ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus, Online Learning

Field Code: F_AAS_ACC2

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

With an A.A.S. degree in Accounting, you can work in business, industry, government, and other organizations. You will be ready to work effectively under the supervision of controllers, chief accountants, accounting supervisors, certified public accountants, and other professional accountants.

AAS Accounting Degree and Certificates

Accounting Degree Required Courses (p. 161)

Transfer Options: If your goal is a bachelor's degree in Accounting, consider FRCC's Business degree (A.A.) for Transfer. With this degree, you will have a grasp of the "big picture" of business, so you are ready to concentrate on accounting as your major at any public four-year college or university in Colorado. See more about transferring.

Regis University: FRCC students can transfer their Associate of Applied Science (A.A.S.), Associate of Arts (A.A.) or Associate of Science (A.S.) degree to Regis. Depending on your field of study, you can complete up to 90 credits at FRCC and transfer to complete about 30 credit hours at Regis to earn a Bachelor of Science in Accounting - see transfer guide. Learn more about transferring to Regis.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. If you have taken high school, have other equivalent introductory course work, or have significant practical experience in these areas, you should consult with an accounting faculty advisor to consider alternatives. Please contact your advisor or an Accounting faculty member to determine if any Accounting course is offered in spring or fall, as well as when courses may be offered online.

ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
ECO 202	Principles of Microeconomics	3
CIS- ELC	Computer Information Systems: _____	3
ENG- GEN	Select one English course: _____	3

Subtotal: 16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ACC 122	Accounting Principles II	4
MAT 121	College Algebra	4
BUS 217	Business Communication and Report Writing	3
ECO 201	Principles of Macroeconomics	3

CIS 155	PC Spreadsheet Concepts: Excel	3
		Subtotal: 16-17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS 216	Legal Environment of Business	3
BUS 226	Business Statistics	3
ACC- EL1	Accounting: _____	3-4
MAN- PHI	MAN 230 or PHI 205: _____	3
ACC- ELC	Accounting: _____	3
		Subtotal: 15-16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Semester Four elective credits may vary depending on prior semester completion. You must complete a minimum of 60 credits to meet completion requirements. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress. Upon the completion of these classes, you will earn your **Accounting certificate**.

ACC 135	Spreadsheet Applications for Accounting	3
ACC 245	Computerized Accounting with a Professional Package	3
INT- CAP	Accounting: _____	1
ACC- ELC	Accounting: _____	3
ACC- EL1	Accounting: _____	3-4
		Subtotal: 13-14

Total Credit Hours: 60-62
Accounting Certificates

ACCOUNTING CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_ACC2

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review for a title change to **"Bookkeeping"**. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of title change approval.

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This accounting certificate prepares students for job entry into a wide variety of clerical and technical positions that have a recordkeeping or bookkeeping component. In consultation with an accounting faculty advisor, the certificate can be tailored to meet the needs of students who have already achieved significant skills and knowledge in basic accounting fundamentals and/or computer applications. The program assumes that students have previous knowledge and skill in basic computer applications in a Microsoft Windows operating environment. Students without prior computer experience should remedy any computer deficiencies before beginning the certificate course of study. Consulting with an accounting faculty advisor is strongly recommended before beginning the accounting certificate program.

AAS Accounting Degree and Certificates

Accounting Certificate Required Courses (p. 162)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ACC 121	Accounting Principles I	4
BUS 217	Business Communication and Report Writing	3
CIS 155	PC Spreadsheet Concepts: Excel	3
		Subtotal: 10

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ACC 122	Accounting Principles II	4
ACC 138	Payroll and Sales Tax	3
ACC 245	Computerized Accounting with a Professional Package	3
ACC 135	Spreadsheet Applications for Accounting	3
INT- CAP	Accounting: _____	1
		Subtotal: 14

Total Credit Hours: 24

Business

BUSINESS ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_BUS3

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program is designed to give students the flexibility to develop a customized business degree. Required courses include foundational business, as well as general education courses. With the assistance of a Business Faculty Advisor, students develop a customized educational plan for their business elective courses. (NOTE: Students are highly encouraged to meet with a Business Faculty Advisor each semester BEFORE registering for classes).

All courses in the degree and certificate programs must be completed with a "C" or better

Articulation agreements exist with many secondary and post-secondary programs. Contact a program advisor to determine whether credits may be awarded.

For further information, contact Abel Coombs at 303-404-5440 for Westminster Campus, Jim Vernon at 303-678-3703 for Boulder County Campus, and Tiffany Broesche at 970-204-8502 for Larimer Campus.

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 055 or above may begin this program of study. Students scoring below this level should consult with a Business Faculty Advisor before registering for courses in this program of study.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
BUS 115	Introduction to Business	3
CIS 118	Introduction to PC Applications	3
ECO 202	Principles of Microeconomics	3
MAT- GEN	Mathematics: _____	3-5

Subtotal: 15-17

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Students who do not feel prepared for the pace of ACC 121 **may complete ACC 101 for additional preparation.** ACC 101 **will substitute** for one of the BUS electives in semester 3 or semester 4. If you plan to transfer to a Colorado public four-year college/university, you should view the Business AA degree MAP. If you plan to transfer to REGIS, you may continue on this pathway and follow this transfer guide.

BUS 226	Business Statistics	3
ACC 121	Accounting Principles I	4
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
ECO 201	Principles of Macroeconomics	3

Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAN 230	Corporate Ethics & Social Resp	3
MAN 226	Principles of Management	3
BUS- ELC	Business elective: _____	3
BUS- ELC	Business elective: _____	3
BUS- ELC	Business elective: _____	3

Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You must enroll in BUS 281 or BUS 289 in your final semester.

MAR 216	Principles of Marketing	3
INT- CAP	Select BUS 281 or BUS 289: _____	2
BUS- ELC	Business elective: _____	3
BUS- ELC	Business elective: _____	3
BUS- ELC	Business elective: _____	3

Subtotal: 14

Total Credit Hours: 60-62

BUSINESS ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_BSTR

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You may consider completing CIS 118 in your first semester, **in addition** to the requirements for this degree. This will help improve fundamental skills in required business courses and CIS 118 is transferable to most Colorado universities. Adding this course will require you to complete more than 60 credits.

ENG 121	English Composition I	3
MAT 121	College Algebra	4
BUS 115	Introduction to Business	3
GT- SC1	Natural & Physical Sciences (GT-SC1 or GT-SC2): _____	4-5

Subtotal: 14-15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
MAT 125	Survey of Calculus	4
GT- HI1	History (GT-HI1): _____	3
COM 115	Public Speaking	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ACC 121	Accounting Principles I	4
ECO 202	Principles of Microeconomics	3
BUS 217	Business Communication and Report Writing	3
GT- AH	Arts & Humanities (GT-AH): _____	3
BUS 216	Legal Environment of Business	3

Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

BUS 226	Business Statistics	3
GT- SC1/2	Natural & Physical Sciences (GT-SC1 GT-SC2): _____	3-4
ACC 122	Accounting Principles II	4
ECO 201	Principles of Macroeconomics	3

Subtotal: 13-14

Total Credit Hours: 60-62

BUSINESS LOGISTICS ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

Field Code: F_AA_BSLG

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program is designed to give students the flexibility to develop a customized business degree. Required courses include foundational business, as well as general education courses. With the assistance of a Business Faculty Advisor, students develop a customized educational plan for their business elective courses. (NOTE: Students are highly encouraged to meet with a Business Faculty Advisor each semester BEFORE registering for classes).

All courses in the degree and certificate programs must be completed with a "C" or better.

Articulation agreements exist with many secondary and post-secondary programs. Contact a Program Advisor to determine whether credits may be awarded.

For further information, contact Abel Coombs at 303-404-5440 for the Westminster Campus.

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 055 or above may begin this program of study. Students scoring below this level should consult with a Business Faculty Advisor before registering for courses in this program of study.

AAS Business Logistics (p. 167)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- GEN	English: _____	3
MAT- GEN	Mathematics: _____	3-5
BUS 115	Introduction to Business	3
MAN 105	Logistics Management	3

Subtotal: 12-14

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CIS- REQ	Computer Technology: _____	3
ACC 121	Accounting Principles I	4
BUS 217	Business Communication and Report Writing	3
CIS- REQ	Computer Technology: _____	3
GIS- REQ	Geography Requirement: _____	3

Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECO 202	Principles of Microeconomics	3
BUS 201	Business Logistics Optimization	3

BUS 216	Legal Environment of Business	3
BUS 226	Business Statistics	3
MAN 226	Principles of Management	3
		Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS 202	Purchasing, Supply, and Sourcing Logistics	3
BUS 218	Legal Environment of Business II	3
ECO 201	Principles of Macroeconomics	3
MAN 230	Corporate Ethics & Social Resp	3
INT- CAP	Internship or Capston:_____	2
MAR 216	Principles of Marketing	3
		Subtotal: 17

Total Credit Hours: 60-62

Business Certificates

BUSINESS SPECIALIZATION CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_BSPC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate is targeted at specific business categories, therefore, at least 3 credits must be selected from the BUS prefix and 6 credits selected from the following prefixes: ACC, BUS, CIS/CSC/CNG/CWB, ECO, MAN, MAR, MGD, or FIN.

Total Credit Hours: 9

FOUNDATIONS OF BUSINESS CERTIFICATE

Locations: Boulder County Campus, Brighton Center, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate provides students with foundational business and accounting principle knowledge necessary for entry-level work. Students strengthen their core knowledge with elective coursework focusing on marketing, management or business and legal relationships.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS 115	Introduction to Business	3
ACC 121	Accounting Principles I	4
BUS 217	Business Communication and Report Writing	3
BUS- EL2	Business elective: _____	3
		Subtotal: 13

Total Credit Hours: 13

FOUNDATIONS OF LEADERSHIP & MANAGEMENT CERTIFICATE

Locations: Boulder County Campus, Online Learning

Field Code: F_CER_

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program is designed for individuals who seek to develop and improve their business management skills.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS 217	Business Communication and Report Writing	3
MAN 224	Leadership	3
MAN 226	Principles of Management	3
		Subtotal: 9

Total Credit Hours: 9

INTERNATIONAL BUSINESS BASICS CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_BUSN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program is designed for individuals who seek to develop and improve skills in international business.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS 115	Introduction to Business	3
BUS 203	Introduction to International Business	3
MAR 240	International Marketing	3

Subtotal: 9

Total Credit Hours: 9

LOGISTICS CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_LOG

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

Students who successfully earn an FRCC Certificate in Logistics will have a comprehensive understanding of distribution, warehousing, purchasing and transportation. Warehousing addresses the storage and staging of materials for their ultimate need and end use. Purchasing addresses the associated costs of materials in conjunction with and interrelated with transportation, distribution and warehousing.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS 201	Business Logistics Optimization	3
BUS 202	Purchasing, Supply, and Sourcing Logistics	3
BUS 217	Business Communication and Report Writing	3
BUS 218	Legal Environment of Business II	3
MAN 105	Logistics Management	3

Subtotal: 15

Total Credit Hours: 15

PROJECT MANAGEMENT CERTIFICATE

Locations: Brighton Center, Westminster Campus

Field Code: F_CER_PRJ1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program introduces the tools and skills necessary to develop and implement project management planning that can be used in a multitude of different industries including biotech, construction, information systems, marketing, telecommunications, engineering, and manufacturing.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAN 241	Project Management in Organizations	3
MAN 243	Project Management in Action	3
CIS 202	Automated Project Management: MS Project	3

Subtotal: 9

Total Credit Hours: 9

RETAIL MANAGEMENT CERTIFICATE

Locations: Boulder County Campus, Brighton Center, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_BMR

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program prepares students for the fast-paced changes taking place in the retail and grocery industry, so they are prepared to fill the numerous and varied management opportunities available. This broad program is appropriate for retailers AND suppliers and is endorsed by the Western Association of Food Chains (WAFC). All of the WAFC member grocery chains recognize this unique Retail Management Certificate (www.wafc.com). Some classes will be offered in hybrid, online, or 7 1/2 week formats.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. This certificate program is offered entirely online, please contact online business lead for specifics on course offerings (i.e. Fall vs. Spring Semester).

CIS 118	Introduction to PC Applications	3
MAN 128	Human Relations in Organizations	3
MAN 226	Principles of Management	3
MAR 216	Principles of Marketing	3
		Subtotal: 12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. This certificate program is offered entirely online, please contact online business lead for specifics on course offerings (i.e. Fall vs. Spring Semester).

BUS 217	Business Communication and Report Writing	3
MAN 200	Human Resources Management I	3
MAN 225	Managerial Finance	3
MAR 117	Principles of Retailing	3
		Subtotal: 12

Total Credit Hours: 24

SMALL BUSINESS OPERATIONS CERTIFICATE

Locations: Boulder County Campus, Brighton Center, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program prepares students for the entrepreneurial challenge of starting and operating a business effectively.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAN 225	Managerial Finance	3
BUS- MAN	BUS 102 or MAN 216: _____	3
		Subtotal: 6

Total Credit Hours: 6

SMALL BUSINESS OWNERSHIP CERTIFICATE

Locations: Boulder County Campus, Brighton Center, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program prepares students for the entrepreneurial challenge of starting and operating a business effectively.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAN 225	Managerial Finance	3
BUS- MAN	BUS 102 or MAN 216: _____	3
ELC LST	Elective: _____	3-4
ELC LS1	Elective: _____	3
ELC LS1	Elective: _____	3
		Subtotal: 15-16

Total Credit Hours: 15-16

Cybersecurity and Cloud Computing

CYBERSECURITY AND CLOUD COMPUTING ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_CYCC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This AAS degree pathway is designed to introduce students to a comprehensive overview of network security, including general security concepts. Communication security is studied, including remote access, e-mail, the web, directory and file transfer, and wireless data. Common network attacks and Computer forensics are discussed. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity. Cloud and virtualization courses are designed to provide students with the technical skills required to install, configure and/or manage many facets of "cloud" infrastructure. Students completing this training will be prepared for multiple industry certifications including the CompTIA Security+, CompTIA Cloud+, and CompTIA Cloud Essentials.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG- CSC	CNG 125 or CSC 119: _____	3
CNG 132	Network Security Fundamentals	3
MAT- GEN	Select one Math course: _____	3-5
		Subtotal: 16-18

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CIS- ELC	CIS elective: _____	3
CNG 133	Firewalls/Network Security	3
CNG 201	Linux Configuration: (OS)	3
CNG 142	Intro to Cloud Computing Concepts	3
ENG- GEN	Select one English course: _____	3
		Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG- ELC	CNG elective: _____	3
CNG- ELC	CNG elective: _____	3
CNG- CNG	CNG 202 or CSC 212: _____	3-4
GEN- ELC	COM 125/COM 220/COM 209: _____	3

GEN- EL1	MAN 230/PHI 112/PHI 205:	3
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Subtotal: 15-16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG- EL1	CNG elective: _____	3-4
CNG- EL2	CNG elective: _____	4
CNG- EL3	CNG elective: _____	3-4
GEN- ELC	MAN 216/MAN 226/MAN 241:	3

Subtotal: 13-15

Total Credit Hours: 60-64

NETWORK TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AAS_NTWT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This AAS degree pathway is designed to prepare students for positions in network administration and infrastructure. This pathway introduces students to the concepts of installing, configuring, and managing multiple operating systems and provides students with the knowledge and skills to configure, administer and secure data, users, and services using multiple servers. Students will also be prepared for careers installing, configuring and troubleshooting networking hardware such as wireless equipment, switches and routers. Students will be exposed to equipment from multiple networking vendors and will be prepared for multiple industry certifications such as the core Microsoft Certified Professional examinations or the CompTIA A+, CompTIA Network+ or the CISCO CCNA certifications.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG- CSC	CNG 125 or CSC 119: _____	3
CNG 132	Network Security Fundamentals	3

MAT- GEN	Select one Math course: _____	3-5
		Subtotal: 16-18

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CIS- ELC	CIS elective: _____	3
CNG 133	Firewalls/Network Security	3
CNG 201	Linux Configuration: (OS)	3
CNG 212	Configuring Windows Server	4
ENG- GEN	Select one English course: _____	3
		Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GEN- ELC	COM 125/COM 220/COM 209: _____	3
GEN- EL1	MAN 230/PHI 112/PHI 205: _____	3
NET- ELC	Network Technologies Elective: _____	3
NET- ELC	Network Technologies Elective: _____	3
NET- EL1	Network Technologies Elective: _____	3-4
		Subtotal: 15-16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GEN- ELC	MAN 216/MAN 226/MAN 241: _____	3
NET- ELC	Network Technologies Elective: _____	3
NET- ELC	Network Technologies Elective: _____	3
NET- EL2	Network Technologies Elective: _____	4-5
		Subtotal: 13-14

Total Credit Hours: 60-62

Cybersecurity and Cloud Computing Certificates

CLOUD COMPUTING AND VIRTUALIZATION CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CLCO

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This certificate is designed to prepare students for entry-level employment. It will offer students an opportunity to study technology that is being broadly adopted and implemented by many organizations of all types and sizes. The courses are designed to provide students with the technical skills required to install, configure and/or manage many facets of a “cloud” infrastructure.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 142	Intro to Cloud Computing Concepts	3
		Subtotal: 13

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG- CNG	CNG 201 or CNG 212: _____	3-4
CNG- ELC	CNG elective: _____	3
CNG- ELC	CNG elective: _____	3
		Subtotal: 9-10

Total Credit Hours: 22-23

CYBERSECURITY CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CYB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This certificate is designed to prepare students for entry-level employment and to give working professionals advancement opportunities in the computer networking field. Successfully acquiring a FRCC Cybersecurity Certificate signifies that a student has had an overview of network security. Communication Security is studied, including remote access, email, the web, directory and file transfer, and wireless data. Common network

attacks and Computer forensics are introduced. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity.

Learn more about gainful employment

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
		Subtotal: 10

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 133	Firewalls/Network Security	3
CNG- CNG	CNG 201 or CNG 212: _____	3-4
CNG- ELC	CNG elective: _____	3
CNG- ELC	CNG elective: _____	3
		Subtotal: 12-15

Total Credit Hours: 22-25

COMPUTER/NETWORK TECHNICIAN: A+ / NETWORK+ CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_

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MY ACADEMIC PLAN

Program Mission & Description

This certificate program prepares you for a Computer and Network Support Technician job. You will learn a wide variety of issues ranging from networking and operating systems to mobile devices and security. You will be able to analyze, test and troubleshoot computer hardware and software problems. You will also be able to analyze, test, troubleshoot, and evaluate existing network systems, such as local area networks (LAN), wide area networks (WAN), and other data communications networks. You will be able to perform network maintenance to ensure networks operate correctly with minimal interruption. Upon successful completion of this certificate, students are prepared to take the A+ and Network+ certification exams through the Computer Technology Industry Association (CompTIA).

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 121	Computer Technician I: A+	4
CNG 122	Computer Technician II: A+	4
		Subtotal: 8

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 124	Networking I: Network +	3
CNG 125	Networking II: Network +	3
		Subtotal: 6

Total Credit Hours: 14

LINUX SERVER ADMINISTRATION CERTIFICATE

Locations: Boulder County Campus, Larimer Campus

Field Code: F_CER_LINX

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This certificate introduces students to the concepts of installing, configuring, and managing the Linux operating system and provides students with the knowledge and skills to configure, administer and secure data, users, and services in a Linux server.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 201	Linux Configuration: (OS)	3
CSC 119	Introduction to Programming	3
		Subtotal: 6

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 202	Unix/Linux Server Administration	3
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Subtotal: 3

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG- CSC	CNG 203 or CSC 217:	3
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Subtotal: 3

Total Credit Hours: 12

NETWORKING BASICS CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CNB1

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This certificate is designed to prepare students for entry-level employment. It will offer students an opportunity to study basic networking technology commonly found in network help-desk positions. Upon successful completion, the program graduate is qualified to take multiple industry certification exams including CompTIA A+ and CompTIA Networking+ certification exams.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3

Subtotal: 10

Total Credit Hours: 10

NETWORK ADMINISTRATION: CCNA CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_

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courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This certificate uses a largely hands-on approach to teach students network concepts while preparing them for the current Cisco CCNA Certification Exam. In-depth lab work will enable students to learn to design, implement, configure, and troubleshoot networks comprised of Cisco switches and routers using real network equipment as well as network simulators.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 124	Networking I: Network +	3
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Subtotal: 3

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 230	Fast Track CCNA 1 and 2	5
CNG 231	Fast Track CCNA 3 and 4	5

Subtotal: 10

Total Credit Hours: 13

NETWORK INFRASTRUCTURE CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_CNW2

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MY ACADEMIC PLAN

Program Mission & Description

This certificate is designed to prepare students for careers installing, configuring and troubleshooting networking hardware such as wireless equipment, switches and routers. Students will be exposed to equipment from multiple networking vendors. Upon successful completion, the program graduate is capable of taking the entry level CISCO Certifications.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3

 Subtotal: 6
Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 129	Wireless LAN Fundamentals	3
CNG 133	Firewalls/Network Security	3

 Subtotal: 6
Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 133	Firewalls/Network Security	3
CNG 232	Managing LAN Switches	3

 Subtotal: 6

Total Credit Hours: 18

NETWORK TECHNICIAN CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CNWB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

This certificate provides students the basic concepts and skills needed as a network technician. Some classes are generic to any network environment, other classes concentrate on a Microsoft System. Students completing this training will be prepared for the industry certifications, such as the Microsoft Technology Associate (MTA).

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 212	Configuring Windows Server	4

 Subtotal: 14

Total Credit Hours: 14

MICROSOFT SERVER ADMINISTRATION CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_MSSA

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review for a title change to "**Windows Server Administration**". Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of title change approval.

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

This certificate is designed to prepare students for positions in network administration. This pathway introduces students to the concepts of installing, configuring, and managing multiple operating systems and provides students with the knowledge and skills to configure, administer and secure data, users, and services using multiple servers. Students completing this training will be prepared for multiple industry certifications such as the core Microsoft Certified Professional examinations.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 212	Configuring Windows Server	4

 Subtotal: 14
Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG 213	Administering Windows Server	4
CSC 119	Introduction to Programming	3

 Subtotal: 7
Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CNG- CNG	CNG 214 or CNG 215: _____	3-4
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 Subtotal: 3-4

Total Credit Hours: 24-25

Hospitality and Culinary Arts

HOSPITALITY: CULINARIAN & RESTAURANT MANAGEMENT ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_CURM

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Learn more about the Hospitality & Culinary Arts Management program in the Business Department at Front Range Community College, Larimer Campus Only.

This degree offers courses that provide entry level training in the Culinary Arts and Restaurant Management industries. The degree is designed to prepare students with the necessary skills and knowledge for careers that include entry level management positions in catering and restaurants. Students will participate in four culinary laboratory courses, as well as one internship.

During these courses, students receive applied experiences in both the food service and operations of the hospitality industry. Students take a nationally recognized test from the Education Foundation of the National Restaurant Association, if passed with a score of 75% or more students receive the ServSafe® Certification. Students must earn a "C" or better in all required courses applied to the degree program.

AAS Hospitality & Culinary Arts Management Degrees

Culinarian and Restaurant Management Degree Required Courses (p. 203)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CUA 101	Food Safety and Sanitation	2
HOS 110	Introduction to Hospitality	3
CUA 125	Introduction to Foods	4
CUA 145	Introduction to Baking	4
ENG- GEN	English: _____	3

Subtotal: 16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CUA 129	Center of the Plate	4
CUA 210	Adv Cuisine and Garde Manger	4
MAT- GEN	Mathematics: _____	3-5
BUS 115	Introduction to Business	3

Subtotal: 14-16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HOS 120	Service Management	3
HOS 255	Hospitality HR Management	3
CUA 262	Purchasing for the Hospitality Industry	3
ACC 121	Accounting Principles I	4
CIS 118	Introduction to PC Applications	3

Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. For CUA 281, you must obtain Program Director approval to register. It is offered every semester at LC as a hybrid and requires 135 hours in an approved internship setting.

CUA 120	Wines and Spirits	2
CUA 261	Cost Controls	3
HOS 215	Training and Development	3
MAN 225	Managerial Finance	3
CUA 281	Internship	3

Subtotal: 14

Total Credit Hours: 60-62

HOSPITALITY: HOTEL & EVENT MANAGEMENT ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_HTEM

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Learn more about the Hotel and Event Management program in the Business Department at Front Range Community College, Larimer Campus Only.

This degree offers courses that provide entry level management skills in the Hotel and Event Management industries. The degree is designed to prepare students with the necessary skills and knowledge for careers in the various classifications of Hotels, Meetings, Conventions, Expositions, and Special Events. Students will participate in one industry related internship. During these courses, students receive applied experiences in both service and operational areas of the Hotel and Event Planning industries. Students take a nationally recognized test from the Education Foundation of the National Restaurant Association, if passed with a score of 75% or more students receive the ServSafe® Certification. Students must earn a "C" or better in all required courses applied to the degree program.

AAS Hospitality & Culinary Arts Management Degrees

Hotel and Event Management Degree Required Courses (p. 203)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CIS 118	Introduction to PC Applications	3
CUA 101	Food Safety and Sanitation	2
HOS 110	Introduction to Hospitality	3
HOS 131	Planning for Special Events	3
MAT- GEN	Mathematics: _____	3-5

Subtotal: 14-16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS 115	Introduction to Business	3
HOS 141	Convention Management	3
HOS 251	Hotel Operations	3
HOS 210	Event Finances	3
HOS 242	Hotel Sales and Marketing	3

Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- GEN	English: _____	3
ACC 121	Accounting Principles I	4
HOS 120	Service Management	3
HOS 255	Hospitality HR Management	3
MAN- MAR	MAN 230 or MAR 111: _____	3

Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. For HOS 280, you must obtain Program Director approval to register. It is offered every semester at LC as a hybrid and requires 180 hours in an approved internship setting.

CUA 120	Wines and Spirits	2
CUA 261	Cost Controls	3
MAN 225	Managerial Finance	3
HOS 280	Internship	4

HOS 215	Training and Development	3
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Subtotal: 15

Total Credit Hours: 60-62

Hospitality and Culinary Arts Certificates

CULINARIAN CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HO1A

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

Learn more about the Hospitality & Culinary Arts Management program in the Business Department at Front Range Community College, Larimer Campus only.

This certificate program introduces students to commercial baking and production of breads, pastries, and desserts and the preparation of pantry, breakfast, dairy, garnish, salads, and cold items for buffets. Students also learn about planning and costing menus, purchasing ingredients, scheduling production and service staff, and handling guest relations.

AAS Hospitality & Culinary Arts Management Degrees

Culinarian Certificate Required Courses (p. 204)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CUA 101	Food Safety and Sanitation	2
CUA 125	Introduction to Foods	4
CUA 145	Introduction to Baking	4
CUA 262	Purchasing for the Hospitality Industry	3

Subtotal: 13

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CUA 129	Center of the Plate	4
CUA 210	Adv Cuisine and Garde Manger	4
CUA 261	Cost Controls	3

Subtotal: 11

Total Credit Hours: 24

EVENT PLANNING CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HO4A

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MY ACADEMIC PLAN

Program Description

Learn more about the Hospitality & Culinary Arts Management program in the Business Department at Front Range Community College, Larimer Campus only.

This certificate program introduces students to the planning and development of events or meetings, including budgeting, food and beverage, entertainment, catering, and lodging. Students learn marketing and sales strategies and techniques for the meeting and convention industry.

AAS Hospitality & Culinary Arts Management Degrees & Certificates

Event Planning Certificate Required Courses (p. 204)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HOS 131	Planning for Special Events	3
HOS 255	Hospitality HR Management	3
MAN- MAR	MAN 230 or MAR 111:_____	3
CIS 118	Introduction to PC Applications	3
		Subtotal: 12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CUA 120	Wines and Spirits	2
HOS 141	Convention Management	3
MAN 225	Managerial Finance	3
HOS 210	Event Finances	3
		Subtotal: 11

Total Credit Hours: 23

HOTEL MANAGEMENT CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HO2A

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

Learn more about the Hospitality & Culinary Arts Management program in the Business Department at Front Range Community College, Larimer Campus only.

This certificate program introduces students to planning for special events, convention management, and hotel sales and marketing.

AAS Hospitality & Culinary Arts Management Degrees

Hotel Management Certificate Required Courses (p. 204)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CIS 118	Introduction to PC Applications	3
HOS 131	Planning for Special Events	3
HOS 255	Hospitality HR Management	3
MAN 225	Managerial Finance	3
		Subtotal: 12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HOS 141	Convention Management	3
HOS 242	Hotel Sales and Marketing	3
HOS 251	Hotel Operations	3
CUA 261	Cost Controls	3
		Subtotal: 12

Total Credit Hours: 24

RESTAURANT MANAGEMENT CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HO3A

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

Learn more about the Hospitality & Culinary Arts Management program in the Business Department at Front Range Community College, Larimer Campus only.

This certificate program prepares students to work in the food and beverage industry, covering food production, service management, menu planning, purchasing, storage, beverage management, and food, beverage, and labor cost control.

AAS Hospitality & Culinary Arts Management Degrees

Restaurant Management Certificate Required Courses (p. 204)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CUA 101	Food Safety and Sanitation	2
CUA 125	Introduction to Foods	4
HOS 255	Hospitality HR Management	3
CUA 262	Purchasing for the Hospitality Industry	3

Subtotal: 12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CUA 120	Wines and Spirits	2
CUA 261	Cost Controls	3
MAN 225	Managerial Finance	3

Subtotal: 8

Total Credit Hours: 20

Health Sciences and Wellness**DENTAL ASSISTING CERTIFICATE**

Locations: Larimer Campus

Field Code: F_CER_DEA1

MY ACADEMIC PLAN**Program Mission & Description**

The mission of the Dental Assisting Program is to provide an excellent education that prepares a learner to become a member of the dental profession and meet the needs of diverse populations. The program prepares dental assisting students to succeed in a highly competitive, global economy by focusing on effective communication, critical thinking, information and technology literacy, quantitative reasoning and professionalism.

Certificate in Dental Assisting | Code: | 46 credits | 2-3 semesters if attending full time (23 credits per semester) or 4-5 semester if attending part time (10-12 credits per semester including summer).

Learn more about gainful employment (p. 254)

What You Will Learn**Program Learning Outcomes**

1. Students will have the necessary skills to calculate, interpret, apply, evaluate, and communicate numerical information.
2. Students will engage in critical thinking and clinical reasoning to make patient-centered care decisions.
3. Students will participate in collaborative relationships with members of the clinical team, patient, faculty, community dental practices and peers in written and verbal communications.
4. Students will use information management principles, techniques, and systems to manage knowledge, support decision making and reduce errors in the dental patient care and their own personal academic knowledge.
5. Students will promote a culture of caring providing compassionate, ethical, legal, and professional patient care.
6. Students will present themselves in a professional manner while in the dental clinic on campus and internship sites.
7. Students will establish and maintain a safe learning environment for their peers, staff, and faculty.
8. Students will establish, maintain, and practice in a safe dental clinic while following the guidelines that have been established by the Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control and Prevention (CDC).
9. Students will be prepared to take and pass the Dental Assisting National Board Exam.
10. Students will participate in the American Dental Assistants Association as a student member learning leadership skills that then can be used in the work place.

According to the Bureau of Labor Statistics the median pay for dental assistants is \$35,980 per year which is approximately \$17.30 per hour. In the Fort Collins area, starting salaries are \$14-15 and hour. The outlook is very positive for this occupation with an increase of over 18% in the next 10 years.

<http://www.bls.gov/ooh/healthcare/dental-assistants.htm>

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

DEA 102	Principles of Clinical Practice	3
DEA 111	Dental Office Management	2
DEA 120	Introduction to Dental Practices	1
DEA 121	Dental Science I	3
DEA 123	Dental Materials I	3
DEA 125	Dental Radiography	3
DEA 126	Infection Control	3
DEA 132	Medical Emergencies in the Dental office	2

DEA 134	Prevention and Nutrition in Dentistry	3
DEA 181	Clinical Internship I	1

Subtotal: 24

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

DEA 104	Specialties in Dentistry	2
DEA 122	Dental Science II	3
DEA 124	Dental Materials II	3
DEA 131	Dental Radiography II	3
DEA 182	Clinical Internship II	2
DEA 183	Dental Clinical Internship III	6
COM 115	Public Speaking	3

Subtotal: 22

Total Credit Hours: 46

CLINICAL EMT CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_CER_EMTE

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

You will find the official form for your program at Clinical EMT Certificate (p. 189) with all of the possible combinations of classes you can take.

Learn more about gainful employment (p. 254)

MY ACADEMIC PLAN

Career Opportunities

For more information about employment and career pathways:

Clinical EMT Certificate Requirements (p. 189)

EMT Admission Requirements

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. A part-time format spanning two semesters may be offered. Check with your preferred campus for information.

EMS 121	EMT Fundamentals	3
EMS 122	EMT Medical Emergencies	4
EMS 123	EMT Trauma Emergencies	2

EMS 124	EMT Special Considerations	2
EMS 170	EMT Clinical	1

Subtotal: 12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. A part-time format spanning two semesters may be offered. Check with your preferred campus for information.

HPR- HPR	Patient Care Requirement:_____	1-2
EMS 130	EMT Intravenous Therapy	2
HPR 190	Basic EKG Interpretation	2
HPR- ELC	Patient Care Elective:_____	2-4
HPR- ELC	Patient Care Elective:_____	2-4

Subtotal: 12-13

Total Credit Hours: 24-25

EMERGENCY MEDICAL TECHNICIAN CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_CER_EMTB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

You will find the official form for your program at Certificate in Emergency Medical Technician (p. 189) with all of the possible combinations of classes you can take.

Learn more about gainful employment (p. 254)

MY ACADEMIC PLAN

Career Opportunities

For more information about employment and career pathways:

Certificate in Emergency Medical Technician (p. 189)

EMT Admission Requirements

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. A part-time format spanning two semesters may be offered. Check with your preferred campus for information.

EMS 121	EMT Fundamentals	3
EMS 122	EMT Medical Emergencies	4
EMS 123	EMT Trauma Emergencies	2

EMS 124	EMT Special Considerations	2
EMS 170	EMT Clinical	1
		Subtotal: 12

Total Credit Hours: 12

Health Information Technology

HEALTH INFORMATION TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

Field Code: F_AAS_HIT1

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Mission

The mission of the Health Information Technology Program at Front Range Community College is to prepare students with the technology skills and health information knowledge to become qualified as health information management professional technicians in all healthcare settings.

Vision

The vision of the Health Information Technology Program at FRCC is that all Health Information Technology students will successfully pass the American Health Information Management Association national certification examination to become credentialed Registered Health Information Technicians and obtain entry-level health information management employment.

Learn more about gainful employment (p. 254)

Getting into the Program

Admission Requirements

To get into the HIT program, the student must:

- Attend an Information Session prior to enrolling in the HIT Program or in the Medical Coding Certificate courses. Held the second Wednesday of every month, 6:00 PM, Westminster Campus, on the A Level (follow the signs when entering the building).
- Have all General Education required courses completed prior to entering the program as a full-time student. General Education required courses can be taken concurrently with the HIT courses for students entering on a part-time basis.
- Maintain a C or higher grade in all the program courses, including the General Education courses.
- Maintain a 2.5 GPA.
- Have no prior disqualifying criminal offense that would prohibit the student from working in healthcare. A Background Check is required prior to the Professional Practice Experience practicum.
- Be able to pass a required Drug Screen prior to the Professional Practice Experience practicum.

- Be willing to follow a professional dress code while attending HIT courses on campus.
- Be able to conduct themselves in a professional manner at all times as a representative of the HIT Program and FRCC.

A Health Information Technology job:

- Ensures patient health information is accurate, complete and available for patient care, research and data reporting.
- Adheres to patient privacy, security, and confidentiality laws.
- Combination of business operations, management, law, science, and technology.

HIT is right for the right student who:

- Wants to work in healthcare, but not directly with patients.
- Wants a career that offers diverse opportunities.
- Enjoys working with other professionals: physicians, nurses, administrators, executives, and lawyers.
- Wants to work on your own, with others, or a little bit of both.
- Maintains a C or higher grade in all the program courses.
- Maintains a 2.5 GPA.

What You Will Learn

Program Learning Outcomes

HIT Students will be able to:

1. Describe the development of the health information management (HIM) professional including education, credentials, areas of expertise, and application of the AHIMA (American Health Information Management Association) Professional Code of Ethics.
2. Analyze the various healthcare delivery settings and the health record content by setting.
3. Demonstrate understanding of the development of department policies and procedure as they apply to patient health records to ensure compliance with federal and state regulations and accreditation standards.
4. Evaluate and use critical thinking skills to improve workflow process.
5. Apply physical and technical safeguards to protect patient health information in each of the three types of health records: paper, hybrid, and electronic.
6. Explain how software technology is used in performing health information management processes.
7. Apply current regulations and guidelines when using the medical coding classification systems for proper billing.
8. Explain how a healthcare facility's case mix index is used as a metric for the clinical documentation improvement program.
9. Explain how health information management professionals organize, collect and analyze quality data in a patient's health record.
10. Distinguish the difference between primary data, secondary data, and information.

Health Information Technology professionals focus on health care data and the management of health information resources. Technology has vastly changed the HIT professional scope. Today Health Information Technicians collect, protect, integrate,

manage, and analyze all types of health care data. Health information technicians are responsible for the accuracy, accessibility, quality, and security of patient data, both in the paper and electronic environments. The data is used for research, evaluation and improvement of health care services resulting in improved patient outcomes. Students will learn the science of health information management, including legal and ethical practices, medical sciences, data governance, and revenue cycles. Students are introduced to computer information systems. Medical coding students will become competent in abstracting diagnoses and procedures from health records and then assigning codes using the medical coding classification systems for proper billing and reimbursement.

Career Opportunities

Typical HIT positions include medical records technician, medical coder, release of information specialists, health data analyst, transcription editors, insurance claims analyst, patient information coordinator, revenue cycle specialists, and specialists in electronic health record implementation. Health information technicians are utilized in every health care setting, including hospitals, clinics, physician practices, long-term care, rehab facilities, outpatient care facilities, insurance companies, government agencies, law firms and pharmaceutical companies. There will be an increased demand for health services as the population ages. The demand for HIT personnel is expected to increase by 15% from 2014-2024, much faster than average (US Bureau of Labor Standards). The trend for Colorado shows a 27% increase.

Health Information Technology offers career opportunities in the following traditional and non-traditional healthcare settings:

- Academic institutions
- Ambulatory clinics
- Ambulatory surgery centers
- Blood centers
- Chiropractic
- Coding agencies
- Compliance organizations
- Consulting agencies
- Data analysis organizations
- Dental offices
- Dialysis centers
- Disease specialty centers
- Governmental agencies
- Healthcare software companies
- Health departments
- Health information exchanges
- Health information organizations
- HIM service providers
- Hospital associations
- Information technology departments
- Insurance agencies
- Law offices
- Long term acute care hospitals
- Long term care organizations
- Outpatient behavioral health centers
- Pediatric hospitals
- Pharmaceutical companies
- Physical therapy and sports rehab
- Physician office practices

- Primary care associations
- Professional associations
- Public health agencies
- Rehabilitation organizations
- Short term acute care hospitals
- State agencies
- System vendors
- University health centers

AAS in Health Information Technology (p. 195)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR- REQ	Medical Terminology Requirement:_____	1-2
CIS 118	Introduction to PC Applications	3
COM- GEN	Communication:_____	3
ENG- GEN	English:_____	3
MAT- GEN	Mathematics:_____	3
PSY- ELC	Psychology Elective List: _____	3
Subtotal: 16-17		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HIT 101	Health Information Management Science	3
HIT 105	Principles of Healthcare Reimbursement	3
HIT 111	Health Data Management & Information Systems	3
HIT 122	Workflow Fundamentals of Healthcare	3
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
Subtotal: 21		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion of this semester and classes, you will earn your **Health Information Technology Medical Coding certificate.**

HIT 112	Legal Aspects for Health Records	2
HIT 220	ICD Coding I	3
HIT 221	ICD Coding II	2
HIT 222	Quality Management	3
HIT 225	Health Information Management	3
HIT 231	ICD Coding III	5
HIT 241	CPT Coding Basic Principles	3
Subtotal: 21		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HIT 188	Health Information Practicum I	2
HIT 289	HIT Capstone Course	3

Subtotal: 5**Total Credit Hours: 63-64**

HEALTH INFORMATION TECHNOLOGY MEDICAL CODING CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_MCOD

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR- REQ	Medical Terminology Requirement: _____	1-2
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HIT 105	Principles of Healthcare Reimbursement	3

Subtotal: 13-14

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HIT 220	ICD Coding I	3
HIT 221	ICD Coding II	2
HIT 231	ICD Coding III	5
HIT 241	CPT Coding Basic Principles	3

Subtotal: 13**Total Credit Hours: 23-24**

Integrative Health Professions & Massage Therapy

INTEGRATIVE HEALTH PROFESSIONS ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Loveland

Field Code: F_AAS_IHPA

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete

courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This two year program is designed to prepare students to begin practice in an area of holistic/integrative health, including practitioners in aromatherapy, yoga teaching, massage, reflexology, Reiki, wellness coaching, etc. Graduates will be aligned to set up their own practices in a stand-alone facility, or work alongside other practitioners in the holistic and medical fields, including holistic centers, wellness facilities, integrative clinics, and hospitals. Graduates are qualified for employment in various levels of entrepreneurship or independent and corporate wellness as well as health care offices or organizations. It prepares students to take state and national certification exams with a focus on areas of aromatherapy, coaching, reflexology, yoga, or energy/body work and/or join highly-rated state and nationally accredited professional membership affiliations. However, new national trends suggest that students complete a significant portion hands-on coursework in order to garner greater potential for increased employment opportunities and successful transfer status in this emerging hands-on, person-oriented professional healthcare field and thus, this degree is not recommended for completion exclusively online.

Graduates of this degree may also transfer to advanced educational institutions for other integrated health-related degrees. Currently, this degree program is transferable to Metropolitan State University of Denver to be applied towards the Bachelor of Science in Integrative Healthcare and Southern New Hampshire University for a Bachelor of Science in Health Sciences. Possible transfers to other university programs and specialty schools are also in process; so please check with the Program Director for more details and updates.

All courses in this degree must be completed with a "C" or better to graduate.

AAS Degree Holistic Health Professional (p. 205)

Requirements:

Assessment testing is required of all students. Students who place into CCR 093 (or above), MAT 050 (or above) may begin this program of study. Students scoring below this level should consult with the Program Director before registering for courses in this program of study. Upon doing so, students are strongly encouraged to begin with HHP 120 (Introduction to Integrative Health) during their first semester for enhanced success in the Holistic Health program and this emerging field.

Learn more about gainful employment (p. 254)

Career Opportunities

Holistic Health AAS Degree & Certificates

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 120 Introduction to Integrative Health

2

ENG- GEN	English: _____	3
MAT- GEN	Mathematics: _____	3-5
GEN- ELC	Electives: _____	3
IHP- MST	IHP or MST Elective: _____	3
Subtotal: 14-15		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 252	Holistic Health Keystone	3
HWE- HHP	HWE 100 or HHP 240: _____	3
SCI- GEN	Science: _____	4-5
GEN- ELC	General Education Elective: _____	3
IHP- MST	IHP or MST Elective: _____	3
Subtotal: 16-17		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 261	Ethics in Holistic Therapies	2
BIO 201	Human Anatomy and Physiology I with Lab	4
COM- GEN	Communication: _____	3
GEN- ELC	General Education Elective: _____	3
IHP- MST	IHP or MST Elective: _____	3
Subtotal: 15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Semester credits may vary depending on other semester courses selected. You should take between 60 and 62 credits. You may want to check with your advisor to monitor your completion progress.

HHP 263	Creating a Holistic Business Practice	2
HHP 289	Capstone	2
BIO 202	Human Anatomy and Physiology II with Lab	4
GEN- ELC	General Education Elective: _____	3
IHP- MST	IHP or MST Elective: _____	3
HHP- MS1	HHP or MST Elective: _____	1
Subtotal: 15		

Total Credit Hours: 60-63
Integrative Health Certificates

AROMATHERAPY CERTIFICATE

Locations: Online Learning

Field Code: F_CER_HHAR

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finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The Aromatherapy certificate program teaches students how to safely use and apply essential oils for therapeutic benefits. Aromatherapy has been defined as the art and science of utilizing naturally extracted aromatic essences from plants to balance, harmonize and promote the health of body, mind and spirit. As a holistic practice, Aromatherapy is both a preventative approach as well as an active method to combat stress, illness or disease. This certificate is accredited by the National Association of Holistic Aromatherapy (NAHA) and can be utilized in conjunction with training in other holistic or health-related modalities and careers for enhanced employability and well-being. All courses in this degree must be completed with a "C" or better to graduate.

Note: This certificate cohort starts only in the Fall term.

Holistic Health Degree and Certificates

Aromatherapy Certificate Required Courses (p. 206)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

This certificate cohort starts only in fall term.

HHP 263 may be taken either the **first or second term** based on your scheduling preference.

SCI- GEN	Science: _____	4
HHP 204	Applied Aromatherapy	3
HHP 263	Creating a Holistic Business Practice	2
Subtotal: 9		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 264	Advanced Aromatherapy for Certificate	4
HHP 288	Practicum (Aromatherapy)	2
Subtotal: 6		

Total Credit Hours: 15

INTEGRATIVE HEALTH PROFESSIONS CERTIFICATE

Locations: Larimer Campus, Loveland

Field Code: F_CER_IHPC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This short-term overview certificate program is designed to supplement an existing health professional's practice with knowledge of emerging integrative therapies and the overall concepts of holism and health prevention. Therefore, nurses, physical/occupational therapists, massage therapists and others with existing medical, integrative health or wellness-promotion backgrounds are invited to complete this certificate for professional development and/or continuing education credits. Those hoping to enter the field of Holistic/Integrative Health are encouraged to instead look into one or more of the FRCC specific modality certificates and/or to complete the full Holistic Health Associate of Applied Science degree.

All courses in this degree must be completed with a "C" or better to graduate.

Integrative Health Professions Certificate (p. 207)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. This certificate may be completed in one full-time term or two part-time terms.

HHP 240	Holistic Nutrition: Digestive Healing	3
HHP 252	Holistic Health Keystone	3
HHP 263	Creating a Holistic Business Practice	2
HHP 262	Psychoneuroimmunology (PNI): Exploring the Mind-Body Connection	3
HHP 269	Healing Presence	1
HHP- EL1	HHP Elective: _____	3

Subtotal: 15

Total Credit Hours: 15

INTEGRATIVE HEALTH & WELLNESS COACHING CERTIFICATE

Locations: Larimer Campus, Loveland

Field Code: F_CER_IHWC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate trains individuals in the core competencies of the coaching profession, including skills in relationship-building, active listening, powerful questioning, goal-setting, positive psychology, and motivational interviewing. Enhanced knowledge in the areas of nutrition, fitness and mindfulness practices are also part of the curriculum so that individuals are prepared to work in a variety of professional settings in the emerging field of Health and Wellness Coaching. This exciting new profession focuses on empowering clients to make healthy lifestyle choices and lasting behavioral changes in order to optimize their health and well-being. This program has been accepted into the Transitional Approval Phase from the International Consortium for Health & Wellness Coaching (ICHWC - <http://ichwc.org>).

All courses in this certificate must be completed with a "C" or better to graduate.

Integrative Health & Wellness Coaching Certificate (p. 206)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 107	Managing Life's Stresses	1
HHP 229	Wellness Coaching	1
HHP 231	Advanced Health & Wellness Coaching	3
HHP 252	Holistic Health Keystone	3
HHP 261	Ethics in Holistic Therapies	2
HWE 100	Human Nutrition	3
HHP- ELC	HHP Elective: _____	2

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 217	Mindfulness Practices Impact on Health & Wellness	2
HHP 232	Integrative Coaching Skills for Fitness Achievement	2
HHP 240	Holistic Nutrition: Digestive Healing	3
HHP 249	Journaling the Healing Journey	1
HHP 263	Creating a Holistic Business Practice	2
PSY- HHP	PSY or HHP Elective: _____	3
HHP- ELC	HHP Elective: _____	2

Subtotal: 15

Total Credit Hours: 30

MASSAGE THERAPY CERTIFICATE

Locations: Loveland

Field Code: F_CER_MSG1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program prepares students to practice as a licensed massage therapist in the State of Colorado. Students are trained in state of the art professional massage practices and therapeutic techniques, including coursework in Neuromuscular Anatomy in Clay, Kinesiology and Pathology and will complete two clinical rotations. Upon successful completion, students will be prepared to take the national certification exam (NBLEX) through the National Certification Board for Therapeutic Massage and Bodywork and they may also become professional members of the American Massage Therapy Association (AMTA) and Associated Bodywork & Massage Professionals (ABMP) affiliate associations. All courses in this degree must be completed with a "C" or better to graduate.

Massage Therapy Certificate (p. 212)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. HHP 116 (p. 339) must be taken prior to submitting an application for admission in a Massage Therapy cohort. Please arrange to speak with the HHP Program Director or HHP instructors for guidance on the application process. You should consult with the HHP Program Director regarding your proficiency and/or educational experience in Anatomy and Physiology prior to applying to the Massage Therapy program. You may choose to also enroll in other HHP courses based upon your professional interests and goals, but these additional courses are not required for admission or completion of the Massage Therapy certificate program.

HHP 116	Introduction to Massage Techniques	1
		Subtotal: 1

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MST 111	Basic Massage Therapy	4
MST 184	Clinical Massage I	2
HHP 208	Advanced Musculoskeletal Anatomy	2
		Subtotal: 8

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MST 113	Professional Massages	3
MST 216	Pathology for Massage Therapy	3
MST 284	Clinical Massage II	2
HPR 117	Anatomical Kinesiology	3

Subtotal: 11

Total Credit Hours: 20

REFLEXOLOGY CERTIFICATE

Locations: Larimer Campus, Loveland

Field Code: F_CER_HH3A

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program introduces students to reflexology, which is a non-invasive form of acupressure on the feet, hand and ears that holistically facilitates opening the channels for healing energy to circulate to all parts of the body. In accordance with national credentialing and membership standards, this certificate has increased its contact hours to well over 300 and successful graduates are eligible to take the national certification exam from the American Reflexology Certification Board (ARCB) and receive professional membership status with Reflexology Association of America (RAA); *though it has been stipulated that 60%+ of the coursework for contact hours must be hands-on and <40% may be taken online. Please contact the Program Director for clarification of the contact hour calculation.* All courses in this degree must be completed with a "C" or better to graduate.

Reflexology Certificate (p. 207)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BIO- MST	BIO 106 or MST 106: _____	4
HHP 166	Introduction to Reflexology	1
HHP 168	Reflexology of the Hands and Feet	3
HHP 261	Ethics in Holistic Therapies	2
HHP- ELC	HHP Elective: _____	1-2
HHP- ELC	HHP Elective: _____	1-2
		Subtotal: 12-14

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 260	Advanced Reflexology	2
HHP 188	Practicum (Reflexology)	2
HHP 263	Creating a Holistic Business Practice	2
HHP- ELC	HHP Elective: _____	1-2
HHP- ELC	HHP Elective: _____	1-2

Subtotal: 8-10

Total Credit Hours: 20-24

YOGA TEACHER TRAINING CERTIFICATE

Locations: Larimer Campus, Loveland

Field Code: F_CER_HHS

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program prepares students to be a professional Hatha Yoga Teacher in studios, health clubs, private practice or other health-promotion arenas. Students will develop skills to teach yoga and relaxation to diverse populations who can benefit physically, mentally and spiritually from learning this ancient art of stretching, body postures and relaxation techniques. This certificate is certified by Yoga Alliance and successful program graduates are eligible for their RYT200 level certification. Courses must be passed with a grade of "C" or better.

Yoga Teacher Training Certificate (p. 207)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HHP 250	Teacher Training Institute for Yoga	10
HHP- ELC	HHP Elective: _____	2
		Subtotal: 12

Total Credit Hours: 12

Medical Assisting Professional

MEDICAL ASSISTING ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus

Field Code: F_AAS_MA3

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This area of study is designed to prepare individuals to work in ambulatory health care facilities in both the administrative and clinical areas. Administrative skills are developed in the areas of medical office procedures, written communications, financial management, insurance billing, *International Classification of Diseases - 10th (ICD-10) Edition*, and *Physicians Current Procedural Terminology (CPT) coding*. Clinical skills include assisting with patient intake, physical examinations, diagnostic tests, and treatment procedures including administration of medications and first aid.

The Medical Assistant Program at Front Range Community College working with all communities of interest, will provide quality outcomes based on education and training in a secure environment conducive to learning in the cognitive (knowledge), affective (behavior), and psychomotor (skills) learning domains. Instruction more specifically includes basic anatomy and physiology, medical terminology, medical law and ethics, medical office procedures, and clinical diagnostic, examination, testing, and treatment procedures.

Learn more about gainful employment (p. 254)

Career Opportunities

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 119	Computers in Health Care	2
HPR 106	Law and Ethics for Health Professions	2
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
		Subtotal: 19

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAP 183	Medical Assistant Internship	4
MAP 189	Review for Medical Assistant National Exam	1
MAP 120	Medical Office Financial Management	4
MAP 150	Pharmacology for Medical Assistants	3
MAP 138	Medical Assisting Laboratory	4
MAP 140	Medical Assisting Clinical Skills	4
		Subtotal: 20

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- GEN	English: _____	3
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MAT- GEN	Mathematics: _____	3-4
CIS 118	Introduction to PC Applications	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 12-13

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PSY 101	General Psychology I	3
COM- GEN	Communication: _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 9

Total Credit Hours: 60-62

MEDICAL ASSISTING CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_CER_MA4F

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program is designed to prepare competent entry level medical assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
MAP- HPR	MAP or HPR Elective: _____	5-8

Subtotal: 18-21

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAP 138	Medical Assisting Laboratory	4
MAP 140	Medical Assisting Clinical Skills	4
MAP- HP1	MAP or HPR Elective: _____	8-12

Subtotal: 16-20

Total Credit Hours: 39

Medical Office Technology

MEDICAL OFFICE & BILLING SPECIALIST ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus

Field Code: F_AAS_MOBS

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The Medical Office Technology program offers high quality instruction in a caring and supportive learning environment. The Program goal is to prepare confident, qualified healthcare professionals to work as part of a healthcare team by providing an innovative learning environment that emulates the workforce environment.

Learn more about gainful employment (p. 215)

Getting into the Program

Admission Requirements

Students must:

- Complete assessment testing. ACT English of 18 or higher or SAT verbal score 440 or higher. Students who place into ENG 121 (p. 331) (or above) and MAT 107 (p. 363) (or above) may begin taking this program of study.
- Complete all degree and/or certificate courses with a grade of "C" or better.
- Complete online background check at Certified Background as directed by Program Director. See <http://cccs.castlebranch.com>
- Possess the ability to sufficiently speak and understand English and to comprehend verbal communication of English speaking clients.

What You Will Learn

Program Learning Outcomes

For the degree and all certificates all students will learn:

- Understand the anatomy & physiology, pathophysiology and drug therapy of major body systems
- Legal aspects of medical records
- Establish a personal and professional code of ethics
- Develop a basic understanding of MS Office
- Understand the Electronic Health Record
- A knowledge of medical terminology including abbreviations and use in medical record

Medical Office and Billing Specialist AAS degree:

- Advanced understanding of accounting and business practices
- Healthcare service and coding
- Advanced communication skills
- Review of career mathematics
- Further understanding of social skills

Career Opportunities

The Medical Office and Billing Specialist Program is a certificate or AAS (Associate of Applied Science) program. Employment is found in a wide variety of healthcare facilities. Medical Office and Billing Specialists are qualified to perform an array of administrative duties. These skills are vital to clinic success and include maintaining medical records, use of electronic health software, patient admissions, medical billing and coding, medical financial management, healthcare customer service and logistics.

Jobs:

A certificate or AAS degree in Medical Office and Billing Specialist opens the door to careers in:

- Medical Office Management
- Medical Billing Specialist
- Medical Coding
- Health Information Technologist
- Medical Scribe

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
CIS 118	Introduction to PC Applications	3

Subtotal: 16**Second Semester**

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MOT 136	Introduction to Clinical Skills	2
MOT 280	Internship	4
MOT 289	Capstone	1
HPR 106	Law and Ethics for Health Professions	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4

Subtotal: 17**Third Semester**

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAT 107	Career Mathematics	3
PSY 101	General Psychology I	3
ENG 121	English Composition I	3
ELC- LST	Emphasis Elective: _____	3
ELC- LST	Emphasis Elective: _____	3

Subtotal: 15**Fourth Semester**

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR- MOT	HPR or MOT: _____	2
COM- REQ	Communications: _____	3
ELC- LST	Emphasis Elective: _____	3
ELC- LS1	Emphasis Elective: _____	2-3
ELC- LS2	Emphasis Elective: _____	2-5

Subtotal: 12-16**Total Credit Hours: 60-61**

Medical Office Technology Certificates

MEDICAL BILLING SPECIALIST CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_MEDB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This certificate prepares individuals to work as a medical insurance billing specialist. Skills are developed in medical account management and in health care coding and billing for reimbursement.

Medical Billing Specialist Certificate Requirements (p. 215)

What You Will Learn**Program Learning Outcomes**

- Learn the basic elements of accounting including analysis and recording of transactions.
- Understanding of personal computers, operating systems, word processing, spreadsheets and databases
- Experience with supervised Billing Specialist Internship in a contracted facility

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MOT 125	Basic Medical Sciences I	3
ACC 101	Fundamentals of Accounting	3
CIS 118	Introduction to PC Applications	3
MOT 133	Basic Medical Sciences II	3
HPR 208	Medical Record Terminology	2
MOT 135	Basic Medical Sciences III	3
HPR 119	Computers in Health Care	2

Subtotal: 19

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR 106	Law and Ethics for Health Professions	2
MAP 120	Medical Office Financial Management	4
MOT 184	Billing Specialist Internship	3
MOT 289	Capstone	1
		Subtotal: 10

Total Credit Hours: 29

MEDICAL OFFICE SPECIALIST CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_MOSS

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program prepares individuals to work in an administrative assistant/office support role in a health care facility. Students learn basic human anatomy, physiology and disease conditions. Skills are developed in computer applications, written communication, medical office procedures, financial management, insurance billing, *International Classification of Diseases 10th (ICD-10) Edition*, and *Physicians Current Procedural Terminology (CPT) coding*, and transcribing medical reports.

Medical Office Specialist Certificate Requirements (p. 216)

What You Will Learn

Program Learning Outcomes

- Understand the bookkeeping systems, financial reports and coding systems in a medical office.
- Understanding of personal computers, operating systems, word processing, spreadsheets and databases.
- Understanding of medical records, front desk activities and office management.
- Perform basic patient care, vital signs, and safety procedure
- Experience with supervised Administrative Internship in a contracted facility

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MOT 125	Basic Medical Sciences I	3
MAP 110	Medical Office Administration	4

CIS 118	Introduction to PC Applications	3
MOT 133	Basic Medical Sciences II	3
HPR 208	Medical Record Terminology	2
MOT 135	Basic Medical Sciences III	3
HPR 119	Computers in Health Care	2

Subtotal: 20

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MOT 136	Introduction to Clinical Skills	2
HPR 106	Law and Ethics for Health Professions	2
MAP 120	Medical Office Financial Management	4
MOT 181	Administrative Internship	2
MOT 289	Capstone	1

Subtotal: 11

Total Credit Hours: 31

Nursing

NURSING ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_NR1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The mission of the FRCC Department of Nursing is to provide excellent education that prepares the learner to become a member of the nursing profession, meeting the needs of diverse populations.

Nursing AAS and certificates are offered at *Larimer Campus and Westminster Campus*.

Larimer Campus Nursing Admission Requirements
Westminster Campus Nursing Admission Requirements

Learn more about gainful employment (p. 254)

What You Will Learn

Program Learning Outcomes

1. Provide safe, quality, evidence-based, patient-centered nursing care in a variety of healthcare settings to diverse patient populations across the lifespan.
2. Engage in critical thinking and clinical reasoning to make patient-centered care decisions.
3. Implement quality measures to improve patient care.
4. Participate in collaborative relationships with members of the interdisciplinary team, the

patient and the patient's support persons.

5. Use information management principles, techniques, and systems, and patient care technology to communicate, manage knowledge, mitigate error, and support decision-making.
6. Provide leadership in a variety of healthcare settings for diverse patient populations.
7. Assimilate professional, legal, and ethical guidelines in practice as a professional nurse.
8. Promote a culture of caring to provide holistic, compassionate, culturally-competent care.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
PSY 235	Human Growth and Development	3
BIO 201	Human Anatomy and Physiology I with Lab	4
NUT- REQ	Nutrition: _____	1-3
BIO 204	Microbiology with Lab	4

Subtotal: 15-17

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 109	Fundamentals of Nursing	6
NUR 112	Basic Concepts of Pharmacology	2
BIO 202	Human Anatomy and Physiology II with Lab	4
MAT 103	Math for Clinical Calculations	3

Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

The program offers a **Practical Nursing "exit option" course** at the **completion of the first year**. This is for students who would like to complete the requirements to be **eligible to apply for the PN NCLEX®**. Students completing **NUR 169 and the first year of the nursing program** may **apply for the NCLEX® exam** for practical nursing licensure. **NUR 169 is only taught over the summer.**

NUR 106	Medical Surgical Nursing Concepts	7
NUR 150	Maternal Child Nursing	6
BIO 216	Pathophysiology	4

Subtotal: 17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 206	Advanced Concepts of M/S Nursing I	6.5
NUR 212	Pharmacology	2
NUR 211	Psychiatric-Mental Health Nursing	4

Subtotal: 12.5

Fifth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 216	Advanced Concepts of M/S Nursing II	5
NUR 230	Transition to Professional Nursing Practice	4
GT- ELC	GT-AH or GT-SS: _____	3

Subtotal: 12

Total Credit Hours: 71.5-73.5

NURSING ADVANCED PLACEMENT BRIDGE PROGRAM ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

Field Code: F_AAS_NR5

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The LPN to ADN Bridge nursing program at the Westminster Campus is a three-semester advanced placement program allowing currently licensed Practical Nurses career mobility to obtain an Associate of Applied Science in Nursing. Upon successful completion of the LPN to ADN Bridge program, students are eligible to take the NCLEX-RN exam to become a Registered Nurse (RN). There are additional options to obtain your Bachelor of Science in Nursing (BSN) concurrently or immediately following the ADN program.

FRCC's nursing degree is approved by the Colorado Board of Nursing and accredited by the Accreditation Commission for Education in Nursing Inc. (ACEN). More information about the Nursing Associates of Arts degree can be found at AAS in Nursing (p. 222).

Below are several options available to FRCC Nursing students:

Practical Nursing: Exit Option (47 credits, 4 semesters): This option allows students to complete the first year of the A.A.S. Nursing and NUR 169 to receive a certificate and be eligible to apply to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).

RN to BSN Option: RNs can earn a Bachelor of Science in Nursing from numerous local, state, national, and online options.

Dual Enrollment Options: Current FRCC Nursing students have the below choices:

MSU Denver: While taking courses at FRCC toward your A.A.S. in Nursing you can take online courses from MSU Denver that count toward obtaining a BSN. For more information, visit the MSUD Nursing website.

UCCS: While taking courses at FRCC toward your A.A.S. in Nursing you can take online courses from Beth-El College of Nursing and Health Sciences at the University of Colorado-Colorado Springs (UCCS) that count toward obtaining a BSN. For more information, visit the UCCS Nursing website.

UNC: While taking courses at FRCC toward your A.A.S. in Nursing you can take online courses from the College of Natural & Health Sciences - School of Nursing at the University of Northern Colorado that count toward obtaining a BSN. For more information, visit the UNC Nursing website.

CU Denver: While taking courses at FRCC toward your A.A.S. in Nursing you can take online courses from University of Colorado Denver College of Nursing that count toward obtaining a BSN. For more information, visit the UCD Nursing website.

The Nursing Advanced Placement Bridge Program is offered at the Westminster Campus only.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
PSY 235	Human Growth and Development	3
BIO 201	Human Anatomy and Physiology I with Lab	4
NUT- REQ	Nutrition:_____	1-3
BIO 204	Microbiology with Lab	4
BIO 202	Human Anatomy and Physiology II with Lab	4
MAT- GEN	Mathematics:_____	3-4
BIO 216	Pathophysiology	4
GT- ELC	GT-AH or GT-SS:_____	3
Subtotal: 29-31		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 189	Transition from Licensed Practical Nurse to Associate Degree Nursing Student	4
Subtotal: 4		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 206	Advanced Concepts of M/S Nursing I	6.5
NUR 212	Pharmacology	2
NUR 211	Psychiatric-Mental Health Nursing	4
Subtotal: 12.5		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 216	Advanced Concepts of M/S Nursing II	5
NUR 230	Transition to Professional Nursing Practice	4
Subtotal: 9		

Total Credit Hours: 54.5-56.5

NURSE AIDE CERTIFICATE

Locations: Loveland, Westminster Campus

Field Code: F_CER_NR3

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This certificate program provides students with entry-level skills required for employment as a Nurse's Aide in a variety of settings, which may include long-term care, acute care, hospice or home health care. Not all of the patients a Nurse Aide cares for are elderly, but the special needs of the geriatric population are an emphasis of the Nurse Aide training program at FRCC. A grade of "C" or better is required to be successful in all certificate courses. This certificate qualifies students to take the State Certification Examination to become a Certified Nurse Aide (C.N.A.).

All students are required to submit and pass a specific criminal background check to attend the clinical (NUA 170), prior to the clinical dates. Disqualifying Offenses that may fail a background check include, but are not limited to: physical abuse or domestic violence, theft, illegal use of weapons, or illegal use or possession of controlled substances. Students will be required to have immunizations to meet O.S.H.A. guidelines including current negative TB test and a current seasonal flu shot during fall and spring semesters. Some clinical facilities may require additional immunizations. Contact the Nurse Aide Office on each individual campus for information on beginning the background check or information on disqualifying offenses, or for specific campus requirements for the NUA classes.

The Larimer/Loveland campus has a paperwork packet that is available to students once class begins on D2L. Contact the Nurse Aide office at 970-613-7580 for more information.

The Westminster campus has a campus-specific Nurse Aide Information Packet, which is due two weeks prior to the start of class. This packet is distributed at a required Nurse Aide Information meeting. Please contact the Westminster Campus for meeting times and locations at 303-404-5208.

Certificate in Nurse Aide (p. 221)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUA 101	Nurse Aide Health Care Skills	4
NUA 170	Nurse Aide Clinical Experience	1

Subtotal: 5**Total Credit Hours: 5****PRACTICAL NURSING CERTIFICATE**

Locations: Larimer Campus

Field Code: F_CER_NR4

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

The mission of the Front Range Community College Department of Nursing is to provide excellent education that prepares the learner to become a member of the nursing profession to meet the needs of diverse populations. The licensed practical nurse certificate program is designed for students whose primary goal is practical nursing. The program prepares students for vocational careers in long term care facilities, clinics, home care, physicians' offices, and some hospitals. The Front Range Community College Larimer Campus' Practical Nursing program has interim approval by the Colorado Board of Nursing and is eligible for the candidacy process with the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326 www.acenursing.org. The Front Range Community College Larimer Campus Practical Nursing Program is NOT accredited by a National Nursing Accreditation agency. Attendance at a non-accredited nursing school may make you ineligible to attend an accredited nursing school in pursuit of additional education.

Learn more about gainful employment (p. 225)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SCI- GEN	Science: _____	4
ENG 121	English Composition I	3

Subtotal: 7**Second Semester**

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 101	Pharmacology Calculations	1
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NUR 102	Alterations in Adult Health I	4
NUR 103	Basic Health Assessment for the Practical Nurse	1
NUR 105	Practical Nursing Arts and Skills	6
NUR 110	Pharmacology for Practical Nursing	3
NUR 116	Basic Concepts of Geriatric Nursing	1
NUR 170	Clinical I	3

Subtotal: 19**Third Semester**

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NUR 104	Alterations in Adult Health II	5
NUR 111	Advancement into Practical Nursing	1
NUR 113	Basic Concepts of Maternal-Newborn Nursing	2
NUR 114	Basic Concepts of Pediatric Nursing	2
NUR 115	Basic Concepts of Mental Health Nursing	1
NUR 171	Clinical II	2
NUR 172	Clinical III	1
NUR 173	Clinical IV	3

Subtotal: 17**Total Credit Hours: 43****Patient Care Certificates****PATIENT CARE TECHNICIAN CERTIFICATE**

Locations: Loveland, Westminster Campus

Field Code: F_CER_PCT1

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

The Patient Care Technician (PCT) certificate is a two semester program designed to prepare students for entry-level work in a variety of healthcare environments, such as clinics, hospitals, nursing homes or long term care facilities. Patient Care Technicians care for patients under the supervision of a doctor or nurse. This program offers students stackable certificates in Nurse Aide, Phlebotomy, Electrocardiogram, and Healthcare Customer Services Basics that can be completed while working toward completion of the Patient Care Technician certificate for a total of 25 credits and two semesters in length. This certificate is comprised of lectures, labs and clinical internship experiences in the health care field. Once students complete the requirements of the Patient Care Technician program, they are eligible to take the National Certified Patient Care Technician (NCPCT) exam through the National Health Association.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR 101	Customer Service in Healthcare	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
NUA 101	Nurse Aide Health Care Skills	4
NUA 170	Nurse Aide Clinical Experience	1
HPR- ELC	Patient Care Elective: _____	0-3
Subtotal: 11-14		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR 112	Phlebotomy	4
HPR 179	Seminar: Phlebotomy	1
HPR 180	Internship: Phlebotomy	2
HPR 190	Basic EKG Interpretation	2
HPR 200	Advanced ECG Interpretations	2
HPR- ELC	Patient Care Elective: _____	0-3
Subtotal: 11-14		

Total Credit Hours: 22-28

ELECTROCARDIOGRAM CERTIFICATE

Locations: Larimer Campus, Loveland, Westminster Campus

Field Code: F_CER_ECRD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

This certificate will provide students the entry level knowledge and practice of administering and reading EKG's in the healthcare setting. Students may be eligible to sit for the Certified EKG Technician Exam.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR 190	Basic EKG Interpretation	2
HPR 200	Advanced ECG Interpretations	2
HPR- REQ	Patient Care Requirement: _____	2
Subtotal: 6		

Total Credit Hours: 6

HEALTH CARE CUSTOMER SERVICE BASICS CERTIFICATE

Locations: Brighton Center, Larimer Campus, Loveland, Westminster Campus, Online Learning

Field Code: F_CER_HCSB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

Health Care Administrative Assistants are trained on the Electronic Health Record (EHR), assisting in managing the day to day operations of a medical facility, checking patients in, verifying patient insurance, and providing quality customer service to patients. This certificate will focus on computers in healthcare including the EHR, customer service in health care, and medical terminology. Students will receive the basics for an entry level position in health care administrative assistance.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR 101	Customer Service in Healthcare	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
Subtotal: 6		

Total Credit Hours: 6

PHARMACY TECHNICIAN CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_PHT2

MY ACADEMIC PLAN**Program Mission & Description**

Program Mission: This program provides quality training to produce professional pharmacy technicians prepared to sit for the national pharmacy certification exam. Our curriculum prepares students to succeed in a competitive economy by focusing on quality, innovative technology, self-initiative, and problem solving. Front Range Community College is committed to meeting the pharmacy technician needs of the community it serves.

Program Description: This certificate prepares students to assist pharmacists with the technical tasks in community and hospital pharmacy settings, as well as several additional settings.

The curriculum is in a modular format consisting of three five-week instructional modules. Two modules of experiential

practice follow the three modules in the following semester. Students may enter the program either in the fall or spring semester. This program is accredited by the American Society of Health System Pharmacists (ASHP).

Additional expenses incurred during the PHT program may include identification badges, books, lecture notes, scrubs, criminal background check, 10-panel drug screen, BLS certification from an AHA provider, and immunizations prior to clinical rotations.

Pharmacy Technician Certificate

Learn more about gainful employment (p. 254)

Getting into the Program

Assessment testing is required for all students. Students who place into CCR 092 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

What You Will Learn

Program Learning Outcomes

Upon completion of this program, you will be able to:

- Demonstrate, communicate and apply personal/interpersonal knowledge and skills.
- Identify, demonstrate, and perform foundational professional knowledge and skills.
- Demonstrate, perform, and assist pharmacists in the processing and handling of medications and medication orders.
- Prepare sterile and non-sterile compounded products.
- Demonstrate, communicate, and apply procurement, billing, reimbursement and inventory management procedures.
- Demonstrate, communicate, apply, and assist pharmacists in patient- and medication-safety.
- Describe and apply the use of technology and informatics in the healthcare environment.
- Demonstrate, communicate and apply compliance with pharmacy regulatory issues.
- Demonstrate, communicate and apply quality assurance practices and reporting.

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHT 111	Introduction to Pharmacy	3
PHT 112	Pharmacy Law	2
PHT 115	Pharmacology I	3
PHT 116	Institutional Pharmacy	3
PHT 118	Pharmacology II	3

PHT 119	Community Pharmacy	3
PHT 235	Pharmaceutical Calculations & Compounding Techniques	4

Subtotal: 21

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHT 170	Pharmacy Clinical: Institutional	4
PHT 171	Pharmacy Clinical: Community	4

Subtotal: 8

Total Credit Hours: 29

PHLEBOTOMY CERTIFICATE

Locations: Loveland, Westminster Campus

Field Code: F_CER_PHLB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This certificate is designed to provide the student with entry-level skills required for employment as a phlebotomist. HPR 112 (p. 350), HPR 179 (p. 351) and HPR 180 (p. 351) must be successfully completed with a "C" or better to enable students to sit for a national certifying exam. HPR 112 is a lecture and lab course. HPR 179 is a Phlebotomy seminar/lecture that is taken concurrently with HPR 180, which covers advanced skills and preparation for taking a national Phlebotomy certification exam. HPR 180 is a Phlebotomy clinical internship at a local laboratory.

There are four agencies that recognize the Front Range Phlebotomy Program, students may choose which agency to sit for their certifying exam. American Society for Clinical Pathologist (ASCP); National Health Career Association (NHA); American Medical Technologist (AMT); and National Center for Competency Testing (NCCT).

Students must be 18 years old to be eligible to attend the HPR 180 Clinical. Students are required to have immunizations to meet OSHA requirements, must have current BLS for healthcare certification, and must pass a background check and a 10-panel drug screen through an FRCC approved background check company prior to clinical placement.

Certificate in Phlebotomy (p. 229)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HPR 112	Phlebotomy	4
HPR 179	Seminar: Phlebotomy	1
HPR 180	Internship: Phlebotomy	2
		Subtotal: 7

Total Credit Hours: 7

SURGICAL TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

Field Code: F_AAS_STE

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The Surgical Technologist is an integral member of the surgical team including the surgeon, anesthesiologist, and nurse to deliver patient care before, during and after surgery. Before an operation, surgical technologists help prepare the operating room by setting up surgical instruments and equipment. During the surgery, technologists pass instruments and other sterile supplies to surgeons and assistants.

This four semester program develops the knowledge and skills for an entry level job as a Surgical Technologist, one of the fastest growing jobs in health care. Surgical technologists work in a variety of settings including hospitals, surgery departments, obstetric departments, and ambulatory surgery centers.

The Curriculum is in alignment with the standards set forth by the Association of Surgical Technologists (AST) core curriculum guidelines. Courses include:

- Health sciences (anatomy, physiology, pathophysiology, pharmacology, anesthesia, medical terminology, microbiology)
- Technological sciences (electricity, information technology, robotics)
- Patient care concepts (bio-psycho-social needs of the patient, death and dying)
- Surgical technology equipment

The program has a site visit scheduled for initial accreditation by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org). This step in the process is neither a status of accreditation nor a guarantee that accreditation will be granted.

AAS in Surgical Technology (p. 231)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BIO 201	Human Anatomy and Physiology I with Lab	4
BIO 204	Microbiology with Lab	4
ENG- GEN	English: _____	3
MAT- GEN	Mathematics: _____	3-5
HPR 208	Medical Record Terminology	2

Subtotal: 16-17

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BIO 202	Human Anatomy and Physiology II with Lab	4
STE 100	Fundamentals of Surgical Technology	6
STE 105	Pharmacology for the Surgical Technologist	2
STE 101	Surgical Technology Skills Lab	4

Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

STE 110	Surgical Procedures I	3
STE 115	Surgical Procedures II	3
STE 120	Surgical Procedures III	3
STE 179	Surgical Technical Seminar	2
PSY 235	Human Growth and Development	3

Subtotal: 14

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

STE 181	Internship I	4
STE 182	Internship II	4
STE 183	Internship III	6

Subtotal: 14

Total Credit Hours: 60-62

Veterinary Technology

VETERINARY TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_VET2

ABOUT THE PROGRAM

Program Mission & Description

Program Mission:

The mission of the Front Range Community College Veterinary Technology Program is to educate and empower students to work as veterinary health care professionals; to interact with other health care professionals, patients, and their care givers in a professional and ethical manner. Students will develop the highest possible technical skills required in the veterinary field

and always demonstrate the utmost respect and concern for the well-being of their patients. Students will be able to demonstrate creative thinking and problem solving skills. The program continues to foster life-long learners and facilitates continuing educational opportunities for fellow veterinary health care professionals.

Program Description:

This program offers two educational options: a two-semester Veterinary Assistant certificate (a separate listing follows) and a two-year Veterinary Technician Associate of Applied Science degree.

The Veterinary Technician AAS degree program provides training in veterinary health and the handling of a variety of domestic and exotic animals, as well as laboratory animals encountered in a veterinary practice or biomedical research setting. While veterinary technicians serve as paraprofessional members of the veterinary medical team, veterinary technicians do not diagnose animal illnesses, prescribe treatment, or perform surgery.

The program's curriculum includes such topics as anatomy and physiology, radiology, parasitology, medical and surgical nursing, anesthesia, pharmacology, and other related scientific areas of veterinary health or related skills areas. This curriculum is not intended to provide admission to a college of veterinary medicine.

A critical component of the program is student participation in clinical internships. Between the second and third semesters, a 135-hour private practice internship is required. In the final semester, students participate in clinical rotations at the Colorado State University Veterinary Teaching Hospital. This training includes such areas as critical care, large animal medicine and surgery, small animal care, and other related areas.

Learn more about gainful employment (p. 254)

Getting into the Program

Admission Requirements

To enter the program, students must meet the following admission requirements:

1. Completion of a high school diploma or GED.
2. Achievement of indicated assessment scores and completion of first semester coursework.
3. Students must receive a grade of "C" or better and a cumulative GPA of 2.5 or higher in first semester coursework listed below.
4. Completion of a Veterinary Technology Intent to Enroll application form available at the Larimer Campus or online at Veterinary Technology Program Application

See Admissions Process & Requirements

Admission to the program is limited to the first 24 students who have submitted the appropriate admission materials. It is strongly recommended that students complete the required general education courses prior to beginning the program. Students must be admitted to the VET program to enroll in any VET prefix courses.

What You Will Learn

Program Learning Outcomes

As a result of the completion of the Veterinary Technician Program students will be able to:

- Provide professional and compassionate health care to a variety of species while upholding applicable laws and the profession's ethical codes.
- Understand, demonstrate, and perform patient assessment techniques, proper care and handling of animals, as well as their normal and abnormal life processes.
- Safely and effectively manage patients in all phases of anesthetic procedures, as well as safely and effectively select, utilize, and maintain anesthetic delivery devices and monitoring equipment.
- Properly package, handle, and store laboratory specimens and carry out diagnostic analysis of laboratory specimens including blood, urine, feces, tissue, and bodily fluids.
- Understand and evaluate laboratory results in conjunction with a veterinarian.
- Demonstrate knowledge of clinical pharmacology while safely and effectively administer and dispense prescribed drugs to patients.
- Communicate in a professional manner to the veterinary team and provide appropriate client education.
- Safely and effectively perform technical procedures in both large and small animal surrounding medical and surgical nursing, diagnostic imaging, and dentistry maintaining compliance with federal, state, and local laws.
- Understand and provide proper instruments, supplies, and environment to maintain asepsis during surgical procedures.
- Establish and maintain a work environment that ensures the safety of clients, animals, and staff.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You may complete the communication requirement in any semester including summer semesters. Biology coursework must be completed within the last seven years.

BIO 111	General College Biology I with Lab	5
ENG- GEN	English:_____	3
MED- TRM	Medical Terminology:_____	1
MAT- GEN	Mathematics:_____	3-5
COM- GEN	Communication:_____	3

CIS 109	Management Software and Technical Applications: Veterinary Professionals	1
		Subtotal: 16-18

Second Semester

VET 109 can be taken **in addition to program requirements** to help student explore different opportunities within veterinary medicine.

VET 120	Office Procedures and Relations	2
VET 116	Humane Treatment and Handling of Animals	3
VET 205	Veterinary Anatomy and Physiology I	4
VET 108	Introduction to Laboratory Procedures	3
VET 134	Diagnostic Imaging	2
		Subtotal: 14

Third Semester

VET 106	Exotic Animal Handling	2
VET 115	Surgical Nursing	2
VET 206	Veterinary Anatomy and Physiology II	4
VET 224	Pharmacology for Veterinary Technicians	3
VET 241	Clinical Laboratory Procedures	4
		Subtotal: 15

Fourth Semester

VET 242 can be taken **in addition to program requirements** to help student explore different opportunities within veterinary medicine.

VET 225	Anesthesiology	3
VET 227	Animal Nutrition	2
VET 238	Small Animal Nursing	2
VET 239	Large Animal Nursing	2
VET 243	Veterinary Diagnostic Microbiology	3
VET 180	Internship: Private Practice	3
		Subtotal: 15

Fifth Semester

VET 250	Clinical Competency Evaluation	1
VET 280	Internship	11
		Subtotal: 12

Total Credit Hours: 72-74

Veterinary Technology Certificates

BASIC LABORATORY ANIMAL CARE CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_BLAC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This certificate is available to students currently enrolled in the Veterinary Technician Program and is designed to meet the demands of the biomedical research community for qualified personnel in the care and management of laboratory animals. Technicians certified in Laboratory Animal Technology are central to the integrity of biomedical research, assuring a high standard of humane care for research animals. For more information, call 970-204-8670.

Required Courses: Students must complete **ALL** of the requirements for the AAS Degree in Veterinary Technology plus the following courses to complete this certificate.

Veterinary Technician Degrees

Basic Laboratory Animal Care Certificate Required Courses (p. 234)

Admission Requirements:

To enter the program, students must meet the following admission requirements:

1. Completion of a high school diploma or GED
2. Achievement of indicated assessment scores or completion of preparatory course work.
3. Completion or concurrent enrollment of BIO 105 (p. 306) or BIO 111 (p. 306) with a grade of "C" or better (no more than seven years old)
4. Completion of or concurrent enrollment in VET 102 (p. 394) Veterinary Medical Terminology (1 credit), with a grade of "C" or better.
5. Prospective students must attend an information meeting the first Thursday of every month at the Larimer Campus from 4:00 pm to 5:00 pm. See our website for current meeting location.
6. Completion of a Basic Laboratory Animal Care intent to enroll application form available at the Larimer Campus.

FRCC's Veterinary Technology Program is accredited by the American Veterinary Medical Association Committee on Veterinary Technical Education and Activities.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Students must complete ALL of the requirements for the AAS Degree in Veterinary Technology plus the following courses to complete this certificate:

ALT 126	Introduction to Lab Animal Science	3
ALT 280	Lab Animal Internship	3
		Subtotal: 6

Total Credit Hours: 6

VETERINARY ASSISTANT CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_VTA

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The Veterinary Assistant certificate program provides training in veterinary health and handling of a variety of domestic and exotic species, with the focus on tasks for assisting the Veterinary Technician and Veterinarians. Veterinary Assistants do not diagnose animal illnesses, prescribe treatment, or perform surgery. Completion of all course work is required before the student is eligible for a 2-credit, 72-hour private-practice internship. This program provides an introduction to the field of veterinary medicine, but is not intended to provide admission to a college of veterinary medicine.

Veterinary Technician Degrees

Veterinary Assistant Certificate Required Courses (p. 46)

Admission Requirements:

To enter the program, students must meet the following admission requirements:

1. Completion of a high school diploma or GED
2. Achievement of indicated assessment scores or completion of preparatory course work.
3. Completion or concurrent enrollment of BIO 105 or BIO 111 with a grade of "C" or better (no more than seven years old)
4. Completion of or concurrent enrollment in VET 102 Veterinary Medical Terminology (1 credit), with a grade of "C" or better.
5. Prospective students must attend an information meeting the first Thursday of every month at the Larimer Campus from 4:00 pm to 5:00 pm. See our website for current meeting location.
6. Completion of a Veterinary Assistant intent to enroll application form available at the Larimer Campus.

Admission to the program is limited to the first 12 students who have submitted the appropriate admission materials. Students must be admitted to the Veterinary Assistant program in order to take the curriculum courses.

FRCC's Veterinary Technology Program is accredited by the American Veterinary Medical Association Committee on Veterinary Technical Education and Activities.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

VET- BIO	Select BIO 105 or BIO 111:_____	4-5
MED- TRM	Medical Terminology:_____	1
VET 103	Veterinary Assistant Restraint and Handling	2
VET 120	Office Procedures and Relations	2
VET 113	Veterinary Assistant Surgical & Nursing Care	3
VET 114	Veterinary Assistant Laboratory and Clinical Procedures	3
VET 183	Internship	1.5

Subtotal: 16.5-17.5

Total Credit Hours: 16.5-17.5

Liberal Arts, Communication & Design

ART HISTORY ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ATHD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Art History is the study of the visual arts over time, drawing upon multiple contexts including history, literature, philosophy and much more. The DWD reflects this with foundational survey courses in art history and studio arts along with other required general education course and recommended electives. Employment in the field itself typically requires graduate study. A doctorate is usually mandatory for higher-level academic positions while a master's degree is often suitable for museum work, galleries and 2-year colleges.

Please Note: The degree track in Art History with Secondary Teaching Licensure has different requirements and is not included in this agreement. Please refer to this agreement's cover page for the name of the Bachelor's degree at the four-year institution to which this agreement applies.

AA in Art History (p. 138)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
ART 111	Art History Ancient to Medieval	3
ART- REQ	ART: _____	3
GT- AH	Arts & Humanities: _____	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
ART 112	Art History Renaissance to Modern	3
ART- REQ	ART: _____	3
GT- AH	Arts & Humanities: _____	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GT- MA1	Mathematics (GT-MA1): _____	4
ART 132	Visual Concepts 3-D Design	3
GT- HI1	History: _____	3
GT- SC1/2	Natural & Physical Sciences: _____	4-5
GT- SS	Social & Behavioral Sciences: _____	3
		Subtotal: 17-18

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GT- SC1/2	Natural & Physical Sciences: _____	3-4
ART 207	Art History - 1900 to Present	3
ELC- LST	Approved Elective List: _____	3
ELC- LS1	Approved Elective List: _____	1
GT- SS	Social & Behavioral Sciences: _____	3
		Subtotal: 13-14

Total Credit Hours: 60-62

COMMUNICATION ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_COMD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Are you interested in studying Communication (COM) at Front Range Community College? Our major (also called a degree with designation) is versatile and in demand. According to the National Communication Association's annual report (2017) oral, written, and interpersonal communication skills regularly rank in the top five qualities sought after by employers. Many students majoring in Communication are able to use their Associate of Arts degree immediately upon graduation, often in service to non-profit agencies or as entrepreneurs; others transfer to a university in order to pursue a Bachelor's degree in Communication Studies, Journalism, Mass Communication, Public Relations, Human Relations (HR), Marketing, Advertising, Law, Education, and many other programs.

Students in this program will:

Public Speaking: Learn how to give effective presentations across contexts and will build skills in anxiety management, audience analysis, research, citing sources, methods of organization, outlining, visual aid design, nonverbal delivery, and impromptu speaking

Interpersonal: Explore the impact of emotional intelligence, listening skills, perception, conflict management, media, why language matters, and common nonverbal behaviors

Intrapersonal: Reflect on methods of improving self-talk and increasing self-awareness in order to learn how to competently communicate with the self, engage a growth mindset, set goals, accomplish life objectives, and plan for the future

Group: Reduce "group hate" by shining light on the most common reasons group dysfunction occurs, as well as providing tools in the areas of leadership, decision-making, cohesion, and empowerment

Intercultural: Study the significance of communication and diversity within and across co-cultures (i.e. age, gender, race, religion, sexual orientation, etc.) in multicultural societies to increase intercultural communication competence

Organizational: Combine theory and practice in the areas of résumé writing, interviewing, conflict in the workplace, organizational structure, and knowing when and how to leave an institution

... and much more! Even if you aren't interested in majoring in Communication, our classes provide valuable knowledge and experiences that complement any certificate or program of study. Communication skills are both marketable and necessary in today's world, and successful demonstration of these abilities will set you apart from the crowd. If you have any questions, please reach out to an Advisor or Communication Faculty Member. We're excited to partner with you!

Learn more about gainful employment (p. 254)

Career Opportunities

A degree in Communication opens the door to careers in:

- Education
- Communication Director
- Mass Communication
- Journalism
- Non-Profit work
- Consulting
- Training & Development
- Public Relations
- Human Relations
- Marketing
- Advertising
- Law

AA in Communication (p. 139)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

COM 115	Public Speaking	3
ENG 121	English Composition I	3
GT- AH	Arts & Humanities (GT-AH): _____	3
ELC- LST	Approved Elective List: _____	3
GT- MA1	Mathematics (GT-MA1): _____	3-4

Subtotal: 15-16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

COM 125	Interpersonal Communication	3
ENG 122	English Composition II	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LST	Approved Elective List: _____	3
GT- HI1	History (GT-HI1): _____	3

Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

COM 220	Intercultural Communication	3
COM- REQ	Communication Elective: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4-5
GT- AH	Arts & Humanities (GT-AH): _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 16-17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You must complete 60 earn your Associate of Arts degree. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GT- SC1/2	Natural & Physical Sciences (GT-SC1 or GT-SC2): _____	3-4
COM- REQ	Communication Elective: _____	3
GT- HI1	History (GT-HI1): _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LS1	Approved Elective List: _____	1-2

Subtotal: 14

Total Credit Hours: 60-62

ENGLISH ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ENGD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The English program provides quality education in literature and writing through both the traditional classroom setting and online learning environments.

This program might be for you if:

- You are interested in learning more the ways in which stories have influenced and reflected culture and history.
- You would like to gain skills to effectively communicate in written forms.
- You would like to explore the written expression of the human condition.

English is the study of the written word in various formats, including, but not limited to, fiction, creative non-fiction, plays, and poetry. A.A. coursework provides students the opportunity to explore different literary traditions to gain a background on major movements within literature. With the an AA designation in English students will be taking literature courses (5) that will transfer over to most four year institutions in Colorado.

Learn more about gainful employment (p. 254)

Career Opportunities

A bachelor's degree in English can open doors to several entry level jobs in business and industry.

A degree in English opens the door to careers in:

- Teaching (primary, secondary, and college level)
- Law
- Media (print, broadcast, new media)
- Advertising and marketing
- Public relations
- Technical writing
- "Creative" careers in writing nonfiction, fiction, film/television, and poetry

AA in English (p. 144)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should contact an advisor if you receive a "C" or lower in any ENG or LIT course.

ENG 121	English Composition I	3
LIT 115	Introduction to Literature I	3
COM- REQ	Communication Elective:	3

GT- SS	Social & Behavioral Sciences (GT-SS):	3

GT- AH	Arts & Humanities (GT-AH):	3

		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

LIT REQ	Literature Requirement: _____	3
ENG 122	English Composition II	3
GT- HI1	History (GT-HI1): _____	3
GT- MA1	Mathematics (GT-MA1):	3-4

GT- SS	Social & Behavioral Sciences (GT-SS):	3
		Subtotal: 15-16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

LIT REQ	Literature Requirement: _____	3
ENG 221	Creative Writing I	3
LIT REQ	Literature Requirement: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1):	4-5

GT- AH	Arts & Humanities (GT-AH):	3
		Subtotal: 16-17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You

should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

LIT REQ	Literature Requirement: _____	3
ELC- LST	Approved Elective List: _____	3
GT- SC2	Natural & Physical Sciences (GT-SC2):	3

GT- AH	Arts & Humanities (GT-AH):	3

ELC- LS1	Approved Elective List: _____	2
		Subtotal: 14

Total Credit Hours: 60-62

FRENCH ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Online Learning

Field Code: F_AA_FREN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

You can earn an Associate of Arts (A.A.) degree with French designation at FRCC and transfer as a junior to Colorado public four-year schools.

AA in French (p. 144)

Learn more about gainful employment (p. 254)

Career Opportunities

A degree in French opens the door to careers in:

- International Business
- Marketing
- Public Relations
- Human Resources
- Education
- Sales
- Hospitality
- Management
- Journalism
- Bilingual Education, Interpreter or Translator

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

FRE 111	French Language I	5
ENG 121	English Composition I	3
GT- MA1	Mathematics (GT-MA1):	3-4

GT- HI1	History (GT-HI1): _____	3
		Subtotal: 14-15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
FRE 112	French Language II	5
GT- SS	Social & Behavioral Sciences (GT-SS):	3
<hr/>		
COM- REQ	Communication: _____	3
ELC- LS1	Elective: _____	1
		Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

FRE 211	French Language III	3
GT- SC1/2	Natural & Physical Sciences (GT-SC1/2): _____	4-5
GT- AH	Arts & Humanities: _____	3
ELC- LST	Elective: _____	3
ELC- LST	Elective: _____	3
		Subtotal: 16-17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should take a minimum of 60 credits and not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

FRE 212	French Language IV	3
GT- SC1/2	Natural & Physical Sciences (GT-SC1/2): _____	3-4
ELC- LST	Elective: _____	3
ELC- LST	Elective: _____	3
ELC- LST	Elective: _____	3
		Subtotal: 15-16

Total Credit Hours: 60-62

INTERPRETER PREPARATION PROGRAM ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

Field Code: F_AAS_IPP

ABOUT THE PROGRAM**Program Mission & Description**

Program Mission: The Interpreter Preparation Program (IPP) is rigorous and provides a foundation for graduates to meet the high standards essential in the field of sign language interpreting. This program provides high quality American Sign Language (ASL) and sign language interpreting instruction, in a rich learning environment combining classroom instruction, experiential and self-directed learning. We are dedicated to preparing professional interpreters who are competent, ethical, and life-long learners, and promote collaborative involvement as

allies within the culturally and linguistically diverse interpreting and Deaf communities.

Program Description: This program prepares students for entry-level employment as sign language interpreters. Sign language interpretation involves bridging the communication gap between Deaf and hearing consumers effectively, accurately, and impartially.

Students must apply for this program through the Interpreter Preparation Program office.

Standing for the National Registry of Interpreters for the Deaf certification examination requires a BA/BS degree. Students who do not already have a BA/BS degree, may take advantage of three articulation agreements currently in place: Gallaudet University, Regis University and Sienna Heights University.

Learn more about gainful employment (p. 254)

What You Will Learn**Program Learning Outcomes**

Upon completion of this program, you will be able to demonstrate:

- A culturally appropriate personal philosophy, including ethics and values, which will guide interpreting work.
- Knowledge and understanding of the values and social norms of the diverse Deaf Community and the source of their cultural beliefs, experiences and languages.
- Knowledge and understanding of the values and social norms of the diverse mainstream society and the source of their beliefs, experiences and languages.
- The ability to consecutively, simultaneously and accurately interpret from ASL to spoken English.
- The ability to consecutively, simultaneously and accurately interpret from spoken English to ASL.
- The ability to consecutively, simultaneously and accurately transliterate from spoken English to CASE (Conceptually Accurate Signed English).
- The ability to consecutively, simultaneously and accurately transliterate from CASE (Conceptually Accurate Signed English) to English.
- The ability to analyze one's own interpreting work, the work of others, giving and accepting constructive feedback while able to analyze own internal biases.
- Effective expressive and receptive skills in both ASL and spoken English.
- Knowledge and understanding of power, privilege and oppression for addressing cultural differences while interpreting and as allies to the deaf community.

Career Opportunities

As Deaf people pursue new fields, enter new professions and take on diverse careers, the need for qualified interpreters continues to grow. American Sign Language (ASL)/English interpreting continues to be a burgeoning career path.

Interpreters work in private practice (freelance), in-house, on staff, or are contacted by agencies that provide interpreting services.

AAS in Interpreter Preparation (p. 209)

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- GT	English: _____	3
ANT 101	Cultural Anthropology	3
ELC- LST	Approved Elective List: _____	3-5
MAT- GT	Mathematics: _____	3-5
		Subtotal: 12-16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASL 123	American Sign Language III	5
ASL 125	Fingerspelling	3
IPP 145	Deaf People in Society	2
IPP 115	Introduction to Language and Communication	3
IPP 121	Aspects of Interpreting I	3
		Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASL 221	American Sign Language IV	3
IPP 122	Aspects of Interpreting II	3
IPP 135	Introduction to Interpreting	3
ASL 244	Linguistics	3
IPP 147	Survey of Deaf Culture	3
		Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASL 222	American Sign Language V	3
IPP 205	Educational Interpreting	4
IPP 225	English to ASL Interpreting	3
IPP 227	ASL to English Interpreting	3
COM 115	Public Speaking	3
		Subtotal: 16

Fifth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

IPP 235	Advanced Interpreting	4
IPP 278	Interpreter Seminar	2

IPP 282	Internship	6
		Subtotal: 12

Total Credit Hours: 71-75

Multimedia Technology

DIGITAL ANIMATION ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

Field Code: F_AAS_MTA

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This degree prepares students for entry-level positions in Graphic Design, Web Design, Animation and Video Production & Editing. In addition to developing a high level of technical proficiency using multiple software programs, students also develop traditional graphic design concepts and skills within the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, print layout & production, photo manipulation, motion graphics, animation, 3D modeling, and digital video production. Electives allow students to focus on more specific design and software skills.

Students work independently as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Learn more about gainful employment (p. 254)

Career Opportunities

This degree program prepares you for entry-level positions dealing with the production of interactive presentations, medical illustration, gaming, web animation, and cartooning.

AAS in Digital Animation (p. 216)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
ART 131	Visual Concepts 2-D Design	3
ENG- GEN	English: _____	3
		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 143	Motion Graphic Design I (Software)	3
MGD 153	3D Animation I	3
ART 121	Drawing I	3
MAT- GEN	Mathematics: _____	3-5
Subtotal: 15-17		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 167	Game Design I	3
MGD 211	Adobe Photoshop II	3
MGD- ELC	Multimedia Technology Elective: _____	3
MGD- ELC	Multimedia Technology Elective: _____	3
ELC- LST	Approved Elective List: _____	3
Subtotal: 15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 253	3D Animation II	3
MGD 268	Business for Creatives	3
MGD- ELC	Multimedia Technology Elective: _____	3
MGD- ELC	Multimedia Technology Elective: _____	3
MGD- ELC	Multimedia Technology Elective: _____	3
Subtotal: 15		

Total Credit Hours: 60-62

GRAPHIC DESIGN ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus

Field Code: F_AAS_MMP

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This degree prepares students for entry-level positions in Graphic Design, Web Design, Animation and Video Production &

Editing. In addition to developing a high level of technical proficiency using multiple software programs, students also develop traditional graphic design concepts and skills within the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, print layout & production, photo manipulation, motion graphics, animation, 3D modeling, and digital video production. Electives allow students to focus on more specific design and software skills.

Students work independently as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Learn more about gainful employment (p. 254)

Career Opportunities

This degree program prepares you for entry-level positions in digital and graphics firms.

AAS in Graphic Design (p. 217)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
ART 131	Visual Concepts 2-D Design	3
ENG- GEN	English: _____	3
Subtotal: 15		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 103	Production Design	3
MGD 133	Graphic Design I	3
MGD 116	Typography I	3
ART 121	Drawing I	3
MAT- GEN	Mathematics: _____	3-5
Subtotal: 15-17		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 114	Adobe InDesign	3
MGD 202	Point of Purchase Package Design	3
MGD- REQ	Multimedia Technology Requirement: _____	3
MGD ELC	Multimedia Technology Elective: _____	3
ELC- LST	Approved Elective: _____	3
Subtotal: 15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD- REQ	Multimedia Technology Requirement:_____	3
MGD ELC	Multimedia Technology Elective:_____	3
MGD ELC	Multimedia Technology Elective:_____	3
MGD ELC	Multimedia Technology Elective:_____	3
MGD ELC	Multimedia Technology Elective:_____	3

Subtotal: 15

Total Credit Hours: 60-62

VIDEO PRODUCTION & EDITING ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus

Field Code: F_AAS_MGDV

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This degree prepares students for entry-level positions in Graphic Design, Web Design, Animation and Video Production & Editing. In addition to developing a high level of technical proficiency using multiple software programs, students also develop traditional graphic design concepts and skills within the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, print layout & production, photo manipulation, motion graphics, animation, 3D modeling, and digital video production. Electives allow students to focus on more specific design and software skills.

Students work independently as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Learn more about gainful employment (p. 254)

Career Opportunities

This degree program prepares you for entry-level positions in companies involved in video production, editing, and designing.

AAS in Video Production (p. 217)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
ART 131	Visual Concepts 2-D Design	3
ENG- GEN	English: _____	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 104	Videography	3
MGD 164	Digital Video Editing I	3
MGD 116	Typography I	3
ART 121	Drawing I	3
MAT- GEN	Mathematics: _____	3-5

Subtotal: 15-17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 163	Sound Design I	3
MGD ELC	Multimedia Technology Elective:_____	3
MGD 204	Videography II	3
MGD 264	Digital Video Editing II	3
ELC- LST	Approved Elective: _____	3

Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 165	After Effects I	3
MGD ELC	Multimedia Technology Elective:_____	3
MGD ELC	Multimedia Technology Elective:_____	3
MGD ELC	Multimedia Technology Elective:_____	3
MGD ELC	Multimedia Technology Elective:_____	3

Subtotal: 15

Total Credit Hours: 60-62

Multimedia Technology Certificates

DIGITAL ANIMATION CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_MMA

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This degree prepares students for entry-level positions dealing with the production of interactive presentations, medical illustration, gaming, web animation and cartooning. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core classes focus on helping students learn industry standard software in illustration, photo manipulation, web graphics, animation and 3D modeling, and digital video production. Electives allow students to focus on desired design skills to gain an understanding of the application of web design, digital video production, and specific drawing skills. Students work independently and in collaborative groups in the design and implementation of mixed media presentations and applications.

This degree requires the use of a computer for prolonged periods of time during class and lab, analytical and creative abilities, and basic computer skills to begin the program.

Career Opportunities

This certificate program prepares you for entry-level positions dealing with the production of interactive presentations, medical illustration, gaming, web animation, and cartooning.

Certificate in Digital Animation (p. 219)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 153	3D Animation I	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 211	Adobe Photoshop II	3
MGD 268	Business for Creatives	3
MGD 143	Motion Graphic Design I (Software)	3
MGD 165	After Effects I	3
MGD- ELC-2	Multimedia Technology	3
	Elective: _____	

Subtotal: 15

Total Credit Hours: 30

DIGITAL IMAGING CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_MMDI

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This degree prepares students for entry-level positions dealing with the production of interactive CDs, medical illustration, gaming, web animation, cartooning, and fashion illustration. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, 3D modeling, and pre-press skills needed for print. Program electives allow students to focus on specific design and software skills.

Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Career Opportunities

This certificate program prepares you for entry-level positions in digital and graphics firms.

Certificate in Digital Imaging (p. 219)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ART 139	Digital Photography I	3
MGD 117	Introduction to Visual Communications	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD- REQ-3	Multimedia Technology Elective: _____	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 211	Adobe Photoshop II	3
ART 239	Digital Photography II	3
MGD 268	Business for Creatives	3
MGD- REQ-PP	Multimedia Technology: _____	3
MGD- REQ-PV	Multimedia Technology: _____	3

Subtotal: 15

Total Credit Hours: 30

FUNDAMENTALS IN MULTIMEDIA TECHNOLOGY CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_CER_FMMT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This degree prepares students for entry-level positions dealing with the production of interactive CDs, medical illustration, gaming, web animation, cartooning, and fashion illustration. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, 3D modeling, and pre-press skills needed for print. Program electives allow students to focus on specific design and software skills.

Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Career Opportunities

This certificate program prepares you for entry-level positions in digital and graphics firms.

Certificate in Fundamentals in Multimedia Technology (p. 220)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Below MGD 111 (p. 365), MGD 112 (p. 365) and MGD 117 (p. 366), please choose One Area of Study for 6 Credits from the 6 track options.

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD- EL1	Multimedia Technology Elective: _____	3
MGD- EL1	Multimedia Technology Elective: _____	3

Subtotal: 15

Total Credit Hours: 15

GRAPHIC DESIGN CERTIFICATE

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_MMMP

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This degree prepares students for entry-level positions dealing with the production of interactive CDs, medical illustration, gaming, web animation, cartooning, and fashion illustration. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, 3D modeling, and pre-press skills needed for print. Program electives allow students to focus on specific design and software skills.

Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Career Opportunities

This certificate program prepares you for entry-level positions in digital and graphics firms.

Certificate in Graphic Design (p. 220)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 103	Production Design	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 133	Graphic Design I	3
		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 116	Typography I	3
MGD 114	Adobe InDesign	3
MGD 202	Point of Purchase Package Design	3
MGD- REQ	Multimedia Technology Requirement: _____	3
MGD- REQ- BG	Multimedia Technology: _____	3
		Subtotal: 15

Total Credit Hours: 30

GRAPHIC DESIGN TECHNICIAN CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_GRD1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This degree prepares students for entry-level positions dealing with the production of interactive CDs, medical illustration, gaming, web animation, cartooning, and fashion illustration. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, 3D modeling, and pre-press skills needed for print. Program electives allow students to focus on specific design and software skills.

Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Career Opportunities

This certificate program prepares you for entry-level positions in digital and graphics firms.

Certificate in Graphic Design Technician (p. 220)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 133	Graphic Design I	3
ART 139	Digital Photography I	3
		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 116	Typography I	3
MGD 233	Graphic Design II	3
MGD 268	Business for Creatives	3
MGD- ELC	Multimedia Technology: _____	3
MGD- ELC	Multimedia Technology: _____	3
		Subtotal: 15

Total Credit Hours: 30

MULTIMEDIA CERTIFICATE

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_MMTG

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This degree prepares students for entry-level positions dealing with the production of interactive CDs, medical illustration, gaming, web animation, cartooning, and fashion illustration.

Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, 3D modeling, and pre-press skills needed for print. Program electives allow students to focus on specific design and software skills.

Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Career Opportunities

This certificate program prepares you for entry-level work as a generalist in digital media.

Certificate in Multimedia (p. 221)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 103	Production Design	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 114	Adobe InDesign	3
MGD 117	Introduction to Visual Communications	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 141	Web Design I	3
MGD 211	Adobe Photoshop II	3
MGD 212	Adobe Illustrator II	3
MGD- REQ- M3	Multimedia Technology: _____	3
MGD- REQ- GB	Multimedia Technology: _____	3

Subtotal: 15

Total Credit Hours: 30

VIDEO PRODUCTION AND EDITING CERTIFICATE

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_VDO

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This degree prepares students for entry-level positions as videographer, video editor, web designers, and motion graphic artists. In addition to developing a high level of technical proficiency through the use of multiple software programs, students also develop traditional video and animation concepts and skills within the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, web graphics, animation, sound, special effects, and digital video production. Electives allow students to focus on more specific design and software skills.

Students work independently as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Career Opportunities

This certificate program prepares you for entry-level positions in companies involved in video production, editing, and designing.

Certificate in Video Production and Editing (p. 221)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 104	Videography	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 164	Digital Video Editing I	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 116	Typography I	3
MGD 163	Sound Design I	3
MGD 165	After Effects I	3
MGD 204	Videography II	3
MGD 264	Digital Video Editing II	3

Subtotal: 15

Total Credit Hours: 30

WEB DESIGN CERTIFICATE

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_MMMW

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This degree prepares students for entry-level positions dealing with the production of interactive CDs, medical illustration, gaming, web animation, cartooning, and fashion illustration. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, 3D modeling, and pre-press skills needed for print. Program electives allow students to focus on specific design and software skills.

Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

Career Opportunities

This certificate program prepares you for entry-level positions with companies involved in web design. Students learn current web coding languages and techniques and create a website.

Certificate in Web Design (p. 221)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 141	Web Design I	3
MGD 143	Motion Graphic Design I (Software)	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MGD- REQ- TG	Multimedia Technology: _____	3
MGD 164	Digital Video Editing I	3

MGD 241	Web Design II	3
MGD 243	Web Motion Graphic Design II	3
MGD- REQ- WB	Multimedia Technology: _____	3

Subtotal: 15

Total Credit Hours: 30

Music

MUSIC ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_MUSD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

You can earn an Associate of Arts (A.A.) degree with Music designation at FRCC and transfer as a junior to Colorado public four-year schools.

Music & Recording Arts Technology Degrees

Music Associate of Arts Degree Required Courses (p. 147)

Learn more about gainful employment (p. 254)

Career Opportunities

All careers listed below require advanced education in either college or trade institutions. Some careers require training in certificate programs. A few of the more glorious careers require talent and extreme dedication.

Careers in Contemporary Writing and Production: Music Arranger, Music Producer, Orchestrator, Composer, Film Scorer, Scorer/Composer, Jingle Writer, Songwriter, Transcriber, Copyist, Conductor, Website Composer, Educational Composer
Careers in Music Business/Management: Advertising Executive, Booking Agent, Business Manager, Field Merchandiser, Music Publisher, Personal Manager, Professional Manager, Community Arts Manager, Community Development Specialist
Careers in Film Scoring: Film Composer, Music Editor, Music Supervisor/Director, Film Arranger/Adapter, Film Conductor, Film Music Orchestrator, Synthesis Specialist, Theme Specialist
Careers in Music Education: Choir Director, College/Conservatory/University Music Educator, Elementary School Music Teacher, Music Supervisor, Private Instructor, Secondary School Music Teacher, Music Librarian
Careers in Music Production & Engineering: MIDI Engineering, Music Director, Producer, Program Director, Recording Engineer, Studio Director or Manager, Music Tech, Sound Engineer
Careers in Music Synthesis: MIDI Technician, Programmer, Performing Synthesist, Music Sequencer, Sound Designer
Careers in Music Therapy: Music Therapist in Private Settings,

Music Therapists in Institutions (School, Hospitals, Corporations)
Careers in Performance: Vocal/Instrumental Soloist, Session Musician, General Business Musician, Performing Artist, Orchestra/Group Member, Background Vocalist, Floor Show Band, Studio Musician,

Careers in Record Companies: A&R Administrator, A&R Coordinator, Campus Representative, Consumer Researcher, Director of Publicity, Marketing Representative, Public Relations Counselor, Publicist, Regional Sales Manager

Careers in Songwriting: Composer, Jingle Writer, Lyricist, Producer/Songwriter, Singer/Performing Songwriter, Staff or Freelance Songwriter

Careers in Music Publishing: Music Editor, Music Copyist, Music Engraver, Music Proofer, Music Magazine Writers/Editors

Video Music Careers: Digital Composition or Sequencing, Music Programming, Music Production

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
MUS 110	Music Theory I	3
MUS 112	Ear Training/Sight-Singing I Lab	1
MUS 131	Music Class I (Guitar, Piano or Voice)	2
MUS 141	Private Instruction I	1-2
MUS 151	Ensemble I (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo)	1
MUS 121	Music History Medieval to Classical	3

Subtotal: 14-15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
MUS 111	Music Theory II	3
MUS 113	Ear Training/Sight-Singing II Lab	1
MUS 142	Private Instruction II	1-2
MUS 152	Ensemble II (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo)	1
MUS 122	Music History Early Romantic to Present	3
GT- MA1	Mathematics (GT-MA1):	3-4

Subtotal: 15-17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 210	Music Theory III	3
MUS 212	Advanced Ear Training/Sight-Singing I Lab	1
MUS 251	Ensemble I	1
MUS 241	Private Instruction I	1-2

GT- SS	Social & Behavioral Sciences:	3
GT- HI1	History: _____	3
GT- SC1/2	Natural & Physical Sciences (GT-SC1/2): _____	4-5

Subtotal: 16-17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

MUS 211	Music Theory IV	3
MUS 213	Advanced Ear Training/Sight-Singing II Lab	1
MUS 252	Ensemble II	1
MUS 242	Private Instruction II	1-2
GT- SS	Social & Behavioral Sciences:	3
MUS- ELC	Music Elective List: _____	3
GT- SC2	Natural & Physical Sciences (GT-SC2): _____	3

Subtotal: 15-16

Total Credit Hours: 60-62

MUSIC RECORDING ARTS TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_RTEC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program will enable students to build the skills required in the music industry by preparing students with digital literacy, including skills ranging from audio recording, digital editing, audio production and audio post production, live sound engineering, and film, theater and video sound production.

Music & Recording Arts Technology Degrees

Music Recording Arts Technology AAS Degree Required Courses (p. 229)

Learn more about gainful employment (p. 254)

Career Opportunities

All careers listed below require advanced education in either college or trade institutions. Some careers require training in

certificate programs. A few of the more glorious careers require talent and extreme dedication.

Careers in Contemporary Writing and Production: Music Arranger, Music Producer, Orchestrator, Composer, Film Scorer, Scorer/Composer, Jingle Writer, Songwriter, Transcriber, Copyist, Conductor, Website Composer, Educational Composer

Careers in Music Business/Management: Music Business Attorney, Advertising Executive, Booking Agent, Business Manager, Field Merchandiser, Music Publisher, Personal Manager, Professional Manager, Community Arts Manager, Community Development Specialist

Careers in Film Scoring: Film Composer, Music Editor, Music Supervisor/Director, Film Arranger/Adapter, Film Conductor, Film Music Orchestrator, Synthesis Specialist, Theme Specialist

Careers in Music Education: Choir Director, College/Conservatory/University Music Educator, Elementary School Music Teacher, Music Supervisor, Private Instructor, Secondary School Music Teacher, Music Librarian

Careers in Music Production & Engineering: MIDI Engineering, Music Director, Producer, Program Director, Recording Engineer, Studio Director or Manager, Music Tech, Sound Engineer

Careers in Music Synthesis: MIDI Technician, Programmer, Performing Synthesist, Music Sequencer, Sound Designer

Careers in Music Therapy: Music Therapist in Private Settings, Music Therapists in Institutions (School, Hospitals, Corporations)

Careers in Performance: Vocal/Instrumental Soloist, Session Musician, General Business Musician, Performing Artist, Orchestra/Group Member, Background Vocalist, Floor Show Band, Studio Musician,

Careers in Record Companies: A&R Administrator, A&R Coordinator, Campus Representative, Consumer Researcher, Director of Publicity, Marketing Representative, Public Relations Counselor, Publicist, Regional Sales Manager

Careers in Songwriting: Composer, Jingle Writer, Lyricist, Producer/Songwriter, Singer/Performing Songwriter, Staff or Freelance Songwriter

Careers in Music Publishing: Music Editor, Music Copyist, Music Engraver, Music Proofer, Music Magazine Writers/Editors

Video Music Careers: Digital Composition or Sequencing, Music Programming, Music Production

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 110	Music Theory I	3
MUS 112	Ear Training/Sight-Singing I Lab	1
MUS- REQ	MUS Requirement:_____	2
ENG- GEN	English:_____	3
MUS 161	Computer Music Applications I	3
MUS 163	Music Audio Production I	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 111	Music Theory II	3
MUS 113	Ear Training/Sight-Singing II Lab	1

MUS 162	Computer Music Applications II	3
MUS 164	Music Audio Production II	3
PSY 101	General Psychology I	3
MAT- GEN	Mathematics:_____	3-4

Subtotal: 16-17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 167	Music Business I	3
MUS 121	Music History Medieval to Classical	3
PHY 105	Conceptual Physics with Lab	4
COM 220	Intercultural Communication	3
MUS- ELC	Music Elective List:_____	3

Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 265	Live Audio Engineering	3
MUS 122	Music History Early Romantic to Present	3
INT- CAP	Select a MRA Internship or Capstone:_____	2
MUS- ELC	Music Elective List:_____	3
MUS- ELC	Music Elective List:_____	3

Subtotal: 14

Total Credit Hours: 60-62

Music Certificates

FOUNDATIONS OF RECORDING ARTS TECHNOLOGY CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_RCAF

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This award is designed as a foundational award to introduce students to recording arts technology/sound engineering. All credits are stackable to the Recording Arts Technology certificate. This award also addresses an industry need for elementary and secondary music teachers needing additional skill set in recording arts technology/sound engineering and is recommended for students attending part-time and/or working full-time.

Music & Recording Arts Technology Degrees

Foundations of Recording Arts Technology Certificate Required Courses (p. 230)

Learn more about gainful employment (p. 254)

Career Opportunities

Careers listed below require advanced education in college or trade institutions. Some careers require training in certificate programs. A few of the more glorious careers require talent and extreme dedication.

Careers in Music Production & Engineering: MIDI Engineering, Music Director, Producer, Program Director, Recording Engineer, Studio Director or Manager, Music Tech, Sound Engineer

Careers in Contemporary Writing and Production: Music Arranger, Music Producer, Orchestrator, Composer, Film Scorer, Scorer/Composer, Jingle Writer, Songwriter, Transcriber, Copyist, Conductor, Website Composer, Educational Composer

Careers in Music Business/Management: Music Business Attorney, Advertising Executive, Booking Agent, Business Manager, Field Merchandiser, Music Publisher, Personal Manager, Professional Manager, Community Arts Manager, Community Development Specialist

Careers in Film Scoring: Film Composer, Music Editor, Music Supervisor/Director, Film Arranger/Adapter, Film Conductor, Film Music Orchestrator, Synthesis Specialist, Theme Specialist

Careers in Music Education: Choir Director, College/Conservatory/University Music Educator, Elementary School Music Teacher, Music Supervisor, Private Instructor, Secondary School Music Teacher, Music Librarian

Careers in Music Synthesis: MIDI Technician, Programmer, Performing Synthesist, Music Sequencer, Sound Designer

Careers in Music Therapy: Music Therapist in Private Settings, Music Therapists in Institutions (School, Hospitals, Corporations)

Careers in Performance: Vocal/Instrumental Soloist, Session Musician, General Business Musician, Performing Artist, Orchestra/Group Member, Background Vocalist, Floor Show Band, Studio Musician,

Careers in Record Companies: A&R Administrator, A&R Coordinator, Campus Representative, Consumer Researcher, Director of Publicity, Marketing Representative, Public Relations Counselor, Publicist, Regional Sales Manager

Careers in Songwriting: Composer, Jingle Writer, Lyricist, Producer/Songwriter, Singer/Performing Songwriter, Staff or Freelance Songwriter

Careers in Music Publishing: Music Editor, Music Copyist, Music Engraver, Music Proofer, Music Magazine Writers/Editors

Video Music Careers: Digital Composition or Sequencing, Music Programming, Music Production

CollegelnColorado.org website

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 161	Computer Music Applications I	3
MUS 163	Music Audio Production I	3

Subtotal: 6

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 265	Live Audio Engineering	3
INT- CAP	Select a MUS Internship or Capstone:	2

Subtotal: 5

Total Credit Hours: 11

MUSIC RECORDING ARTS TECHNOLOGY CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_RCAT

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program will enable students to build the skills required in the music industry by preparing students with digital literacy, including skills ranging from audio recording, digital editing, audio production and audio post production, live sound engineering, and film, theater and video sound production.

Music & Recording Arts Technology Degrees

Recording Arts Technology Certificate Required Courses (p. 230)

Learn more about gainful employment (p. 254)

Career Opportunities

Careers listed below require advanced education in college or trade institutions. Some careers require training in certificate programs. A few of the more glorious careers require talent and extreme dedication.

Careers in Music Production & Engineering: MIDI Engineering, Music Director, Producer, Program Director, Recording Engineer, Studio Director or Manager, Music Tech, Sound Engineer

Careers in Contemporary Writing and Production: Music Arranger, Music Producer, Orchestrator, Composer, Film Scorer, Scorer/Composer, Jingle Writer, Songwriter, Transcriber, Copyist, Conductor, Website Composer, Educational Composer

Careers in Music Business/Management: Music Business Attorney, Advertising Executive, Booking Agent, Business Manager, Field Merchandiser, Music Publisher, Personal Manager, Professional Manager, Community Arts Manager, Community Development Specialist

Careers in Film Scoring: Film Composer, Music Editor, Music Supervisor/Director, Film Arranger/Adapter, Film Conductor, Film Music Orchestrator, Synthesis Specialist, Theme Specialist

Careers in Music Education: Choir Director,

College/Conservatory/University Music Educator, Elementary School Music Teacher, Music Supervisor, Private Instructor, Secondary School Music Teacher, Music Librarian

- Careers in Music Synthesis:** MIDI Technician, Programmer, Performing Synthesist, Music Sequencer, Sound Designer
- Careers in Music Therapy:** Music Therapist in Private Settings, Music Therapists in Institutions (School, Hospitals, Corporations)
- Careers in Performance:** Vocal/Instrumental Soloist, Session Musician, General Business Musician, Performing Artist, Orchestra/Group Member, Background Vocalist, Floor Show Band, Studio Musician,
- Careers in Record Companies:** A&R Administrator, A&R Coordinator, Campus Representative, Consumer Researcher, Director of Publicity, Marketing Representative, Public Relations Counselor, Publicist, Regional Sales Manager
- Careers in Songwriting:** Composer, Jingle Writer, Lyricist, Producer/Songwriter, Singer/Performing Songwriter, Staff or Freelance Songwriter
- Careers in Music Publishing:** Music Editor, Music Copyist, Music Engraver, Music Proofer, Music Magazine Writers/Editors
- Video Music Careers:** Digital Composition or Sequencing, Music Programming, Music Production

CollegelnColorado.org website

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

REQ- TE	MUS Requirement: _____	4
MUS- REQ	MUS Requirement: _____	2
MUS 161	Computer Music Applications I	3
MUS 163	Music Audio Production I	3
MUS 167	Music Business I	3
Subtotal: 15		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MUS 162	Computer Music Applications II	3
MUS 164	Music Audio Production II	3
MUS 265	Live Audio Engineering	3
INT- CAP	Select a MUS Internship or Capstone: _____	2
MUS- ELC	MUS Elective: _____	2
Subtotal: 13		

Total Credit Hours: 28

PHILOSOPHY ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_PHIM

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Philosophy is for students who like to think. Philosophy classes at FRCC provide students the opportunity to investigate fundamental questions like: What is real? What exists? What is knowledge? What is truth? What is right and what is wrong? What are our moral, social, and political obligations? What is beauty? Does God exist?

The FRCC Associates of Arts with a designation in Philosophy is designed to help students develop the critical thinking skills necessary to grapple with these questions and prepare them for transfer to a four year institution. Associate of Arts coursework covers the courses in philosophy as well as the courses in mathematics, social and behavioral sciences, arts and humanities, and science needed to transfer to a four-year institution.

A career in Philosophy likely requires a graduate degree. However, students with undergraduate degrees in philosophy have gone on to find success in any number of fields including law, business, art, literature, journalism, politics, human resources, management, or nonprofit professions.

Learn more about gainful employment (p. 254)

What You Will Learn

Program Learning Outcomes

- Distinguish and critically evaluate the major schools of philosophy
- Demonstrate an understanding of the methods of philosophical thinking
- Critically evaluate primary philosophical sources
- Apply philosophical theories to current issues
- Demonstrate philosophical/logical thinking through writing and other forms of assessment

Career Opportunities

A degree in Philosophy opens the door to careers in:

- Teaching
- College Professor
- Human Resources
- Law
- Non-profit Organizations
- Politics
- The Arts

AA in Philosophy (p. 147)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHI 111	Introduction to Philosophy	3
PHI 113	Logic	3
GT- AH	Arts & Humanities: _____	3

ELC- LST	Approved Elective List: _____	3
		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHI 112	Ethics	3
GT- AH	Arts & Humanities: _____	3
GT- HI1	History: _____	3
GT- MA1	Mathematics (GT-MA1): _____	3-5
		Subtotal: 15-17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHI 218	Environmental Ethics	3
PHI 214	Philosophy of Religion	3
GT- SC1/2	Natural & Physical Sciences: _____	3-5
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 15-17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

PHI 220	Philosophy of Death and Dying	3
GT- SC1/2	Natural & Physical Sciences: _____	3-5
GT- SS	Social & Behavioral Sciences: _____	3
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 15-17

Total Credit Hours: 60-62

SPANISH ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_SPAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

You can earn an Associate of Arts (A.A.) degree with Spanish designation at FRCC and transfer as a junior to Colorado public four-year schools.

AA Spanish Degree

Spanish Degree Required Courses (p. 150)

Learn more about gainful employment (p. 254)

Career Opportunities

Pursue opportunities in international business. With continued education, begin a career in marketing, public relations, human resources, education, sales, hospitality, management, or journalism. Become a bilingual educator, interpreter, or translator.

A degree in Spanish opens the door to careers in: International Business, Marketing, Public Relations, Human Resources, Education, Sales, Hospitality, Management, Journalism, Bilingual Education, Interpretation or Translation

Transfer Degree: With this degree you can enter as a junior majoring in Spanish at the following four-year schools:

- Adams State University
- Colorado Mesa University
- Colorado State University-Fort Collins
- Colorado State University-Pueblo
- Fort Lewis College
- Metropolitan State University of Denver
- University of Colorado-Boulder
- University of Colorado-Colorado Springs
- University of Colorado-Denver
- University of Northern Colorado
- Western State Colorado University

Be sure to talk with an advisor when selecting your courses to ensure you will complete your degree on time with the classes you need.

AA in Spanish (p. 150)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Credits for Spanish courses may be earned through testing options; however, 4-year institutions may not accept CLEP tests or challenge exams. This may invalidate the AA degree for transfer. Students should contact the receiving institution to request a written response about which credits will transfer. Part-time students should continue taking the sequence of Spanish courses. Those students who have higher proficiency level than is required for SPA 211 or SPA 112 should substitute other Arts & Humanities courses. Heritage speakers may want to substitute SPA 261 and SPA 262 if available. Milestone course.

SPA 111	Spanish Language I	5
ENG 121	English Composition I	3
GT- MA1	Mathematics (GT-MA1): _____	4
COM- REQ	Communication: _____	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You can take SPA 114 (Fast Track Spanish I and Spanish II) instead of SPA 112. SPA 114 is designed for students who have studied two years of the target language in high school and possess linguistic and cultural knowledge that true beginners do not, but are not ready for intermediate level because they need an in-depth review of essential structures.

SPA 112	Spanish Language II	5
ENG 122	English Composition II	3
GT- HI1	History (GT-HI1): _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SPA 211	Spanish Language III	3
GT- AH	Arts & Humanities: _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LST	Approved Elective List: _____	3
GT- SC1/2	Natural & Physical Sciences (GT-SC1/2): _____	3-4

Subtotal: 15-16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

SPA 212	Spanish Language IV	3
GT- SC1/2	Natural & Physical Sciences (GT-SC1/2): _____	4-5
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 13-14

Total Credit Hours: 60-62

STUDIO ART ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_SARD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

Studio Art is the study of the creation of visual art in multiple disciplines such as design, drawing, painting, sculpture, photography, and ceramics. The program focuses on the techniques and theories of the historical, modern, and contemporary approaches to creating visual art as well as best studio practices.

The DWD reflects this with foundational courses in art history and studio arts along with other required general education course and recommended electives. Employment in the field itself typically requires graduate study. A bachelor's degree is typically required for success in the art world while a masters degree is typically required for employment in higher education.

Please Note: The degree track in Studio Art with Secondary Teaching Licensure has different requirements and is not included in this agreement. Please refer to this agreement's cover page for the name of the Bachelor's degree at the four-year institution to which this agreement applies.

Studio Art A.A. (p. 151)

Career Opportunities

Here is a list of jobs that are related to having Studio ART courses; some may require additional education: Art Consultant; Art Director: Design, Web, Print Production; Art History: Teacher, Author, Art Criticism; Arts Management: Museum/Gallery; Art Teacher: K-12, Elementary, Middle and High School, Community College, Art Schools, 4-year College, University; Art Therapist; Automotive Designer; Cartoonist; Conservator: Restoration/Repair; Curator: Museum, Private Galleries, College/University Galleries; Designer: Graphic Design, Web Designers, Product Designers, Industrial Design; Exhibition Designer/Technician; Fashion Illustrator/Designer; Film Production; Gallery Director/Owner, Manager; Illustrator: Books, Magazines, Industrial; Photographer: Photojournalist, Portrait Photography, Wedding Photography, Landscape Photography, Sports Documentary; Potter/Ceramics: Production/Functional Pottery; Recreational Therapist; Studio Arts: Painter, Printmaker, Sculptor; Theater Design.

AA in Studio Art (p. 151)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
ART 111	Art History Ancient to Medieval	3
ART 121	Drawing I	3
ART- REQ	ART: _____	3
GT- AH	Arts & Humanities: _____	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
ART 112	Art History Renaissance to Modern	3
ART- REQ	ART: _____	3
ART- RE1	ART: _____	3
GT- AH	Arts & Humanities: _____	3
Subtotal: 15		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GT- MA1	Mathematics (GT-MA1): _____	3-4
GT- SC1	Natural & Physical Sciences: _____	4-5
GT- SS	Social & Behavioral Sciences: _____	3
ART- RE2	ART: _____	3
ELC- LS1	Approved Elective List: _____	3
Subtotal: 16-18		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GT- SC1/2	Natural & Physical Sciences: _____	3-4
GT- HI1	History: _____	3
GT- SS	Social & Behavioral Sciences: _____	3
ELC- LS1	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	2
Subtotal: 14-15		

Total Credit Hours: 60-63

THEATRE ASSOCIATE OF ARTS

Locations: Larimer Campus, Online Learning

Field Code: F_AA_THRD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

You can earn an Associate of Arts (A.A.) degree with Theater designation at FRCC and transfer as a junior to Colorado public four-year schools.

Transfer to a four-year college for a bachelor's degree. Start a career in acting, theater directing, costume design and construction, stage makeup, technical direction, or arts management.

AA Theatre Degree

Theatre Degree Required Courses (p. 152)

Transfer Degree:

With this degree you can enter as a junior majoring in Theater at the following four-year schools:

- Adams State University [B.A. Theater]
- Colorado State University-Ft Collins [B.A. Theater]
- Fort Lewis College [B.A. Theater; Theater Generalist option]
- Metropolitan State University of Denver [B.A. Theater]
- University of Colorado Boulder [B.A. Theater]
- University of Colorado, Colorado Springs [B.A. Visual & Performing Arts; Theater option]
- University of Northern Colorado [B.A. Theater Arts]
- Western State Colorado University [B.A. Communication Arts; Theater & Performance Studies emphasis]

Be sure to talk with an advisor when selecting your courses to ensure you will complete your degree on time with the classes you need.

Learn more about gainful employment (p. 254)

Career Opportunities

A degree in Theater opens the door to careers in:

- Acting
- Theater Directing
- Costume Design and Construction
- Stage Makeup
- Technical Direction and Arts Management

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

THE 108	Theatre Script Analysis	3
ENG 121	English Composition I	3
THE 111	Acting I	3
GT- MA1	Mathematics (GT-MA1): _____	3-4
THE 105	Theatre Appreciation	3
Subtotal: 15-16		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

THE 215	Playwriting	3
ELC- LS1	Approved Elective List: _____	2
THE- REQ	Theater: _____	3

GT- HI1	History: _____	3
GT- SC1	Natural & Physical Sciences:	4-5
		Subtotal: 15-16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
THE 116	Technical Theatre	3
THE 211	Development of Theatre: Greek-Renaissance	3
GT- SS	Social & Behavioral Sciences:	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GT- SC1/2	Natural & Physical Sciences:	3-4
THE 212	Development of Theatre: Restoration-Modern	3
GT- SS	Social & Behavioral Sciences:	3
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 15-16

Total Credit Hours: 60-62

Manufacturing, Automotive, Construction & Design

My Academic Plans (MAPs) are designed by faculty to guide you toward program completion. You should complete courses in the recommended order provided below and work with an academic advisor to adjust your plan based on your scheduling needs.

APPLIED TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AAS_APT1

ABOUT THE PROGRAM**Program Mission & Description****Program Mission:**

This program provides Area Technical College graduates a pathway to continue studies toward the completion of an AAS degree in Applied Technology.

Program Description:

This program aligns with a statewide articulation agreement that allows Area Technical College (ATC) graduates at Delta-Montrose Technical College, Emily Griffith Technical College and Pickens

Technical College to transfer up to **45 credits** of transfer credit from an **approved certificate**¹ toward the completion of an AAS degree in Applied Technology. The Applied Technology AAS degree requires the completion of at least **60 credits** with at least **15 credits** completed at FRCC and selected from the Approved Elective List (p. 247). All courses must be completed with a "C" or better for students to graduate from this program. Please view **First Semester** below for required courses & recommended elective courses.

Learn more about gainful employment (p. 254)

¹**Approved certificate** is a certificate program approved by the State Board for Community Colleges and Occupational Education (SBCCOE).

Getting Into the Program**ADMISSION REQUIREMENTS**

To enter the Applied Technology program, students must meet the following admission requirements:

1. Complete an approved certificate from an Area Technical College (ATC) either Delta-Montrose Technical College, Emily Griffith Technical College or Pickens Technical College.
2. Achieve equivalent testing scores to meet pre/co-requisite requirements (e.g. ENG 121 or higher); course pre/co-requisite requirements may vary depending on the approved elective coursework selected.

NOTE: Individual coursework from the technical college is credited to the student's transcript upon completion of the requirements of both institutions. Students may enroll concurrently at both a technical college and at FRCC. Students must comply with the regulations and requirements relating to admission and attendance at each institution.

What You Will Learn**PROGRAM LEARNING OUTCOMES**

As a result of the completion of the Applied Technology Program students will be able to:

- Demonstrate knowledge of completed general education coursework complementary to their program learning outcomes obtained through the completion of an approved certificate at the Area Technical College of their choice.
- Demonstrate knowledge of completed coursework emphasizing written & oral communication skills, ethics, and management skills or the demonstration of knowledge of completed coursework emphasizing academic rigor and breadth and/or depth of a variety of subject areas as recommended in the categories & courses section.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAT- GEN	Mathematics: _____	3-5
ELC- LST	Approved Elective List: _____	12
Subtotal: 15-17		

Total Credit Hours: 60-62

Architectural Engineering and Construction Technology

ARCHITECTURAL & BUILDING SCIENCE ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_ARB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Our mission in the Architectural Engineering and Construction Technology (AEC) program at FRCC is to prepare students to successfully apply skills in the built environment for the betterment of society. This mission will be carried out with the greatest ethical behavior while conforming to standard professional practices and guidelines.

Learn more about gainful employment (p. 254)

What You Will Learn

Program Learning Outcomes

- Interpret construction drawings
- Ability to read, write, listen, and speak effectively
- Ability to gather, record, and apply relevant information in architectural coursework
- Understanding of the drafter's responsibility as determined by building codes and regulations, professional service contracts, zoning and ordinances
- Understanding of the basic principles and performance of construction materials
- Understanding of the basic principles and appropriate application and performance of construction materials
- Ability to assess, select, and conceptually integrate structural systems, building envelope systems, environmental systems, life-safety systems, and building service systems into building design
- Utilize knowledge, techniques and skills to create accurate architectural documents and presentations with appropriate computer software to meet professional standards

- Use mathematics, architectural/engineering technology theory and critical thinking skills to design and document functional solutions to meet established criteria and standards when given a design problem

- Analyze an architectural plan drawing for proper compliance with local building and zoning codes

Career Opportunities

This degree program prepares students for employment in the following areas: architectural CAD drafting technician for architectural design and construction firms, governmental entities, large corporations, and manufacturers/suppliers of building products. Graduates may also pursue further study in architecture or engineering.

AAS in Architectural and Building Science (p. 163)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

AEC 101	Basic Architectural Drafting	4
AEC 121	Construction Materials and Systems	3
AEC 122	Construction Practices and Documents	2
CAD 101	Computer-Aided Drafting/2D I	3
MAT- GEN	Mathematics: _____	3-5
Subtotal: 15-17		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

AEC 102	Residential Construction Drawing	4
CAD 224	Revit Architecture	3
AEC 208	Building Environmental Systems I	3
CAD 102	Computer-Aided Drafting/2D II	3
ART 121	Drawing I	3
Subtotal: 16		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion of this semester, you will earn your **Architectural Drafting certificate**.

AEC 123	Commercial Construction Drawings	4
AEC 218	Sustainable Building Systems	3
IND 114	Space Planning	3
COM 115	Public Speaking	3
ENG- GEN	English: _____	3
Subtotal: 16		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

AEC 200	Building Design Development	3
CAD 227	Advanced Revit Architecture	3
AEC 289	Capstone	3
PHY 105	Conceptual Physics with Lab	4

Subtotal: 13**Total Credit Hours: 60-62**

ARCHITECTURAL DRAFTING CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_DRA3

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate provides students with entry-level drafting and CAD skills. This certificate emphasizes foundation concepts in building information modeling (BIM).

Certificate in Architectural Drafting (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

AEC 101	Basic Architectural Drafting	4
AEC 121	Construction Materials and Systems	3
AEC 122	Construction Practices and Documents	2
CAD 101	Computer-Aided Drafting/2D I	3
CAD 102	Computer-Aided Drafting/2D II	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

AEC 102	Residential Construction Drawing	4
CAD 224	Revit Architecture	3
AEC 123	Commercial Construction Drawings	4

Subtotal: 11**Total Credit Hours: 26**

Automotive Technology

AUTOMOTIVE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_AUT

ABOUT THE PROGRAM

Program Mission & Description

Program Mission:

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Automotive Technology AAS Degree (p. 164)

Learn more about gainful employment (p. 254)

What You Will Learn

Program Learning Outcomes

As a result of the completion of the Automotive Program students will be able to:

- Test, diagnose, and repair complex mechanical, chemical, and electronic equipment found in today's automobiles
- Demonstrate required shop and personal safety during shop/lab activities
- Demonstrate proper use and cleaning of tools and equipment
- Prepare vehicles for service
- Prepare vehicles for the customer
- Comply with workplace policies and laws
- Communicate (written and verbal) effectively with customers and coworkers
- Demonstrate the use of scientific, technical, engineering and mathematics principles and reasoning to accomplish assigned tasks
- Demonstrate appropriate work-ethic traits through personal conduct and effective teamwork
- Demonstrate critical thinking skills by analyzing and resolving problems encountered in the field

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon the completion of these classes, you will earn your **Automotive/Electronic Systems certificate**.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 221	Automotive and Diesel Body Electrical	4
ASE 231	Automotive Computers and Ignition Systems	2
MAT- GEN	Mathematics: _____	3-5
		Subtotal: 17-19

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion first semester and this semester courses, you will earn your **Automotive Heating & Air Conditioning certificate and Suspension & Steering certificate**.

ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 240	Suspension and Steering III	2
ASE 233	Auto Fuel Injection and Emissions Systems II	4
ASE 264	Introduction Automotive Heating and Air Conditioning	1
ASE 265	Heating and Air Conditioning Systems	4
COM- GEN	Communication: _____	3
		Subtotal: 18

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion of first semester, second semester, and this semester courses, you will earn your **Automatic Transmission/Transaxle certificate, General Automotive Maintenance & Repair certificate, Manual Drivetrain & Axles certificate, and Engine Performance certificate**.

ASE 130	General Engine Diagnosis	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 151	Automotive Manual Transmission/Transaxles and Clutches I	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2
ASE 250	Automatic Transmission/Transaxle Service	1
ASE 251	Automotive Transmission and Transaxle Repair	3
ENG- GEN	English: _____	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 18

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completing first semester, second semester, third semester, and this semester courses, you will earn your **Engine Repair certificate and Brakes certificate**.

ASE 110	Brakes I	2
ASE 111	Automotive Brake Service II	2
ASE 210	Automotive Power and ABS Brake Systems	2
ASE 160	Automotive Engine Repair	2
ASE 161	Engine Repair and Rebuild	3
ASE 162	Automotive Engine Repair	2
PHY 105	Conceptual Physics with Lab	4
		Subtotal: 17

Total Credit Hours: 70-72

Automotive Certificates

AUTOMOTIVE TECHNOLOGY AUTOMATIC TRANSMISSION TRANSAXLE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AAUT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Automatic Transmission Transaxle Certificate (p. 165)

AAS in Automotive Technology (p. 68)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 150	Manual Drive Train and Axle Maintenance	2
		Subtotal: 4

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 152	Manual Transmission, Transaxles and Clutches II	2
ASE 250	Automatic Transmission/Transaxle Service	1
ASE 251	Automotive Transmission and Transaxle Repair	3
		Subtotal: 6

Total Credit Hours: 10

AUTOMOTIVE TECHNOLOGY BRAKES CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AUB

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Brakes Certificate (p. 165)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 110	Brakes I	2
ASE 111	Automotive Brake Service II	2
ASE 210	Automotive Power and ABS Brake Systems	2
		Subtotal: 10

Total Credit Hours: 10

AUTOMOTIVE ELECTRICAL/ELECTRONIC SYSTEMS CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AAE1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

AAS in Automotive Technology (p. 164)

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Electrical/Electronic Systems Certificate (p. 165)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2

ASE 231	Automotive Computers and Ignition Systems	2
ASE 221	Automotive and Diesel Body Electrical	4

Subtotal: 12

Total Credit Hours: 12

AUTOMOTIVE TECHNOLOGY ENGINE PERFORMANCE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_ENPR

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Engine Performance Certificate (p. 166)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2
ASE 130	General Engine Diagnosis	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 231	Automotive Computers and Ignition Systems	2

Subtotal: 12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 233	Auto Fuel Injection and Emissions Systems II	4
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Subtotal: 4

Total Credit Hours: 16

AUTOMOTIVE TECHNOLOGY ENGINE REPAIR CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AER

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Engine Repair Certificate (p. 166)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 130	General Engine Diagnosis	2

Subtotal: 6

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 160	Automotive Engine Repair	2
ASE 161	Engine Repair and Rebuild	3
ASE 162	Automotive Engine Repair	2

Subtotal: 7**Total Credit Hours: 13**

AUTOMOTIVE TECHNOLOGY GENERAL MAINTENANCE & REPAIR CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_GAMR

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

General Maintenance & Repair Certificate (p. 166)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 110	Brakes I	2
ASE 120	Basic Automotive Electricity	2
ASE 130	General Engine Diagnosis	2
ASE 140	Suspension and Steering I	2

Subtotal: 10**Total Credit Hours: 10**

AUTOMOTIVE HEATING & AIR CONDITIONING CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AHVC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Automotive Heating & Air Conditioning Certificate (p. 166)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2

Subtotal: 4**Second Semester**

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 264	Introduction Automotive Heating and Air Conditioning	1
ASE 265	Heating and Air Conditioning Systems	4

Subtotal: 5

Total Credit Hours: 9**AUTOMOTIVE TECHNOLOGY LIGHT DIESEL ENGINE REPAIR CERTIFICATE**

Locations: Larimer Campus

Field Code: F_CER_ATDT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Light Diesel Engine Repair Certificate (p. 166)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2
		Subtotal: 6

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

DPM 100	Introduction to Diesel Mechanics	2
DPM 103	Diesel Engines I	4
DPM 203	Diesel Engines II	4
		Subtotal: 10

Total Credit Hours: 16**AUTOMOTIVE TECHNOLOGY MANUAL DRIVETRAIN & AXLES CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AUTW

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Manual Drivetrain & Axles Certificate (p. 166)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 151	Automotive Manual Transmission/Transaxles and Clutches I	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2
		Subtotal: 10

Total Credit Hours: 10

AUTOMOTIVE TECHNOLOGY SUSPENSION & STEERING CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AUTS

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The mission of the Automotive Technology program is to prepare students with a skill level sufficient for entry level positions/careers in the automotive repair industry. Students demonstrate the ability to meet recognized automotive industry standards upon completion of the program.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

Career Opportunities

Graduates are finding excellent employment opportunities as technicians, sales associates, service writers, and parts staff. These opportunities exist in dealerships, independent service facilities, machine shops and other automotive businesses.

Suspension & Steering Certificate (p. 166)

AAS in Automotive Technology (p. 164)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 240	Suspension and Steering III	2
Subtotal: 10		

Total Credit Hours: 10

Computer Aided Drafting

COMPUTER AIDED DRAFTING & DESIGN ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_CAD4

ABOUT THE PROGRAM

Program Mission & Description

Provide students' knowledge, skills and practical experiences and applications in Computer Aided Drafting & Design industry specific software for preparation into the workforce as an Entry Level CAD Technician.

Computer Aided Drafting & Design AAS Degree (p. 170)

Learn more about gainful employment (p. 254)

What You Will Learn

Program Learning Outcomes

Upon successful completion of this program, student will be able to:

- Interpret industry specific working/construction drawings/documents
- Develop template drawings using standard drawing procedures
- Create and modify 2-dimensional drawings using industry specific CAD software
- Create and modify 3-dimensional drawings/models using industry specific CAD software
- Produce and print a set of working/construction drawings/documents per industry standards using CAD software
- Use advanced features of modeling with industry specific CAD software
- Prepare 3D models/scenes using materials, lighting and animation per the industry specific CAD software
- Design and create advanced 3D software generated models to produce a 3D printed model
- Create 3D scanned models using 3D scanning technology
- Prepare a portfolio of industry specific drawings using CAD software programs

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD- REQ	CAD 201 or CAD 219: _____	3
CAD 202	Computer-Aided Drafting/3D	3
CAD- ELC	CAD Elective Course: _____	3
CAD- ELC	CAD Elective Course: _____	3
ENG- GEN	English: _____	3
Subtotal: 15		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD- REQ	CAD 201 or CAD 219: _____	3
CAD- ELC	CAD Elective Course: _____	3
CAD 262	3D Printing	3
GEN- ELC	Electives: _____	3
ART 121	Drawing I	3
Subtotal: 15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

INT- CAP	CAD 289 or CAD 280: _____	3
GEN- ELC	Electives: _____	3
MAT- GEN	Mathematics: _____	3-5
CAD- ELC	CAD Elective Course: _____	3
CAD- ELC	CAD Elective Course: _____	3
Subtotal: 15-17		

Total Credit Hours: 60-62

Computer-Aided Drafting Certificates

**COMPUTER AIDED DRAFTING & DESIGN
BASIC CAD CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CAD4

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program provides advanced CAD skills to the student seeking a career within computer-aided drafting and design. The student will complete 2D and 3D projects using the most current releases of the CAD software. Upon completion of this AAS degree, the student is prepared to enter the workforce as a CAD technician.

This program will meet unique computer-aided drafting and design, CAD illustration, and graphics needs. With the growth of employment needs in small- to mid-sized companies, employers are increasingly seeking employees with advanced and specialized computer-aided drafting skills.

Coursework is offered on an open-entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Some certificates and courses may not be offered every semester or at every campus. Please work with a Program Advisor in selection of your courses. Please contact Claudia Romero, 970-204-8632 at the Larimer Campus or Vrushali Bharadwaj at vrushali.bharadwaj@frontrange.edu at the Westminster Campus.

Career Opportunities

With this CAD degree, students will be prepared to enter the workforce as a skilled CAD technician. Students will graduate with advanced skills by training on the most current CAD software. Students complete 2D and 3D projects with an emphasis on the unique needs of small-to mid-sized companies seeking employees with advanced and specialized computer-aided drafting skills.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 100	Print Reading for CAD	3
CAD 101	Computer-Aided Drafting/2D I	3
CAD 102	Computer-Aided Drafting/2D II	3
CAD 115	Sketchup	3
ELC- LST	Elective: _____	1-3
DRA- ELC	Drawing Course: _____	3-4
Subtotal: 16-19		

Total Credit Hours: 16-19

**COMPUTER AIDED DRAFTING & DESIGN
ADVANCED ANIMATION & VISUALIZATION
CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AAVC

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program provides advanced CAD skills to the student seeking a career within computer-aided drafting and design. The student will complete 2D and 3D projects using the most current releases of the CAD software. Upon completion of this AAS degree, the student is prepared to enter the workforce as a CAD technician.

This program will meet unique computer-aided drafting and design, CAD illustration, and graphics needs. With the growth of employment needs in small- to mid-sized companies, employers are increasingly seeking employees with advanced and specialized computer-aided drafting skills.

Coursework is offered on an open-entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Some certificates and courses may not be offered every semester or at every campus. Please work with a Program Advisor in selection of your courses. Please contact Claudia Romero, 970-204-8632 at the Larimer Campus or Vrushali Bharadwaj at vrushali.bharadwaj@frontrange.edu at the Westminster Campus.

Career Opportunities

With this CAD degree, students will be prepared to enter the workforce as a skilled CAD technician. Students will graduate with advanced skills by training on the most current CAD software. Students complete 2D and 3D projects with an emphasis on the unique needs of small-to mid-sized companies

seeking employees with advanced and specialized computer-aided drafting skills.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 202	Computer-Aided Drafting/3D	3
CAD 216	Advanced Sketchup	3
CAD 219	3DS MAX	3
MGD- GEN	MGD Elective: _____	3
Subtotal: 12		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

INT- CAP	CAD 289 or CAD 280: _____	3
MGD- GEN	MGD Elective: _____	3
Subtotal: 6		

Total Credit Hours: 18

COMPUTER AIDED DRAFTING & DESIGN ADVANCED ARCHITECTURAL CAD CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CADA

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program provides advanced CAD skills to the student seeking a career within computer-aided drafting and design. The student will complete 2D and 3D projects using the most current releases of the CAD software. Upon completion of this AAS degree, the student is prepared to enter the workforce as a CAD technician.

This program will meet unique computer-aided drafting and design, CAD illustration, and graphics needs. With the growth of employment needs in small- to mid-sized companies, employers are increasingly seeking employees with advanced and specialized computer-aided drafting skills.

Coursework is offered on an open-entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Some certificates and courses may not be offered every semester or at every campus. Please work with a Program Advisor in selection of your courses. Please contact Claudia Romero, 970-204-8632 at the Larimer Campus or Vrushali Bharadwaj at

vrushali.bharadwaj@frontrange.edu at the Westminster Campus.

Career Opportunities

With this CAD degree, students will be prepared to enter the workforce as a skilled CAD technician. Students will graduate with advanced skills by training on the most current CAD software. Students complete 2D and 3D projects with an emphasis on the unique needs of small-to mid-sized companies seeking employees with advanced and specialized computer-aided drafting skills.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

AEC 102	Residential Construction Drawing	4
CAD 201	Computer-Aided Drafting/Custom	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 224	Revit Architecture	3
CAD- ELC	CAD Elective: _____	3-4
Subtotal: 16-17		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 227	Advanced Revit Architecture	3
INT- CAP	CAD 289 or CAD 280: _____	3
CAD- ELC	CAD Elective: _____	3-4
CAD- ELC	CAD Elective: _____	3-4
Subtotal: 12-14		

Total Credit Hours: 28

COMPUTER AIDED DRAFTING & DESIGN ADVANCED CIVIL/SURVEY CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CDV1

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program provides advanced CAD skills to the student seeking a career within computer-aided drafting and design. The student will complete 2D and 3D projects using the most current releases of the CAD software. Upon completion of this AAS degree, the student is prepared to enter the workforce as a CAD technician.

This program will meet unique computer-aided drafting and

design, CAD illustration, and graphics needs. With the growth of employment needs in small- to mid-sized companies, employers are increasingly seeking employees with advanced and specialized computer-aided drafting skills.

Coursework is offered on an open-entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Some certificates and courses may not be offered every semester or at every campus. Please work with a Program Advisor in selection of your courses. Please contact Claudia Romero, 970-204-8632 at the Larimer Campus or Vrushali Bharadwaj at vrushali.bharadwaj@frontrange.edu at the Westminster Campus.

Career Opportunities

With this CAD degree, students will be prepared to enter the workforce as a skilled CAD technician. Students will graduate with advanced skills by training on the most current CAD software. Students complete 2D and 3D projects with an emphasis on the unique needs of small-to mid-sized companies seeking employees with advanced and specialized computer-aided drafting skills.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 201	Computer-Aided Drafting/Custom	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 219	3DS MAX	3
GIS 101	Introduction to Geographic Information Systems	3
Subtotal: 12		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 233	Civil 3D (Software)	3
INT- CAP	CAD 289 or CAD 280: _____	3
EGT 243	Civil/Survey Drafting II	3
Subtotal: 9		

Total Credit Hours: 21

**COMPUTER AIDED DRAFTING & DESIGN
ADVANCED MECHANICAL CAD CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CADX

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courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program provides advanced CAD skills to the student seeking a career within computer-aided drafting and design. The student will complete 2D and 3D projects using the most current releases of the CAD software. Upon completion of this AAS degree, the student is prepared to enter the workforce as a CAD technician.

This program will meet unique computer-aided drafting and design, CAD illustration, and graphics needs. With the growth of employment needs in small- to mid-sized companies, employers are increasingly seeking employees with advanced and specialized computer-aided drafting skills.

Coursework is offered on an open-entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Some certificates and courses may not be offered every semester or at every campus. Please work with a Program Advisor in selection of your courses. Please contact Claudia Romero, 970-204-8632 at the Larimer Campus or Vrushali Bharadwaj at vrushali.bharadwaj@frontrange.edu at the Westminster Campus.

Career Opportunities

With this CAD degree, students will be prepared to enter the workforce as a skilled CAD technician. Students will graduate with advanced skills by training on the most current CAD software. Students complete 2D and 3D projects with an emphasis on the unique needs of small-to mid-sized companies seeking employees with advanced and specialized computer-aided drafting skills.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

EGT 205	Geometric Dimension & Tolerance	3
CAD 255	SolidWorks/Mechanical	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 201	Computer-Aided Drafting/Custom	3
Subtotal: 12		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 259	Advanced Solidworks	3
CAD 262	3D Printing	3
CAD- REQ	CAD Requirement: _____	3-4
INT- CAP	CAD 289 or CAD 280: _____	3
Subtotal: 12-13		

Total Credit Hours: 24-25

COMPUTER AIDED DRAFTING & DESIGN ADVANCED 3D PRINT & 3D SCAN CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_3DPS

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program provides advanced CAD skills to the student seeking a career within computer-aided drafting and design. The student will complete 2D and 3D projects using the most current releases of the CAD software. Upon completion of this AAS degree, the student is prepared to enter the workforce as a CAD technician.

This program will meet unique computer-aided drafting and design, CAD illustration, and graphics needs. With the growth of employment needs in small- to mid-sized companies, employers are increasingly seeking employees with advanced and specialized computer-aided drafting skills.

Coursework is offered on an open-entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Some certificates and courses may not be offered every semester or at every campus. Please work with a Program Advisor in selection of your courses. Please contact Claudia Romero, 970-204-8632 at the Larimer Campus or Vrushali Bharadwaj at vrushali.bharadwaj@frontrange.edu at the Westminster Campus.

Career Opportunities

With this CAD degree, students will be prepared to enter the workforce as a skilled CAD technician. Students will graduate with advanced skills by training on the most current CAD software. Students complete 2D and 3D projects with an emphasis on the unique needs of small-to mid-sized companies seeking employees with advanced and specialized computer-aided drafting skills.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 202	Computer-Aided Drafting/3D	3
CAD 262	3D Printing	3
CAD 264	3D Scanning and Modeling	4
CAD- REQ	CAD Requirement: _____	3

Subtotal: 13

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CAD 266	Advanced 3D Printing	3
INT- CAP	CAD 289 or CAD 280: _____	3
CAD- REQ	CAD Requirement: _____	3
CAD 259	Advanced Solidworks	3

Subtotal: 12

Total Credit Hours: 25

Construction Trades Certificates

CONSTRUCTION ESSENTIALS CERTIFICATE

Locations: Larimer Campus

Field Code:

ABOUT THE PROGRAM

Program Mission & Description

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

Construction Essentials Certificate (p. 183)

What You Will Learn

Program Learning Outcomes

- Demonstrate knowledge of the career pathways that exist within the construction industry
- Describe the basic technical and academic requirements for success within those careers
- Demonstrate ability to apply math and science theories to construction applications
- Demonstrate communication, technical and safety skills as required in the hands-on portions of this class
- Describe the intent of the OSH Act of 1970/List OSHA inspection priorities
- Describe the General Duty Clause
- List employee rights provided by the OSH Act
- List employer rights under the OSH Act
- Itemize OSHA record keeping requirements
- Apply OSHA Regulation to selected safety hazards
- Describe the difference between a vertical and a horizontal safety standard
- Use the OSHA regulations to define appropriate abatement procedures
- Utilize OSHA regulations to supplement safety programs.

- Use both the subject and the topic index to locate appropriate OSHA regulations
- Identify the most common OSHA violations in major Subparts

Career Opportunities

Depending on the certificate route, the construction industry is able to offers varying career paths as well as the ability to move vertically or horizontally with additional training. The construction industry has long been known for cycling through boom and bust periods, leading to uncertainty with employment in residential and commercial trades. The current period we are entering into is different due to large amount of attrition expected due to retiring workers. While many industries tend to keep workers on long after they are eligible for retirement, the physical nature of construction does not always allow for delayed retirement.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1
Subtotal:		5

Total Credit Hours: 5

CONSTRUCTION FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus

Field Code:

ABOUT THE PROGRAM

Program Mission & Description

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and

FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

Construction Fundamentals Certificate (p. 183)

What You Will Learn

Program Learning Outcomes

- Demonstrate knowledge of the career pathways that exist within the construction industry
- Describe the basic technical and academic requirements for success within those careers
- Demonstrate ability to apply math and science theories to construction applications
- Demonstrate communication, technical and safety skills as required in the hands-on portions of this class
- Expanded knowledge of the unique carpentry, plumbing and electrical career pathways
- Describe the basic work flow within a residential and basic commercial building project
- Demonstrate ability to follow order and instructions as it relates to the installation and production of framing, plumbing and carpentry
- Learn the needs for proper weatherization and fenestration requirements and how it relates to both occupant comfort and energy savings
- Calculate the amount of materials required, and develop a purchase order, for a project to be built in the class
- Describe the intent of the OSH Act of 1970 List OSHA inspection priorities
- Describe the General Duty Clause
- List employee rights provided by the OSH Act
- List employer rights under the OSH Act
- Itemize OSHA record keeping requirements
- Apply OSHA Regulation to selected safety hazards
- Describe the difference between a vertical and a horizontal safety standard
- Use the OSHA regulations to define appropriate abatement procedures
- Utilize OSHA regulations to supplement safety programs.
- Use both the subject and the topic index to locate appropriate OSHA regulations
- Identify the most common OSHA violations in major Subparts

Career Opportunities

Depending on the certificate route, the construction industry is able to offers varying career paths as well as the ability to move vertically or horizontally with additional training. The construction industry has long been known for cycling through boom and bust periods, leading to uncertainty with employment in residential and commercial trades. The current period we are entering into is different due to large amount of attrition expected due to retiring workers. While many industries tend to keep workers on long after they are eligible for retirement, the physical nature of construction does not always allow for delayed retirement.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1
CON 111	Introduction to Construction, Part 2	4
INT- CAP	CON 280 or CON 289:	2

Subtotal: 11

Total Credit Hours: 11

ELECTRICAL FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus

Field Code:

ABOUT THE PROGRAM

Program Mission & Description

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

Electrical Fundamentals Certificate (p. 183)

What You Will Learn

Program Learning Outcomes

- Describe the basic technical and academic requirements for success within those careers
- Demonstrate ability to apply math and science theories to construction applications
- Demonstrate communication, technical and safety skills as required in the hands-on portions of this class
- Expanded knowledge of the unique carpentry, plumbing and electrical career pathways
- Describe the basic work flow within a residential and basic commercial building project
- Demonstrate ability to follow order and instructions as it relates to the installation and production of framing, plumbing and carpentry
- Learn the needs for proper weatherization and fenestration requirements and how it relates to both occupant comfort and energy savings

- Calculate the amount of materials required, and develop a purchase order, for a project to be built in the class
- Describe the intent of the OSH Act of 1970 List OSHA inspection priorities
- Describe the General Duty Clause
- List employee rights provided by the OSH Act
- List employer rights under the OSH Act
- Itemize OSHA record keeping requirements
- Apply OSHA Regulation to selected safety hazards
- Describe the difference between a vertical and a horizontal safety standard
- Use the OSHA regulations to define appropriate abatement procedures
- Utilize OSHA regulations to supplement safety programs.
- Use both the subject and the topic index to locate appropriate OSHA regulations
- Identify the most common OSHA violations in major Subparts
- Install electrical circuits and components used in residential applications
- State the safety practices and procedures for residential environments
- State proper branch circuit wiring techniques-
- Demonstrate knowledge of the career pathways that exist within the construction industry

Career Opportunities

Depending on the certificate route, the construction industry is able to offers varying career paths as well as the ability to move vertically or horizontally with additional training. The construction industry has long been known for cycling through boom and bust periods, leading to uncertainty with employment in residential and commercial trades. The current period we are entering into is different due to large amount of attrition expected due to retiring workers. While many industries tend to keep workers on long after they are eligible for retirement, the physical nature of construction does not always allow for delayed retirement.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CON 110	Introduction to Construction, Part 1	4
EIC 110	Electrical Installations I	4
OSH 127	10-HR Construction Industry Standards	1
INT- CAP	EIC 280 or EIC 289:	2

Subtotal: 11

Total Credit Hours: 11

PLUMBING FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus

Field Code:

ABOUT THE PROGRAM

Program Mission & Description

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

Plumbing Fundamentals Certificate (p. 183)

What You Will Learn

Program Learning Outcomes

- Demonstrate knowledge of the career pathways that exist within the construction industry
- Describe the basic technical and academic requirements for success within those careers
- Demonstrate ability to apply math and science theories to construction applications
- Demonstrate communication, technical and safety skills as required in the hands-on portions of this class
- Expanded knowledge of the unique carpentry, plumbing and electrical career pathways
- Describe the basic work flow within a residential and basic commercial building project
- Demonstrate ability to follow order and instructions as it relates to the installation and production of framing, plumbing and carpentry
- Learn the needs for proper weatherization and fenestration requirements and how it relates to both occupant comfort and energy savings
- Calculate the amount of materials required, and develop a purchase order, for a project to be built in the class
- Describe the intent of the OSH Act of 1970 List OSHA inspection priorities
- Describe the General Duty Clause
- List employee rights provided by the OSH Act
- List employer rights under the OSH Act
- Itemize OSHA record keeping requirements
- Apply OSHA Regulation to selected safety hazards
- Describe the difference between a vertical and a horizontal safety standard
- Use the OSHA regulations to define appropriate abatement

procedures

- Utilize OSHA regulations to supplement safety programs.
- Use both the subject and the topic index to locate appropriate OSHA regulations
- Identify the most common OSHA violations in major Subparts
- Design and install residential water supply and distribution systems
- Design and install residential fuel gas piping systems
- Determine correct plumbing fixture application and installation
- Demonstrate comprehension of the plumbing code relating to the installation of water heaters

Career Opportunities

Depending on the certificate route, the construction industry is able to offers varying career paths as well as the ability to move vertically or horizontally with additional training. The construction industry has long been known for cycling through boom and bust periods, leading to uncertainty with employment in residential and commercial trades. The current period we are entering into is different due to large amount of attrition expected due to retiring workers. While many industries tend to keep workers on long after they are eligible for retirement, the physical nature of construction does not always allow for delayed retirement.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1
PLU 120	Residential Plumbing	4
INT- CAP	PLU 280 or PLU 289: _____	2
Subtotal: 11		

Total Credit Hours: 11

Heating, Ventilation, Air Conditioning, Refrigeration

HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION ASSOCIATE OF APPLIED SCIENCE

Locations: Loveland

Field Code: F_AAS_HVA

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The mission of the Heating, Ventilation, Air Conditioning and Refrigeration (HVAC/R) program is to prepare students for entry-level positions. Students will demonstrate the ability to meet or exceed recognized industry standards.

HVAC/R AAS Degree (p. 196)

Learn more about gainful employment (p. 254)

What You Will Learn

Program Learning Outcomes

- Demonstrate compliance with HVAC/R safety guidelines established by OSHA
- Demonstrate knowledge of common tools used in the HVAC/R trade, including their function and safe/proper use
- Safely handle and work with refrigerants
- Demonstrate proper and safe use of HVAC/R electrical measurement meters in energized and un-energized circuits
- Demonstrate how to troubleshoot common HVAC/R electrical devices/components in HVAC/R systems
- Demonstrate how to identify the correct part replacement needed for an HVAC/R system using equipment model/serial numbers, distributor catalogs and useful websites
- Demonstrate safe and proficient operation of a gas fuel torch used in soft soldering and brazing
- Demonstrate the ability to read and apply the information on a pressure/temperature chart to determine superheat, sub cooling, and proper system pressures
- Demonstrate the ability to interpret what the superheat and sub cooling readings are telling them about the states of the refrigerant in the system
- Demonstrate the ability to perform general maintenance/service on HVAC/R systems
- Demonstrate professionalism, including excellent communication skills

Career Opportunities

What do HVAC/R Mechanics and Installers do?

Heating, air conditioning, and refrigeration mechanics and installers—often called HVACR technicians—work on heating, ventilation, cooling, and refrigeration systems that control the temperature and air quality in buildings.

A person in the Refrigeration Mechanic career path:

- Observes and tests system operation, using gauges and instruments.
- Adjusts valves according to specifications and charges system with proper type of refrigerant by pumping the specified gas or fluid into the system.

- Tests lines, components, and connections for leaks.
- Dismantles malfunctioning systems and tests components, using electrical, mechanical, and pneumatic testing equipment.
- Adjusts or replaces worn or defective mechanisms and parts, and reassembles repaired systems.
- Brazes or solders parts to repair defective joints and leaks.
- Performs mechanical overhauls and refrigerant reclaiming.
- Keeps records of repairs and replacements made and causes of malfunctions.
- Installs expansion and control valves, using acetylene torches and wrenches.

- Installs wiring to connect components to an electric power source.

A person in the Heating & Air-Conditioning Mechanic career path:

- Tests pipe or tubing joints or connections for leaks, using pressure gauge or soap-and-water solution.
- Tests electrical circuits or components for continuity, using electrical test equipment.
- Repairs or replaces defective equipment, components, or wiring.
- Discusses heating or cooling system malfunctions with users to isolate problems or to verify that repairs corrected malfunctions.
- Repairs or services heating, ventilating, and air conditioning (HVAC) systems to improve efficiency, such as by changing filters, cleaning ducts, or refilling non-toxic refrigerants.
- Installs, connects, or adjusts thermostats, humidistats, or timers.
- Connects heating or air conditioning equipment to fuel, water, or refrigerant source to form complete circuit.
- Studies blueprints, design specifications, or manufacturers' recommendations to ascertain the configuration of heating or cooling equipment components and to ensure the proper installation of components.
- Complies with all applicable standards, policies, or procedures, such as safety procedures or the maintenance of a clean work area.
- Installs auxiliary components to heating or cooling equipment, such as expansion or discharge valves, air ducts, pipes, blowers, dampers, flues, or stokers.

SPECIALTY AND SIMILAR CAREERS

HVAC/R Mechanics: Careers that are more detailed or close to

this career:

- Residential Air-Conditioning & Heating
 - Light Commercial Air-Conditioning & Heating
 - Commercial Refrigeration
 - HVAC/R Sales
 - Energy Management
 - Sheet Metal
 - Owner of a Company
- AAS in Heating, Ventilation, AC and Refrigeration (p. 196)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 103	Basic Electricity	3
HVA 102	Basic Refrigeration	4
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 200	International Residential Codes - Mechanical and Fuel Gas	2
HVA 247	Hot Water Heating Systems	4
HVA 201	Heating for Commercial Applications	3
HVA 203	Industrial Controls	3
COM- GEN	Communication: _____	3

Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 122	Commercial Refrigeration	4
HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4
HVA 202	Troubleshooting and Customer Service	3

Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Students must complete the Industry Competency Exams (ICE)

Residential Air Conditioning and Heating, Light Commercial Air Conditioning and Heating, and Commercial Refrigeration as a requirement for this AAS degree. Contact the HVAC/R department for current pricing and to schedule the ICE Exam.

HVA 280	Internship	2
PHY 105	Conceptual Physics with Lab	4
MAT 107	Career Mathematics	3
ENG- GEN	English: _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 15

Total Credit Hours: 60

HVAC/R Certificates

RESIDENTIAL AIR CONDITIONING & HEATING CERTIFICATE

Locations: Loveland

Field Code: F_CER_HVAA

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

What do HVAC/R Mechanics and Installers do?

Heating, air conditioning, and refrigeration mechanics and installers—often called HVACR technicians—work on heating, ventilation, cooling, and refrigeration systems that control the temperature and air quality in buildings.

A person in the Heating & Air-Conditioning Mechanic career path:

- Tests pipe or tubing joints or connections for leaks, using pressure gauge or soap-and-water solution.
- Tests electrical circuits or components for continuity, using electrical test equipment.
- Repairs or replaces defective equipment, components, or wiring.
- Discusses heating or cooling system malfunctions with users to isolate problems or to verify that repairs corrected malfunctions.
- Repairs or services heating, ventilating, and air conditioning (HVAC) systems to improve efficiency, such as by changing filters, cleaning ducts, or refilling non-toxic refrigerants.
- Installs, connects, or adjusts thermostats, humidistats, or timers.
- Connects heating or air conditioning equipment to fuel, water, or refrigerant source to form complete circuit.
- Studies blueprints, design specifications, or manufacturers' recommendations to ascertain the configuration of heating or cooling equipment components and to ensure the proper installation of components.
- Complies with all applicable standards, policies, or procedures, such as safety procedures or the maintenance of a clean work

area.

- Installs auxiliary components to heating or cooling equipment, such as expansion or discharge valves, air ducts, pipes, blowers, dampers, flues, or stokers.

Specialty and Similar Careers:

HVAC/R Mechanics: Careers that are more detailed or close to this career:

- Light Commercial Air-Conditioning & Heating
- Commercial Refrigeration
- HVAC/R Sales
- Energy Management
- Sheet Metal
- Owner of a Company

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
Subtotal:		15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 200	International Residential Codes - Mechanical and Fuel Gas	2
HVA 202	Troubleshooting and Customer Service	3
HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4
Subtotal:		13

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Students must complete the corresponding Industry Competency Exam (ICE) for the Residential Air Conditioning and Heating certificate. Contact the HVAC/R department for current pricing and to schedule the ICE Exam.

HVA 247	Hot Water Heating Systems	4
COM- GEN	Communication: _____	3
Subtotal:		7

Total Credit Hours: 35

LIGHT COMMERCIAL AIR CONDITIONING & HEATING CERTIFICATE

Locations: Loveland

Field Code: F_CER_HACH

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

What do HVAC/R Mechanics and Installers do?

Heating, air conditioning, and refrigeration mechanics and installers—often called HVACR technicians—work on heating, ventilation, cooling, and refrigeration systems that control the temperature and air quality in buildings.

A person in the Heating & Air-Conditioning Mechanic career path:

- Tests pipe or tubing joints or connections for leaks, using pressure gauge or soap-and-water solution.
- Tests electrical circuits or components for continuity, using electrical test equipment.
- Repairs or replaces defective equipment, components, or wiring.
- Discusses heating or cooling system malfunctions with users to isolate problems or to verify that repairs corrected malfunctions.
- Repairs or services heating, ventilating, and air conditioning (HVAC) systems to improve efficiency, such as by changing filters, cleaning ducts, or refilling non-toxic refrigerants.
- Installs, connects, or adjusts thermostats, humidistats, or timers.
- Connects heating or air conditioning equipment to fuel, water, or refrigerant source to form complete circuit.
- Studies blueprints, design specifications, or manufacturers' recommendations to ascertain the configuration of heating or cooling equipment components and to ensure the proper installation of components.
- Complies with all applicable standards, policies, or procedures, such as safety procedures or the maintenance of a clean work area.
- Installs auxiliary components to heating or cooling equipment, such as expansion or discharge valves, air ducts, pipes, blowers, dampers, flues, or stokers.

Specialty and Similar Careers:

HVAC/R Mechanics: Careers that are more detailed or close to this career:

- Residential Air-Conditioning & Heating
- Commercial Refrigeration
- HVAC/R Sales
- Energy Management
- Sheet Metal
- Owner of a Company

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
Subtotal:		15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 200	International Residential Codes - Mechanical and Fuel Gas	2
HVA 201	Heating for Commercial Applications	3
HVA 202	Troubleshooting and Customer Service	3
HVA 203	Industrial Controls	3
COM- GEN	Communication: _____	3
Subtotal:		14

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Students must complete the corresponding Industry Competency Exam (ICE) for the Light Commercial Air Conditioning and Heating certificate. Contact the HVAC/R department for current pricing and to schedule the ICE Exam.

HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4
Subtotal:		8

Total Credit Hours: 37

COMMERCIAL REFRIGERATION CERTIFICATE

Locations: Loveland

Field Code: F_CER_HVAM

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

What do HVAC/R Mechanics and Installers do?

Heating, air conditioning, and refrigeration mechanics and installers—often called HVACR technicians—work on heating,

ventilation, cooling, and refrigeration systems that control the temperature and air quality in buildings.

A person in the Refrigeration Mechanic career path:

- Observes and tests system operation, using gauges and instruments.
- Adjusts valves according to specifications and charges system with proper type of refrigerant by pumping the specified gas or fluid into the system.
- Tests lines, components, and connections for leaks.
- Dismantles malfunctioning systems and tests components, using electrical, mechanical, and pneumatic testing equipment.
- Adjusts or replaces worn or defective mechanisms and parts, and reassembles repaired systems.
- Brazes or solders parts to repair defective joints and leaks.
- Performs mechanical overhauls and refrigerant reclaiming.
- Keeps records of repairs and replacements made and causes of malfunctions.
- Installs expansion and control valves, using acetylene torches and wrenches.
- Installs wiring to connect components to an electric power source.

Specialty and Similar Careers:

HVAC/R Mechanics: Careers that are more detailed or close to this career:

- Residential Air-Conditioning & Heating
- Light Commercial Air-Conditioning & Heating
- HVAC/R Sales
- Energy Management
- Sheet Metal
- Owner of a Company

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
Subtotal:		15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Students must complete the corresponding Industry Competency Exam (ICE) for the Commercial Refrigeration certificate. Contact the HVAC/R department for current pricing and to schedule the ICE Exam.

HVA 122	Commercial Refrigeration	4
HVA 202	Troubleshooting and Customer Service	3
HVA 203	Industrial Controls	3
COM- GEN	Communication: _____	3
Subtotal:		13

Total Credit Hours: 28

HVAC/R FUNDAMENTALS CERTIFICATE

Locations: Loveland

Field Code: F_CER_HVCR

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MY ACADEMIC PLAN

Program Description

What does this certificate provide to the student?

The Fundamental certificate is not an industry recognized certificate. This is a stackable certificate towards the HVAC/R certificates and/or AAS degree.

What do HVAC/R Mechanics and Installers do?

Heating, air conditioning, and refrigeration mechanics and installers—often called HVACR technicians—work on heating, ventilation, cooling, and refrigeration systems that control the temperature and air quality in buildings.

A person in the Refrigeration Mechanic career path:

- Observes and tests system operation, using gauges and instruments.
- Adjusts valves according to specifications and charges system with proper type of refrigerant by pumping the specified gas or fluid into the system.
- Tests lines, components, and connections for leaks.
- Dismantles malfunctioning systems and tests components, using electrical, mechanical, and pneumatic testing equipment.
- Adjusts or replaces worn or defective mechanisms and parts, and reassembles repaired systems.
- Brazes or solders parts to repair defective joints and leaks.
- Performs mechanical overhauls and refrigerant reclaiming.
- Keeps records of repairs and replacements made and causes of malfunctions.
- Installs expansion and control valves, using acetylene torches and wrenches.
- Installs wiring to connect components to an electric power source.

A person in the Heating & Air-Conditioning Mechanic career path:

- Tests pipe or tubing joints or connections for leaks, using pressure gauge or soap-and-water solution.
- Tests electrical circuits or components for continuity, using

electrical test equipment.

- Repairs or replaces defective equipment, components, or wiring.
- Discusses heating or cooling system malfunctions with users to isolate problems or to verify that repairs corrected malfunctions.
- Repairs or services heating, ventilating, and air conditioning (HVAC) systems to improve efficiency, such as by changing filters, cleaning ducts, or refilling non-toxic refrigerants.
- Installs, connects, or adjusts thermostats, humidistats, or timers.
- Connects heating or air conditioning equipment to fuel, water, or refrigerant source to form complete circuit.
- Studies blueprints, design specifications, or manufacturers' recommendations to ascertain the configuration of heating or cooling equipment components and to ensure the proper installation of components.
- Complies with all applicable standards, policies, or procedures, such as safety procedures or the maintenance of a clean work area.
- Installs auxiliary components to heating or cooling equipment, such as expansion or discharge valves, air ducts, pipes, blowers, dampers, flues, or stokers.

Specialty and Similar Careers:

HVAC/R Mechanics: Careers that are more detailed or close to this career:

- Residential Air-Conditioning & Heating
- Light Commercial Air-Conditioning & Heating
- Commercial Refrigeration
- HVAC/R Sales
- Energy Management
- Sheet Metal
- Owner of a Company

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4

Subtotal: 15

Total Credit Hours: 15

Interior Design

INTERIOR DESIGN ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_IND

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program provides the student with an in-depth study of architecture, CAD, and interior design skills necessary for a career as an Interior Designer and/or Kitchen and Bath Designer, through the exploration of design concepts. Students enrolled in the program learn to develop creative abilities through the study of visual elements and principles of design. Students will learn to prepare design graphics through sketching, manual drafting, and computer-generated presentation drawings.

Successful completion of the AAS degree in Interior Design at FRCC will articulate up to 90 semester credits for the Interior Design Bachelor degree program at The Art Institute of Colorado. If a student plans to transfer, specific General Education Courses must be taken at FRCC. Please contact Nowell Vincent for more information.

Successful completion of the AAS degree in Interior Design and the Kitchen and Bath certificate at FRCC facilitates the educational requirements to become an eligible candidate to sit for the NCIDQ (National Council for Interior Design Qualification) examination to become an NCIDQ certified designer.

Learn more about gainful employment (p. 254)

Career Opportunities

This degree program provides students an in-depth study of architecture, CAD, and interior design skills necessary for a career as an Interior Designer and/or Kitchen and Bath Designer. Students learn to develop creative abilities through the study of visual elements and principles of design. Students will learn to prepare design graphics through sketching, manual drafting, and computer-generated presentation drawings. Students can choose to complete a one-credit, 40-hour internship or a capstone project. Many students use the capstone as an opportunity to develop a portfolio of their work.

Requirements:

Students are recommended to meet with an advisor prior to registration as course sequence is crucial for successful completion within 2 years. The Larimer Campus Advisor for Interior Design and Kitchen and Bath is Nowell Vincent, Nowell.Vincent@frontrange.edu (970-204-8170). Students who do not meet with an advisor prior to registration should take the following courses the first semester: AEC 101, IND 105, IND 107 and IND 112.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion of this semester and courses, you will earn your **Fundamentals in Interior Design, Drafting & Communication certificate.**

AEC 101	Basic Architectural Drafting	4
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IND 105	Introduction to Interior Design	3
CAD- REQ	CAD Requirement: _____	4-6
IND 112	Graphic Communication	4
ENG- GEN	English: _____	3

Subtotal: 17-18

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAT- GEN	Mathematics: _____	3-5
IND 200	Kitchen and Bath Design	4
IND 114	Space Planning	3
CAD 224	Revit Architecture	3
IND 107	History of Interior Design	3

Subtotal: 16-18

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

IND 120	Interior Design II - Space Planning and Human Factors	3
IND 116	Estimating Interior Materials	3
IND 206	Communication in Design	1
AEC 121	Construction Materials and Systems	3
ELC- LST	Elective: _____	3

Subtotal: 13

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

IND 220	Interior Design III - Materials, Details, Codes, & Specs	3
IND 213	Portfolio Presentations	3
IND 225	Lighting Design	3
IND 231	Sustainable Design	3
ELC- LST	Elective: _____	3

Subtotal: 15

Total Credit Hours: 60-63

FUNDAMENTALS IN INTERIOR DESIGN, DRAFTING & COMMUNICATION CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_IDDC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This program provides the student with an in-depth study of architecture, CAD, and interior design skills necessary for a career as an Interior Designer and/or Kitchen and Bath Designer, through the exploration of design concepts. Students enrolled in the program learn to develop creative abilities through the study of visual elements and principles of design. Students will learn to prepare design graphics through sketching, manual drafting, and computer-generated presentation drawings.

Successful completion of the AAS degree in Interior Design at FRCC will articulate up to 90 semester credits for the Interior Design Bachelor degree program at The Art Institute of Colorado. If a student plans to transfer, specific General Education Courses must be taken at FRCC. Please contact Nowell Vincent for more information.

Successful completion of the AAS degree in Interior Design and the Kitchen and Bath certificate at FRCC facilitates the educational requirements to become an eligible candidate to sit for the NCIDQ (National Council for Interior Design Qualification) examination to become an NCIDQ certified designer.

Career Opportunities

This certificate teaches students fundamental skills used in interior design, drafting & graphic communication. To become an NCIDQ (National Council for Interior Design Qualification) certified designer, students must complete both the AAS degree in Interior Design and the Kitchen and Bath certificate.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion of this semester and courses, you will earn your **Fundamentals in Interior Design, Drafting & Communication certificate.**

AEC 101	Basic Architectural Drafting	4
IND 105	Introduction to Interior Design	3
IND 112	Graphic Communication	4
CAD- REQ	CAD Requirement:_____	4-6

Subtotal: 14-15**Total Credit Hours: 15****KITCHEN & BATH DESIGN CERTIFICATE**

Locations: Larimer Campus

Field Code: F_CER_INDE

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This degree program provides students an in-depth study of architecture, CAD, and interior design skills necessary for a career as an Interior Designer and/or Kitchen and Bath Designer. Students learn to develop creative abilities through the study of visual elements and principles of design. Students will learn to prepare design graphics through sketching, manual drafting, and computer-generated presentation drawings. Students can choose to complete a one-credit, 40-hour internship or a capstone project. Many students use the capstone as an opportunity to develop a portfolio of their work. Successful completion of the Interior Design degree fulfills the education requirement to take the NCIDQ (National Council for Interior Design Qualification) examination to become a professional interior designer. Work experience is also needed. Please consult an advisor.

Learn more about gainful employment (p. 254)

Career Opportunities

This certificate prepares students for the Associate Kitchen and Bath Designer (AKBD) certification offered through the National Kitchen and Bath Association. As part of the program students complete a four-credit internship working under the direction of the program director at a design firm or design-related company in northern Colorado. Past internships have been offered at companies such as Hixon Interiors, Eheart Interior Solutions, Earthwoods, and HighCraft Builders.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

AEC 101	Basic Architectural Drafting	4
IND 105	Introduction to Interior Design	3
CAD- REQ	CAD Requirement:_____	4-6
IND 200	Kitchen and Bath Design	4
AEC 121	Construction Materials and Systems	3

Subtotal: 18-20**Second Semester**

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. To enroll in IND 280, you must have a **GPA of 3.0 or approval** from the Program Director.

IND 114	Space Planning	3
IND 261	Advanced Kitchen and Bath Design	4
IND 112	Graphic Communication	4
IND 205	Professional Practice for Interior Designers	2
IND 280	Internship	4

Subtotal: 17

Total Credit Hours: 35-37

Manufacturing and Energy Technology

**MANUFACTURING & ENERGY TECHNOLOGY
ASSOCIATE OF APPLIED SCIENCE**

Locations: Larimer Campus

Field Code: F_AAS_ELMC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

What does a manufacturing/energy technician do?

A manufacturing technician applies knowledge of electro-mechanical systems and devices used in the manufacturing or energy industries. Examples of such devices are: electric motors and associated controls; solenoids and relays; electrical generators; pumps; robotic systems; and electrical transformers.

This career is part of the **Manufacturing** cluster: Maintenance, Installation and Repair, Manufacturing Production, Production/Process Technology, and **Quality Assurance** pathways; and the **Agriculture, Natural Resources & Energy** cluster: **Power, Structural & Technical Systems** pathway.

Learn more about gainful employment (p. 254)

MY ACADEMIC PLAN

Career Opportunities

A person in this career path:

- * Installs, modifies, calibrates, repairs and maintains electro-mechanical equipment, such as electric generators, electric motors, and associated control systems
- * Designs, installs, programs and maintains industrial control systems, including sensors, actuators, and Programmable Logic Controllers (PLCs)
- * Repairs electrical and electronic equipment
- * Installs, modifies and maintains solar electric generating systems (photovoltaic)

- * Installs, maintains and operates fluid power systems (pneumatic and hydraulic)

Specialty and Similar Careers:

Manufacturing Technician: Careers that are more detailed or close to this career:

- * Industrial maintenance technician – Applies electro-mechanical skills in the installation, calibration, and repair of industrial equipment.
- * Process Technician – Process technicians help design, control, operate and troubleshoot specialized processes that monitor and control pressure, temperature, flow rate, and other process variables in the manufacturing process. Typical industries include pharmaceutical, food processing, energy production, and brewing, and semiconductor manufacturing.
- * Field Service Technician – Field service technicians install, repair, and modify equipment at customer locations, rather than in a central manufacturing location.
- * Quality Assurance Technician – QA technicians review products, services, and manufacturing processes to ensure compliance with standards of quality.
- * Electrical/Electronic Technician – Electronics technicians help design, develop, test, manufacture, install, and repair electrical and electronic equipment such as communication equipment, medical monitoring devices, navigational equipment, and computers. They may be employed in product evaluation and testing, using measuring and diagnostic devices to adjust, test, and repair equipment.
- * Utility Engineering Technician – Utility engineering technicians install and maintain power and communication distribution systems, including transformers, repeaters, wireless communications, and their controls.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. If the student cannot take all of the First Semester courses, they should take the recommended math course, otherwise they will not be able to complete the program in 2 years.

MTE 105	Safety for Manufacturing Environments	1
MTE 106	Print Reading for Manufacturing	3
MTE 130	Metrology	3
MAT- GEN	Mathematics: _____	3-4
GEN- SCI	Natural & Physical Sciences:	4-5

Subtotal: 14-17

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ELT 106	Fundamentals of DC/AC	4
ENY 161	Energy Industry Fundamentals	4
EGT 201	Engineering Materials	3
COM- GEN	Communication: _____	3
ENG- GEN	English: _____	3
Subtotal: 17		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ELT 107	Fundamentals of Industrial Electronics	3
ELT 147	Digital Devices I	4
PPT 105	Basic Plant Operation	2
PPT 116	Instrumentation and Control	3
ELC- LST	Approved Elective List: _____	3
INT- CAP	MTE 289 or MTE 280: _____	1
Subtotal: 16		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ELT 205	Electronic Troubleshooting I	3
ELT 258	Programmable Logic Controllers	3
MTE 135	Lean Six Sigma	4
ENY 122	Wind Energy and Photovoltaics	3
MTE 238	Fluid Power Control	3
INT- CAP	MTE 289 or MTE 280: _____	1
Subtotal: 17		

Total Credit Hours: 64-67

MANUFACTURING & ENERGY TECHNOLOGY CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_CLET

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

What does a manufacturing/energy assembler/operator do?

A manufacturing assembler/operator operates electro-mechanical systems and devices used in the manufacturing or energy industries. Examples of such devices are: electric motors and associated controls; process monitors; industrial machines; electrical generators; pumps; and robotic systems.

This career is part of the **Manufacturing** cluster: Maintenance, Installation and Repair, Manufacturing Production, Production/Process Technology, and **Quality Assurance** pathways; and the **Agriculture, Natural Resources & Energy** cluster: **Power, Structural & Technical Systems** pathway.

Learn more about gainful employment (p. 254)

MY ACADEMIC PLAN**Career Opportunities**

A person in this career path:

- Applies safety practices and maintains a safe work environment
- Displays effective work habits, such as attention to detail, teamwork, and accountability
- Operates and assembles products in a manufacturing environment
- Operates and assembles industrial control systems, including sensors, actuators, and automated systems
- Determines if electrical and electronic equipment is operating properly
- Operates fluid power systems (pneumatic and hydraulic)

Specialty and Similar Careers

Manufacturing Technician: Careers that are more detailed or close to this career, but require additional training beyond the certificate level:

- **Industrial maintenance technician** - Applies electro-mechanical skills in the installation, calibration, and repair of industrial equipment
- **Process Technician** - Design, control, operate and troubleshoot specialized processes that monitor and control pressure, temperature, flow rate, and other process variables in the manufacturing process. Typical industries include pharmaceutical, food processing, energy production, brewing, and semiconductor manufacturing
- **Field Service Technician** - Install, repair, and modify equipment at customer locations, rather than in a central manufacturing location
- **Quality Assurance Technician** - Review products, services, and manufacturing processes to ensure compliance with standards of quality
- **Electrical/Electronic Technician** - Design, develop, test, manufacture, install, and repair electrical and electronic equipment such as communication equipment, medical monitoring devices, navigational equipment, and computers. They may be employed in product evaluation and testing, using measuring and diagnostic devices to adjust, test, and repair equipment
- **Utility Engineering Technician** - Install and maintain power and communication distribution systems, including transformers, repeaters, wireless communications, and their controls

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MTE 105	Safety for Manufacturing Environments	1
MTE 106	Print Reading for Manufacturing	3
MTE 130	Metrology	3
PHY 105	Conceptual Physics with Lab	4
MAT- GEN	Mathematics: _____	3-4

Subtotal: 14-15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. To enroll in IND 280, you must have a GPA of 3.0 or approval from the Program Director.

ELT 106	Fundamentals of DC/AC	4
ENY 161	Energy Industry Fundamentals	4
EGT 201	Engineering Materials	3
COM- GEN	Communication: _____	3
ENG- GEN	English: _____	3

Subtotal: 17

Total Credit Hours: 31

OPTICS TECHNOLOGY CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_OPTF

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

MY ACADEMIC PLAN

Program Mission & Description

This certificate prepares students for entry-level positions dealing with the production of precision optics for use in cameras, projectors, eye wear, microscopes, telescopes, domestic appliances and binoculars. Students will learn the necessary techniques to produce precision spherical and plane optics to specifications, correct lens/prism surfaces, and fabricate optics for multiple uses, from 3D-projector technology, to national defense applications.

Career Opportunities

Upon completion of this program students will be qualified for occupations including: Laser Technician, Optics Technician, Electronics/Optics Technician, Optical Technician. Crossover skills may also qualify them for additional occupations in other

manufacturing sectors including: avionics technicians, and manufacturing production technicians.

Learn more about gainful employment (p. 254)

First Semester

Students in the Optics Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them for the next group of classes.

MAT 108	Technical Mathematics	4
OTE 100	Fundamentals of Lights & Lasers	4
OTE 103	Laboratory Operations	3
OTE 104	Optics: Electronic Instrumentation	3
OTE 102	Intro to Manufacturing Technology (GDT/SPC/Print Reading/Lean)	3

Subtotal: 17

Second Semester

Students in the Optics Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them for the next group of classes.

OTE 101	Quality Assurance of Precision Optics	3
OTE 130	Metrology of Optical Systems	3
OTE 105	Fabrication Methods for Precision Optics	4
OTE 160	Advanced Topics in Optics & Photonics	3

Subtotal: 13

Total Credit Hours: 29-30

Precision Machining Technology Certificates

CNC MACHINING CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_CNCF

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

MY ACADEMIC PLAN

Program Mission & Description

Colorado companies have more high-salaried jobs for qualified machinists than they can readily fill. As a skilled machinist, you can work for a company serving the thriving aerospace, automotive, medical device or computer industry. You will set up, program and run high-tech machine tools, program parts on CAD/CAM software, figure out the most efficient way to make a part, and work in teams to solve factory and production problems. Later, you could move into management, open your own business, or study to become an engineer.

Machining could be the right career for you if:

- You like working with your hands
- You have the ability to think three-dimensionally
- You want great pay to support yourself and your family
- You enjoy creating things
- You like solving problems

Career Opportunities

A career in precision machining can open doors to many career paths. Many entry level machinists choose to spend their career making parts on Computer Numerical Control (CNC) machine tools, and as they gain experience the challenges of producing those parts in the most cost effective manner become more important. These machinists learn to program and operate more advanced machines making their position more valuable to the company and hence they are more in demand and command higher salaries.

Others, especially those working in larger companies, can become CNC programmers, quality control or manufacturing supervisors and other middle management positions. Still others become process engineers, either by earning a 4-year college degree or by gaining the necessary skills on the job. Finally, most machine shop business owners started their careers as CNC machine operators.

<https://www.frontrange.edu/programs-and-courses/academic-programs/machining>

Learn more about gainful employment (p. 254)

First Semester

Students in the Precision Machining Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them for the next group of classes. *Manual Machining must be completed before taking CNC Machining.*

MAC 201	Intro to CNC Turning Operations	3
MAC 205	Intro to CNC Milling Operations	3
MAC 202	CNC Turning Operations II	3
MAC 206	CNC Milling Operations II	3
MAC 240	CAD/CAM 2D	3

Subtotal: 15

Second Semester

Students in the Precision Machining Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them for the next group of classes. *Manual Machining must be completed before taking CNC Machining.*

MTE 130	Metrology	3
		Subtotal: 3

Total Credit Hours: 18

MANUAL MACHINING CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_MNMC

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Colorado companies have more high-salaried jobs for qualified machinists than they can readily fill. As a skilled machinist, you can work for a company serving the thriving aerospace, automotive, medical device or computer industry. You will set up, program and run high-tech machine tools, program parts on CAD/CAM software, figure out the most efficient way to make a part, and work in teams to solve factory and production problems. Later, you could move into management, open your own business, or study to become an engineer.

Machining could be the right career for you if:

- You like working with your hands
- You have the ability to think three-dimensionally
- You want great pay to support yourself and your family
- You enjoy creating things
- You like solving problems

Career Opportunities

A career in precision machining can open doors to many career paths. Many entry level machinists choose to spend their career making parts on Computer Numerical Control (CNC) machine tools, and as they gain experience the challenges of producing those parts in the most cost effective manner become more important. These machinists learn to program and operate more advanced machines making their position more valuable to the company and hence they are more in demand and command higher salaries.

Others, especially those working in larger companies, can become CNC programmers, quality control or manufacturing

supervisors and other middle management positions. Still others become process engineers, either by earning a 4-year college degree or by gaining the necessary skills on the job. Finally, most machine shop business owners started their careers as CNC machine operators.

<https://www.frontrange.edu/programs-and-courses/academic-programs/machining>

First Semester

Students in the Precision Machining Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them for the next group of classes. *Manual Machining must be completed before taking CNC Machining.*

MAC 100	Machine Shop Safety	1
MAC 101	Introduction to Machine Shop	3
MAC 102	Print Reading for Machinists	3
MAC 110	Introduction to Engine Lathe	3
MAC 120	Introduction to Milling Machine	3
MAT 108	Technical Mathematics	4

Subtotal: 16-18

Total Credit Hours: 16-18

PRECISION MACHINING TECHNOLOGY CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_PNMT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Colorado companies have more high-salaried jobs for qualified machinists than they can readily fill. As a skilled machinist, you can work for a company serving the thriving aerospace, automotive, medical device or computer industry. You will set up, program and run high-tech machine tools, program parts on CAD/CAM software, figure out the most efficient way to make a part, and work in teams to solve factory and production problems. Later, you could move into management, open your own business, or study to become an engineer.

Machining could be the right career for you if:

- You like working with your hands
- You have the ability to think three-dimensionally
- You want great pay to support yourself and your family
- You enjoy creating things
- You like solving problems

Career Opportunities

A career in precision machining can open doors to many career paths. Many entry level machinists choose to spend their career making parts on Computer Numerical Control (CNC) machine tools, and as they gain experience the challenges of producing those parts in the most cost effective manner become more important. These machinists learn to program and operate more advanced machines making their position more valuable to the company and hence they are more in demand and command higher salaries.

Others, especially those working in larger companies, can become CNC programmers, quality control or manufacturing supervisors and other middle management positions. Still others become process engineers, either by earning a 4-year college degree or by gaining the necessary skills on the job. Finally, most machine shop business owners started their careers as CNC machine operators.

<https://www.frontrange.edu/programs-and-courses/academic-programs/machining>

Learn more about gainful employment (p. 254)

First Semester

Students in the Precision Machining Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them for the next group of classes. *Manual Machining must be completed before taking CNC Machining.*

MAC 100	Machine Shop Safety	1
MAC 101	Introduction to Machine Shop	3
MAC 102	Print Reading for Machinists	3
MAC 110	Introduction to Engine Lathe	3
MAC 120	Introduction to Milling Machine	3
MAT 108	Technical Mathematics	4

Subtotal: 17

Second Semester

Students in the Precision Machining Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them for the next group of classes. *Manual Machining must be completed before taking CNC Machining.*

MAC 201	Intro to CNC Turning Operations	3
MAC 205	Intro to CNC Milling Operations	3
MAC 202	CNC Turning Operations II	3
MAC 206	CNC Milling Operations II	3

Subtotal: 12

Third Semester

Students in the Precision Machining Technology program enter as a cohort. All students must be full-time and register for all the program classes each semester. The classes in the first and second semesters are organized in 7.5 week blocks. The classes are scheduled sequentially with the competencies learned in each class building on the students' skills and preparing them

for the next group of classes. **Manual Machining must be completed before taking CNC Machining.**

MAC 240	CAD/CAM 2D	3
MTE 130	Metrology	3
Subtotal: 6		Total Credit Hours: 35

Welding Technology

WELDING TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_WTE

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program provides entry-level as well as upgrading skills in welding technology.

This program is offered on an open-entry basis: students may complete a Welding Fundamentals certificate, enter the workforce, and then return at any time to upgrade specific skills while pursuing advanced certificate offerings or an AAS degree.

Welding courses at FRCC Larimer Campus are hybrid welding classes. This includes hands-on shop time and online assignments and assessments.

AAS in Welding Technology (p. 235)

Learn more about gainful employment (p. 254)

Getting Into the Program

All courses applied to the degree or certificate must be completed with a grade of "C" or better. Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 (p. 310) or above and MAT 050 (p. 363) or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

New welding students may contact the welding program for advising in Little Bear Peak (LBP) at the Larimer campus, or call 970-204-8621.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- MTE	WEL 100 or MTE 105: _____	1
WEL 101	Allied Cutting Processes	4
WEL 103	Basic Shielded Metal Arc I	4

MTE- WEL	MTE 106 or WEL 106: _____	3-4
PHY 105	Conceptual Physics with Lab	4
Subtotal: 16-17		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL 125	Introduction to Gas Metal Arc Welding	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 104	Basic Shielded Metal Arc II	4
ENG- GEN	English: _____	3
Subtotal: 15		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion of this semester, you will earn your **Gas Metal Arc (MIG) Welding** certificate, **Gas Tungsten Arc (TIG) Welding** certificate, and **Shielded Metal Arc Welding** certificate.

WEL 225	Advanced Gas Metal Arc Welding	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
WEL 110	Advanced Shielded Metal Arc I	4
MAT- GEN	Mathematics: _____	3-5
Subtotal: 15-17		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Upon completion of this semester, you could earn a **Comprehensive Welding** certificate and **Pipe Code Welding** certificate.

ELC LST	Approved Elective Course: _____	3
WEL- ELC	Welding Elective Course: _____	4
COM- GEN	Communication: _____	3
WEL- ELC	Welding Elective Course: _____	4
Subtotal: 14		

Total Credit Hours: 60-63

Welding Certificates

COMPREHENSIVE WELDING CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_WTEC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program covers a broad spectrum of welding techniques, including cutting processes, shielded metal arc welding, gas tungsten arc welding, gas metal arc welding, blueprint reading and layout, and fabrication.

Career Opportunities

www.jobsinwelding.com

Certificate in Comprehensive Welding (p. 235)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You may choose to take the Code Welding electives. MTE 106 and WEL 106 are not required for students choosing the Code Welding path.

WEL- MTE	WEL 100 or MTE 105: _____	1
WEL 101	Allied Cutting Processes	4
WEL 103	Basic Shielded Metal Arc I	4
WEL 110	Advanced Shielded Metal Arc I	4
WEL 125	Introduction to Gas Metal Arc Welding	4
Subtotal: 17		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 104	Basic Shielded Metal Arc II	4
WEL 225	Advanced Gas Metal Arc Welding	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
Subtotal: 16		

Total Credit Hours: 33

CREATIVE METALWORKING CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_WEL1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program is for the artist in you. It combines art, drawing, sculpture, and computer-aided drafting with gas tungsten arc welding.

Career Opportunities

www.jobsinwelding.com

Certificate in Creative Metalworking (p. 236)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- MTE	Welding Course: _____	1
WEL 101	Allied Cutting Processes	4
ART- CAD	ART 131 or CAD 101: _____	3
Subtotal: 8		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- WEL	WEL 124 or WEL 125: _____	4
WEL 264	Creative Welding	4
Subtotal: 8		

Total Credit Hours: 16

GAS METAL ARC (MIG) WELDING CERTIFICATE

Locations: Brighton Center, Larimer Campus

Field Code: F_CER_WTEM

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program covers welding in all positions and on various joint configurations using gas metal arc welding process on various metals.

Career Opportunities

www.jobsinwelding.com

Certificate in Gas Metal Arc Welding (p. 236)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- REQ	Welding Course: _____	1
WEL 125	Introduction to Gas Metal Arc Welding	4
WEL 225	Advanced Gas Metal Arc Welding	4

Subtotal: 9 Total Credit Hours: 9

GAS TUNGSTEN ARC (TIG) WELDING CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_WTET

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This certificate program covers welding in all positions on various joint configurations using gas tungsten arc welding processes on various metals.

Career Opportunities

www.jobsinwelding.com

Gas Tungsten Arc (TIG) Certificate (p. 236)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- REQ	Welding Course: _____	1
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 224	Advanced Gas Tungsten Arc Welding	4

Subtotal: 9

Total Credit Hours: 9

OXYACETYLENE WELDING CERTIFICATE

Locations: Brighton Center, Larimer Campus

Field Code: F_CER_WTEO

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This certificate program covers welding and cutting using the Oxyacetylene process on low carbon steel.

Career Opportunities

www.jobsinwelding.com

Certificate in Oxyacetylene Welding (p. 236)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- REQ	Welding Course: _____	1
WEL 101	Allied Cutting Processes	4

Subtotal: 5

Total Credit Hours: 5

SHIELDED METAL ARC WELDING CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_WTES

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

This certificate program covers safety inspections, minor repairs, operating parameters, and operating shielded metal arc welding equipment using various electrodes.

Career Opportunities

www.jobsinwelding.com

Certificate in Shielded Metal Arc Welding (p. 236)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- REQ	Welding Course: _____	1
WEL 103	Basic Shielded Metal Arc I	4
WEL 104	Basic Shielded Metal Arc II	4

Subtotal: 9

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL 110	Advanced Shielded Metal Arc I	4
		Subtotal: 4

Total Credit Hours: 13

WELDING FUNDAMENTALS CERTIFICATE

Locations: Brighton Center, Larimer Campus

Field Code: F_CER_WTEF

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program provides an introduction to welding skills including: cutting, shielded metal arc welding, gas tungsten arc welding, and gas metal arc welding.

Career Opportunities

www.jobsinwelding.com

Certificate in Welding Fundamentals (p. 236)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

WEL- MTE	WEL 100 or MTE 105: _____	1
WEL- ELC	Welding Course: _____	4
WEL- ELC	Welding Course: _____	4
		Subtotal: 9

Total Credit Hours: 13

Math and Science

BIOLOGY ASSOCIATE OF SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_BIOD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

What does a Biologist do?

- Collects and analyzes biological data about relationships among and between organisms and their environment
 - Supervises biological technicians and technologists and other scientists
 - Programs and uses computers to store, process and analyze data
 - Prepares technical and research reports such as environmental impact reports, and communicates the results to individuals in industry, government, or the general public
 - Develops and maintains liaisons and effective working relations with groups and individuals, agencies, and the public to encourage cooperative management strategies or to develop information and interpret findings
 - Prepares requests for proposals or statements of work
 - Represents employer in a technical capacity at conferences
 - Studies and manages wild animal populations
 - Studies aquatic plants and animals and environmental conditions affecting them such as radioactivity or pollution
 - Studies basic principles of plant and animal life such as origin, relationship, development, anatomy, and function
- Learn more about gainful employment (p. 254)

Career Opportunities

A degree in Biology opens the door to careers as a:

- Doctor
- Researcher
- Teacher
- Occupational Therapist
- Physical Therapist

AS in Biology (p. 154)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should be MAT 201 and CHE 111 ready. If you are not prepared for MAT 201 or CHE 111, you should take the needed prerequisites, MAT 121, MAT 166 or CHE 101, in your first semester.

ENG- REQ	English: _____	3
BIO 111	General College Biology I with Lab	5
GT- AH	Arts & Humanities: _____	3
GT- SS	Social & Behavioral Sciences (GT-SS):	3

Subtotal: 14

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- REQ	English: _____	3
BIO 112	General College Biology II with Lab	5
CHE 111	General College Chemistry I with Lab	5
GT- HI1	History (GT-HI1): _____	3
Subtotal: 16		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SCI- ELC	Elective: _____	4-5
CHE 112	General College Chemistry II with Lab	5
PHY 111	Physics: Algebra-Based I with Lab	5
Subtotal: 14-15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

PHY 112	Physics: Algebra-Based II with Lab	5
MAT 201	Calculus I: MA1	5
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
GT- AH1	Arts & Humanities: _____	3
Subtotal: 16		

Total Credit Hours: 60-61

CHEMISTRY ASSOCIATE OF SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_CHED

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

The Chemistry program provides quality education in the study of chemical theories and applications through the traditional classroom setting with some courses offered in hybrid or online learning environments.

This program might be for you if you:

- enjoy searching for the answer to why
- enjoy collecting and analyzing information (data)
- find science topics in the news interesting and would like to learn more
- are comfortable with applying your mathematical skills

There are thousands of questions and concerns raised everyday about our health, technology, and environment. Chemistry touches on these. Just as you might take a course to improve computer skills, chemistry classes allow you to better understand research and the basics behind these topics. A.S. coursework covers the science and mathematics subjects needed to transfer to a four-year institution. In addition, with the designation in chemistry you will be taking chemistry courses (4) that will transfer over to most four-year institutions in Colorado with junior status.

Learn more about gainful employment (p. 254)

Getting into the Program**Application Process and Admission Requirements**

Students who are ready to start the DWD program have taken an introductory chemistry course (which may be at a rigorous high school level) and have completed college algebra in their educational background. Students who have not completed these courses, will need to take additional prerequisite courses which will not count for credit for the DWD and will add to the 60 credits of course work.

MY ACADEMIC PLAN**Career Opportunities**

A degree in Chemistry opens the door to careers as:

- Medical professions including medical doctor, dentist, pharmacist, or chiropractor
- Environmental, chemical, or quality control laboratory technician

- Research fields such as chemical, environmental, or medical researcher

- Education including secondary science teacher

- Technical writer

- Science policy or social impact positions, and more

AS in Chemistry (p. 155)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Your chemistry and mathematics courses carry heavy workloads.

CHE 111	General College Chemistry I with Lab	5
MAT 201	Calculus I: MA1	5
ENG 121	English Composition I	3
GT- AH	Arts & Humanities: _____	3
Subtotal: 16		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Your chemistry and mathematics courses carry heavy workloads.

CHE 112	General College Chemistry II with Lab	5
MAT 202	Calculus II: MA1	5
ENG 122	English Composition II	3
GT- HI1	History (GT-HI1): _____	3
Subtotal: 16		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Your chemistry, physics, and mathematics courses carry heavy workloads.

CHE 211	Organic Chemistry I with Lab	5
PHY 211	Physics: Calculus-Based I with Lab	5
MAT- REQ	MAT 203 or MAT 204: _____	4-5
Subtotal: 14-15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

CHE 212	Organic Chemistry II with Lab	5
PHY 212	Physics: Calculus-Based II with Lab	5
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LST	Elective: _____	1
Subtotal: 14		

Total Credit Hours: 60-61

FERMENTATION SCIENCES ASSOCIATE OF SCIENCE

Locations: Boulder County Campus

Field Code: F_AS_AS_FERD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Mission & Description**

Front Range Community College's Boulder County campus offers a path to the vibrant beer brewing and fermented foods industries. Colorado ranks 3rd by the Brewer's Association in the number of craft breweries per capita and 1st on the economic impact per capita of all 50 states. By following the Fermentation Science MAP, you can earn an Associate of Science (A.S.) degree with a Fermentation Sciences designation at FRCC. The AS will transfer, as a junior, to Colorado State University's Fermentation Science B.S. degree program. Or, by completing the Transfer Agreement courses in Fermentation Science, you can move on to complete a B.S. degree in Brewery Operations at Metropolitan State University in Denver.

Learn more about gainful employment (p. 254)

Getting into the Program**Application Process and Admission Requirements**

It is suggested that students have college level reading (or have passed CCR 092 or CCR 093 or CCR 094) and math levels (or have passed MAT 055) before starting the Fermentation Science program.

Career Opportunities

A degree in Fermentation Sciences opens the door to careers in:

- Beer Brewing Production
- Wine Production
- Distillation Technologies
- Food and Beverage Processing

AS in Fermentation Sciences (p. 156)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
BIO 111	General College Biology I with Lab	5
FER 101	Craft Beer Brewing	4
MAT 121	College Algebra	4

Subtotal: 16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
CHE 101	Introduction to Chemistry I with Lab	5
FER- INT	Fermentation Sciences: _____	1
CIS- REQ	Computer Information Systems: _____	3
GT- HI1	History (GT-HI1): _____	3

Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SOC 101	Introduction to Sociology I	3
BIO 208	General College Microbiology with Lab	5
GT- AH	Arts & Humanities: _____	3
COM 115	Public Speaking	3
Subtotal:		14

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHY 111	Physics: Algebra-Based I with Lab	5
FER- REQ	Fermentation Sciences: _____	4
GT- AH	Arts & Humanities: _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
Subtotal:		15

Total Credit Hours: 60

Forestry Wildlife Natural Resources

NATURAL RESOURCES ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_FWN1

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program prepares students for a wide range of careers in natural resources. Students gain practical skills in forestry, wildlife, aquaculture, fisheries, wildland fire, and the computer analysis of natural resources. Students participate in community natural resources projects.

Forestry and Natural Resources Degrees

Natural Resources Technology AAS Degree Required Courses (p. 190)

Gain Field Experience:

This program offers students a variety of opportunities to apply classroom knowledge in the field. Students participate in field experiences at the following locations:

- **Red Feather Lakes 100-acre school forest** – Students do timber cruising, soil studies, and snowshoe hare counts for the Colorado lynx reintroduction project.

- **Wellington State Wildlife area**-- Students conduct wildlife habitat management research

- **Horsetooth Mountain Park** – Our Forestry Field Research class is taught at Horsetooth Mountain Park, where students work in 10 study plots, doing everything from deer pellet counts to entomology to studying forest management practices. The course includes sawyer training for forest management and connects students to wildland firefighting opportunities.

Unique Program Opportunities:

Other interesting opportunities available to Forestry, Wildlife, and Natural Resources students include:

- **GIS Tree Inventory** - Combine field observation skills with Geographic Information Systems (GIS) tools to support an inventory of every tree on the Larimer Campus. Students in Natural Resources GIS classes over the years will return to the field to measure and track the trees and load new information into the GIS program. Students in other disciplines also will participate to highlight certain trees through photography, art or a write-up on their history.

- **Honors Introduction to Forestry** – Students can take NRE 100 as an embedded honors course. The honors option requires students to conduct mountain lion research and verbenone flake research on the mountain pine beetle. Learn more about the Larimer Campus Honors Program.

- **Red Card certification** – Students can earn a Red Card qualification card through FRCC’s collaboration with Larimer County Emergency Services. Red Card holders may be dispatched to fight wildfires.

- **Society of American Foresters** – This award-winning student group offers community involvement opportunities, a fishing derby, wildlife habitat projects, and much more.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 100	Foundations of Forestry	3
NRE 205	Wildlife and Fisheries Management Principles	3
MAT- GEN	Mathematics: _____	3-4
ENG- GEN	English: _____	3
NRE- EL2	Natural Resources Elective: _____	1-2

Subtotal: 13-15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 101	Introduction to Geographic Information Systems	3
SCI GEN	Science: _____	4-5
ELC- LST	Approved Elective List: _____	3
NRE- EL1	Natural Resources	3
	Elective: _____	
NRE- EL1	Natural Resources	3
	Elective: _____	
Subtotal: 16-17		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 204	Range Management and Restoration	4
NRE- EL1	Natural Resources	3
	Elective: _____	
NRE- EL1	Natural Resources	3
	Elective: _____	
NRE- EL1	Natural Resources	3
	Elective: _____	
NRE- EL1	Natural Resources	3
	Elective: _____	
Subtotal: 16		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should have **no less than 60 credits**. You should **not exceed 62 credits**. You may want to check with your advisor to monitor your completion progress.

ELC- LST	Approved Elective List: _____	3
NRE- ELC	Natural Resources	4-5
	Elective: _____	
NRE- EL1	Natural Resources	3
	Elective: _____	
NRE- EL1	Natural Resources	3
	Elective: _____	
Subtotal: 13-14		

Total Credit Hours: 60-62

FORESTRY TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_FRTC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program prepares students for a career as a forestry technician. Students gain practical skills in forestry, wildland fire, natural resource management and the computer analysis of natural resources. Students participate in community natural resources projects.

Forestry and Natural Resources Degrees

Forestry Technology AAS Degree Required Courses (p. 191)

Gain Field Experience:

This program offers students a variety of opportunities to apply classroom knowledge in the field. Students participate in field experiences at the following locations:

- **Red Feather Lakes 100-Acre School Forest** – Students do timber cruising, soil studies, and snowshoe hare counts for the Colorado lynx reintroduction project.
- **Swift Ponds**—Students conduct wildlife habitat management and fisheries research at Swift Ponds, a 240-acre property in Fort Collins operated by Colorado Youth Outdoors.
- **Horsetooth Mountain Park** – Our Forestry Field Research class is taught at Horsetooth Mountain Park, where students work in 10 study plots, doing everything from deer pellet counts to entomology to studying forest management practices. The course includes sawyer training for forest management and connects students to wildland firefighting opportunities.

Unique Program Opportunities:

Other interesting opportunities available to Forestry, Wildlife, and Natural Resources students include:

- **GIS Tree Inventory** - Combine field observation skills with Geographic Information Systems (GIS) tools to support an inventory of every tree on the Larimer Campus. Students in Natural Resources GIS classes over the years will return to the field to measure and track the trees and load new information into the GIS program. Students in other disciplines also will participate to highlight certain trees through photography, art or a write-up on their history.
- **Honors - Introduction to Forestry** – Students can take NRE 100 (p. 374) as an embedded honors course. The honors option requires students to conduct mountain lion research and verbenone flake research on the mountain pine beetle. Learn more about the Larimer Campus Honors Program.
- **Red Card Certification** – Students can earn a Red Card qualification card through FRCC’s collaboration with Larimer County Emergency Services. Red Card holders may be dispatched to fight wildfires.
- **Society of American Foresters** – This award-winning student group offers community involvement opportunities, a fishing derby, wildlife habitat projects, and much more.

Learn more about gainful employment

(p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 100	Foundations of Forestry	3
MAT- GEN	Mathematics: _____	3-4
GIS 101	Introduction to Geographic Information Systems	3
ENG- GEN	English: _____	3
ELC- LST	Approved Elective List: _____	3
Subtotal: 15-16		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 205	Wildlife and Fisheries Management Principles	3
NRE 215	Fire Ecology	3
BIO 221	Botany with Lab	5
NRE- EL1	Natural Resources Elective: _____	3
Subtotal: 14		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 110	Forestry Field Research	3
ELC- LST	Approved Elective List: _____	3
GIS 212	GIS Remote Sensing - Digital Image	4
HLT 211	Arboriculture	3
NRE- EL2	Natural Resources Elective: _____	1-2
Subtotal: 14-15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You must take a minimum of 60 credits. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

HLT 240	Introductory Soil Science	4
NRE 121	Introduction to Hydrology	3
NRE 220	Forest Harvesting	2
NRE 280	Internship	3*
NRE- ELC	Natural Resources Elective: _____	4-5
Subtotal: 16-17		

Total Credit Hours: 60-62

WILDLIFE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_WITC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to

finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This program prepares students for a career as a wildlife technician. Students gain practical skills in wildlife, aquaculture, fisheries, natural resource management and the computer analysis of natural resources. Students participate in community natural resources projects. The Associate of Applied Science degree in Wildlife Technology at Front Range Community College has received a three-year accreditation from the North American Wildlife Technology Association (NAWTA).

Forestry and Natural Resources Degrees

Wildlife Technology AAS Degree Required Courses (p. 190)

Gain Field Experience:

This program offers students a variety of opportunities to apply classroom knowledge in the field. Students participate in field experiences at the following locations:

- **Red Feather Lakes 100-Acre School Forest** – Students do timber cruising, soil studies, and snowshoe hare counts for the Colorado lynx reintroduction project.
- **Wellington State Wildlife Area**-- Students conduct wildlife habitat management research
- **Bellevue Watson State Fish Hatchery** – Students experience the operations of a fish hatchery with a variety of hands on labs.

Unique Program Opportunities:

Other interesting opportunities available to Forestry, Wildlife, and Natural Resources students include:

- **GIS Tree Inventory** - Combine field observation skills with Geographic Information Systems (GIS) tools to support an inventory of every tree on the Larimer Campus. Students in Natural Resources GIS classes over the years will return to the field to measure and track the trees and load new information into the GIS program. Students in other disciplines also will participate to highlight certain trees through photography, art or a write-up on their history.
- **Honors - Principles of Wildlife & Fisheries Management** – Students can take NRE 205 (p. 374) as an embedded honors course. The honors option requires students to conduct mountain lion research or other topics of concern. Learn more about the Larimer Campus Honors Program.
- **Red Card Certification** – Students can earn a Red Card qualification card through FRCC’s collaboration with Larimer County Emergency Services. Red Card holders may be dispatched to fight wildfires.
- **Society of American Foresters** – This award-winning student group offers community involvement opportunities, a fishing derby, wildlife habitat projects, and much more.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 205	Wildlife and Fisheries Management Principles	3
MAT- GEN	Mathematics: _____	3-4
GIS 101	Introduction to Geographic Information Systems	3
NRE- EL1	Natural Resources Elective: _____	3
ELC- LST	Approved Elective List: _____	3
Subtotal: 15-16		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 230	Wildlife Law Enforcement	3
NRE 100	Foundations of Forestry	3
NRE- REQ	NRE 114 or NRE 230: _____	3-4
ENG- GEN	English: _____	3
NRE- EL1	Natural Resources Elective: _____	3
Subtotal: 15-16		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BIO 111	General College Biology I with Lab	5
NRE 245	Avian Conservation/Ornithology	3
NRE- EL2	Natural Resources Elective: _____	4-5
NRE- ELC	Natural Resources Elective: _____	1-2
Subtotal: 14-15		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

BIO 112	General College Biology II with Lab	5
AQT 102	Fish Biology and Ichthyology	5
ELC- LST	Approved Elective List: _____	3
NRE 280	Internship	3*
Subtotal: 16		

Total Credit Hours: 60-62

Forestry Wildlife and Natural Resources Certificates

NATURAL RESOURCES CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_NRT3

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills. This certificate program builds on the Forestry certificate and covers theory, philosophy, and applications for study and management of wildlife and fisheries resources. Field and laboratory methods are introduced. This certificate can be completed in one semester if taken in the Fall semester.

Forestry and Natural Resources Degrees

Natural Resources Certificate Required Courses (p. 192)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 101	Introduction to Geographic Information Systems	3
NRE 100	Foundations of Forestry	3
NRE 205	Wildlife and Fisheries Management Principles	3
NRE 204	Range Management and Restoration	4
NRE- EL2	Natural Resources Elective: _____	1-2
Subtotal: 14-19		

Total Credit Hours: 16

NATURAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS GIS CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_FWNG

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills. This certificate program introduces students to basic and advanced analytical tools as they develop skills in spatial problem solving.

Forestry and Natural Resources Degrees

Natural Resources Geographic Information Systems (GIS) Certificate Required Courses (p. 193)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 101	Introduction to Geographic Information Systems	3
NRE- EL2	Natural Resources Elective: _____	1-2
		Subtotal: 5-6

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS- REQ	GIS210 or GIS212: _____	3-4
		Subtotal: 3-4

Total Credit Hours: 8-10

NATURAL RESOURCES RECREATION CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_NRR

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills. This certificate program combines lecture and practical outdoor experiences relating to problems and trends in outdoor recreation.

Forestry and Natural Resources Degrees

Natural Resources Recreation Certificate Required Courses (p. 193)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

REC 210	Principles of Outdoor Recreation	3
NRE 265	Wilderness Education	3
NRE- ELC	Natural Resources Elective: _____	1-6
		Subtotal: 9

Total Credit Hours: 9

ENVIRONMENTAL EDUCATION CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_EED1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills. This certificate program introduces students to the history, legislation, principles, and goals of environmental literacy and education.

Forestry and Natural Resources Degrees

Environmental Education Certificate Required Courses (p. 193)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 225	Environmental Education	3
NRE- EL2	Natural Resources Elective: _____	1-2
NRE- REQ	NRE100 or NRE205: _____	3
		Subtotal: 9

Total Credit Hours: 9

FORESTRY CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_FWNI

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN**Program Description**

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills. This certificate program introduces students to the principles of forest science, dendrology, forest fire behavior, silviculture principles, and research techniques.

Forestry and Natural Resources Degrees
 Forestry Certificate Required Courses (p. 192)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 100	Foundations of Forestry	3
		Subtotal: 3

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

NRE 110	Forestry Field Research	3
NRE- ELC	Natural Resources	4-5
Elective: _____		
		Subtotal: 6

Total Credit Hours: 9

WILDLAND FIRE CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_FWNW

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills. This certificate program provides instruction on environmental factors that affect the start and spread of wildfire and recognition of potentially hazardous situations. Entry-level wildland firefighter skills are taught. Successful completion of this certificate can lead to a "Red Card," the Interagency Incident Qualification Card to work as a wildland firefighter.

Forestry and Natural Resources Degrees

Wildland Fire Certificate Required Courses (p. 193)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

FSW 100	S-190 Introduction to Wildland Fire	1
FSW 101	S-130 Firefighting Training	2
NRE 215	Fire Ecology	3

NRE- EL1	Natural Resources	1-6
Elective: _____		

Subtotal: 9

Total Credit Hours: 9

WILDLIFE CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_FWND

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills. This certificate program covers theory, philosophy, and applications for the study and management of wildlife and fisheries resources.

Forestry and Natural Resources Degrees

Natural Resources Wildlife Certificate Required Courses (p. 192)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. This Certificate can be spread out over multiple semesters or completed in one semester in Spring. Total number of semester/certificate credits vary depending on chosen elective.

NRE 205	Wildlife and Fisheries Management Principles	3
NRE- REQ	NRE 114 or NRE 230: _____	3-4

Subtotal: 9

Total Credit Hours: 9

Geographic Information Systems

GEOSPATIAL SCIENCE ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus

Field Code: F_AAS_GEO3

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This two-year degree prepares you to work in high-tech fields, including photogrammetry, cartography, geographical information systems, global positioning systems, and satellite remote sensing. Students learn how to: acquire geospatial information from a variety of sources, interpret, use and manage geospatial data for a given purpose, and how to use geographic information system software for storage, manipulation, and analysis of geospatial data.

Learn more about gainful employment (p. 254)

Career Opportunities

According to the U.S. Bureau of Labor Statistics, jobs for individuals with geospatial technology skills are expected to grow 10 to 20 percent over the next decade. It is a high-technology field with the significant job growth occurring in both the public and private sectors. Career areas include photogrammetry, cartography, geographical information systems, global positioning systems, and satellite remote sensing.

Upon completion of an Associate of Applied Science degree in Geospatial Science, a graduate will be able to:

- Acquire geospatial information from a variety of sources.
- Use, combine, and manage geospatial data for a given purpose.
- Interpret and analyze geospatial information.
- Use geographic information system software for storage, manipulation, and analysis of geospatial data.

For more information about employment and career pathways: <https://www.frontrange.edu/programs-and-courses/a-z-program-list/geographic-information-systems-gis>

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
GIS 150	Relational Database Management Systems for GIS	3
BUS 217	Business Communication and Report Writing	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 131	Global Positioning Systems for Global Information Systems	3
GIS 210	Intermediate Geographic Information Systems	3
MAT- REQ	Mathematics Requirement:	3-4

GIS 212	GIS Remote Sensing - Digital Image	4
COM 220	Intercultural Communication	3

Subtotal: 16-17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 165	Project Management	3
GIS 260	GIS Survey I	3
MAN 225	Managerial Finance	3
GIS 211	Spatial Data Modeling and Analysis	4
MAN 216	Small Business Management	3

Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 261	GIS Survey II	3
GIS 205	Applications	3
GIS- REQ	Geospatial Science Requirement: _____	4
INT- CAP	Select a GIS Internship or Capstone: _____	3

Subtotal: 13

Total Credit Hours: 60-61

FOUNDATIONS OF GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_GEO5

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

The Foundations of GIS certificate provides an introduction to the field of Geographic Information Systems and Geospatial Science. It is a stackable certificate that can be completed while working toward the completion of the GIS certificate.

Career Opportunities

Students looking at careers in GIS should continue their education completing the GIS certificate and/or the Geospatial AAS Degree. Students should possess mathematical, analytical, and spatial reasoning skills and should be comfortable using technology before starting the GIS program. Students who do not have fundamental mathematics skills may need to complete college preparatory mathematics courses.

For more information about employment and career pathways:
<https://www.frontrange.edu/programs-and-courses/a-z-program-list/geographic-information-systems-gis>

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
		Subtotal: 6

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 131	Global Positioning Systems for Global Information Systems	3
GIS 150	Relational Database Management Systems for GIS	3
		Subtotal: 6

Total Credit Hours: 12

GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_GEO6

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate provides career opportunities in the expanding field of geographic information systems. Students receive both the necessary theoretical background and practical experience.

Learn more about gainful employment (p. 254)

Career Opportunities

According to the U.S. Bureau of Labor Statistics, jobs for individuals with geospatial technology skills are expected to grow 10 to 20 percent over the next decade. It is a high-technology field with the significant job growth occurring in both the public and private sectors. Career areas include photogrammetry, cartography, geographical information systems, global positioning systems, and satellite remote sensing.

For more information about employment and career pathways:
<https://www.frontrange.edu/programs-and-courses/a-z-program-list/geographic-information-systems-gis>

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
GIS 150	Relational Database Management Systems for GIS	3
		Subtotal: 9

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 131	Global Positioning Systems for Global Information Systems	3
GIS 165	Project Management	3
GIS 205	Applications	3
GIS 210	Intermediate Geographic Information Systems	3
		Subtotal: 12

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GIS 211	Spatial Data Modeling and Analysis	4
GIS 212	GIS Remote Sensing - Digital Image	4
		Subtotal: 8

Total Credit Hours: 29

GEOLOGY ASSOCIATE OF SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_GEOL

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The degree track Geology with Secondary Teaching Licensure has different requirements and is not included in this agreement.

Please refer to this agreement’s cover page for the name of the Bachelor’s degree at the four-year institution to which this agreement applies.

Transfer Degree:

With this degree you can enter as a junior majoring in Geology at the following four-year schools:

- Adams State University
- Colorado Mesa University
- Colorado State University
- Fort Lewis College
- University of Colorado-Boulder
- University of Northern Colorado
- Western State Colorado University

Be sure to talk with an advisor when selecting your courses to ensure you will complete your degree on time with the classes you need.

AS Geology Degree

AS Geology Degree Required Courses

Learn more about gainful employment

Career Opportunities

A degree in Geology opens the door to careers such as: Agronomy, Natural Resources, Wildlife Management, Forestry, Urban Planning, Site Location for Oil and Gas Companies, Oceanography, GIS, and Teaching.

Paid Internship Opportunity:

Geo-Launchpad is a paid summer research internship open to all community college students. It is dedicated to increasing the diversity of students in the geosciences, and develops research-ready skills for a career path in science, engineering, or technology. This eight week program takes place at UNAVCO located in Boulder, CO from early June to late July. If needed, housing and a bus pass are provided to those who are accepted. Learn more.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
CHE 111	General College Chemistry I with Lab	5
MAT 201	Calculus I: MA1	5
ELC- LST1	Approved Elective List: _____	1
		Subtotal: 14

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GT- AH	Arts & Humanities (GT-AH): _____	3
ENG 122	English Composition II	3
CHE 112	General College Chemistry II with Lab	5
MAT 202	Calculus II: MA1	5
		Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GEY 111	Physical Geology with Lab	4
PHY 211	Physics: Calculus-Based I with Lab	5
GT- HI1	History (GT-HI1): _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
		Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GEY 112	Historical Geology with Lab	4
PHY 212	Physics: Calculus-Based II with Lab	5
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3
		Subtotal: 15

Total Credit Hours: 60

Horticulture and Landscape Technologies

HORTICULTURE & LANDSCAPE TECHNOLOGIES ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_HLT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program prepares students for a wide range of careers in landscape contracting, ornamental horticulture, and urban farming. Students who plan to seek a baccalaureate degree at Colorado State University should complete either the **Associate of Science in Horticulture Business Management** or the **Associate of Science in Environmental Horticulture – Landscape Business**.

To earn the Horticulture and Landscape Technologies AAS degree students must complete:

- A series of general education courses (communications, natural and physical sciences, social and behavior sciences, business management, and computer technology)
- The Floral Design Certificate or the Horticulture Certificate
- And 20 additional credits of approved electives. Specialty certificates offered by this program may be used to fulfill this requirement. They also provide entry-level career preparation or allow individuals already working in the horticulture industry to upgrade or expand their skill sets.

To earn the Floral Design Certificate, students must complete:

- Introductory Floral Design (FLD 100)
 - Advanced Floral Design (FLD 200)
 - Capstone (FLD 289)
 - Internship (HLT 280) or Cooperative education (HLT 287)
 - Annuals, Bulbs, and Grasses (HLT 223) or Interior Plants (HLT 226)
 - And three credits of approved mathematics
- Floral design courses should be taken in numerical order. HLT 280/HLT 287 may be taken concurrently with, just before, or just after FLD 289. HLT 223 and HLT 226 can be taken at any time.

To earn the Horticulture Certificate, students must complete:

- Introduction to Horticulture (HLT 101)
 - Introductory Soil Science (HLT 240)
 - Three credits of approved mathematics
 - Seven credits of coursework with an HLT or FLD prefix
- Horticulture & Landscape Design Degrees and Certificates
Horticulture and Landscape Technologies AAS Degree Required Courses (p. 198)

Using the other Horticulture program certificates and elective coursework to your advantage:

- To earn the Horticulture and Landscape Technologies AAS you must complete 20 credits of approved electives.
- We recommend you fulfill this requirement by completing a “specialty” certificate offered by this program plus one or two additional HLT or FLD prefixed courses. See pages 105-109 in the 2017-18 Catalog for a listing of specialty certificates. You can though simply complete an additional 20 credits of approved coursework.

- This program allows students who are transferring credits from another college into our program to apply specific non-HLT coursework towards these elective credits. See your advisor for the list of non-HLT courses that may be applied to this degree.

Students planning to transfer to Colorado State University:

- Students planning to complete a baccalaureate degree in Horticulture with a concentration in Horticulture Business at Colorado State University are encouraged to enroll in the Horticulture Business A.S. program at FRCC. This program of study is outlined by the Statewide Horticulture Business Management articulation agreement which can be found at: <http://highered.colorado.gov/Academics/Transfers/Agreements/horticulture.pdf>
- Students planning to complete a baccalaureate degree in Environmental Horticulture with a concentration in Landscape

Business at Colorado State University are encouraged to enroll in the Environmental Horticulture – Landscape Business A.S. program at FRCC. This program of study is outlined by the Statewide Horticulture Business Management articulation agreement which can be found at:

http://highered.colorado.gov/Academics/Transfers/Agreements/STAA_ENVIRON_HORTICULTURE_Landscape_Business_FINAL.pdf

- Students completing either the Horticulture Business A.S. degree or the Environmental Horticulture – Landscape Business A.S. degree will automatically complete the Horticulture Certificate at FRCC.

Horticulture & Landscape Design Degrees and Certificates

Horticulture and Landscape Technologies AAS Degree Required Courses (p. 198)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. FLD 100 is offered only in the **Fall at LC**. FLD 100 is **not offered at WC**. This program requires students to **complete two computer courses** (6 credits total).

CIS- REQ	Computer Technology course: _____	3
MAT- GEN	Mathematics: _____	3-4
SCI- GEN	Natural & Physical Sciences: _____	4-5
FLD- HLT	FLD 100 or HLT 101: _____	3-4
HLT- ELC	Horticulture Elective: _____	2

Subtotal: 15-18

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

COM- GEN	Communication: _____	3
ECO- REQ	Economics: _____	3
FLD- HL1	FLD or HLT 240: _____	4-5
FLD- HL2	FLD 289 or HLT: _____	2-4
SPA- GEN	Spanish: _____	3

Subtotal: 15-18

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BUS- MAN	BUS or MAN: _____	3
HLT- ELC	Horticulture Elective: _____	2
HLT- EL1	Horticulture Elective: _____	3
HLT- EL1	Horticulture Elective: _____	3
HLT- EL2	Horticulture Elective: _____	4

Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as

many courses in this sequence as your schedule allows. Semester elective credits may vary depending on semester completions. You should have a minimum of 60 credits and not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

CIS- REQ	Computer Technology course: _____	3
HLT- EL2	Horticulture Elective: _____	4
HLT- EL2	Horticulture Elective: _____	4
HLT- EL2	Horticulture Elective: _____	4
		Subtotal: 15

Total Credit Hours: 60-62

HORTICULTURE BUSINESS MANAGEMENT ASSOCIATE OF SCIENCE

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_HBMD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This A.S. degree prepares you to transfer to Colorado State University to pursue a B.S. degree in Horticulture with a Horticulture Business Management concentration. Your B.S. degree can be completed at CSU's Fort Collins campus or online.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CIS 118	Introduction to PC Applications	3
MAT 121	College Algebra	4
BIO 221	Botany with Lab	5
GT- HI1	History (GT-HI1): _____	3
		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
ECO 202	Principles of Microeconomics	3
HLT 101	Introduction to Horticulture	4
GT- AH	Arts & Humanities (GT-AH): _____	3
HLT- ELC	Horticulture Elective: _____	3

Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECO 201	Principles of Macroeconomics	3
HLT 260	Plant Propagation	4
ENG 122	English Composition II	3
SCI- GEN	Natural & Physical Sciences: _____	5

Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

BUS- MAT	BUS or MAT: _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3
HLT 240	Introductory Soil Science	4
HLT- EL1	Horticulture Elective: _____	4

Subtotal: 14

Total Credit Hours: 60

ENVIRONMENTAL HORTICULTURE - LANDSCAPE BUSINESS ASSOCIATE OF SCIENCE

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_EHLD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This A.S. degree prepares you to transfer to Colorado State University in Fort Collins to pursue a B.S. degree in Environmental Horticulture with a Landscape Business Management concentration. Your B.S. degree can be completed at CSU's Fort Collins campus or online.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

BIO 221	Botany with Lab	5
CIS 118	Introduction to PC Applications	3
MAT 166	Pre-Calculus	5
HLT- ELC	Horticulture Required: _____	3
		Subtotal: 16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
ECO 202	Principles of Microeconomics	3
HLT 101	Introduction to Horticulture	4
GT- AH	Arts & Humanities (GT-AH): _____	3
HLT- ELC	Horticulture Required: _____	3
		Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECO 201	Principles of Macroeconomics	3
ENG 122	English Composition II	3
HLT 202	Plant Health Care	4
SCI- GEN	Natural & Physical Sciences: _____	5
		Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Semester required credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

HLT 240	Introductory Soil Science	4
GT- HI1	History (GT-HI1): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3
HLT- ELC	Horticulture Required: _____	3
		Subtotal: 13

Total Credit Hours: 60

Horticulture and Landscape Technologies Certificates

FLORAL DESIGN CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HL1A

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program prepares you to work in or own a floral business. In addition to learning about floral design, students will learn about flower shop management and flower care for tropical and indoor plants.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

FLD 100	Introductory Floral Design	3
MAT- GEN	Mathematics: _____	3-4
HLT- HLT	HLT 223 or HLT 226: _____	2
		Subtotal: 8-9

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

FLD 200	Advanced Floral Design	3
FLD 289	Capstone	4
INT- COO	HLT 280 or HLT 287: _____	3
		Subtotal: 10

Total Credit Hours: 18-19

HORTICULTURE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HRTC

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This basic certificate provides students with a basic understanding of horticulture and soils. The elective courses in this certificate allows students with unique career goals to design their own program with faculty guidance.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 101	Introduction to Horticulture	4
MAT- GEN	Mathematics:_____	3-5
HLT- FLD	HLT or FLD Elective:_____	2-3

Subtotal: 9-12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 240	Introductory Soil Science	4
HLT- FL1	HLT or FLD Elective:_____	4-5

Subtotal: 8-9

Total Credit Hours: 18-19

IRRIGATION CONTRACTING & MANAGEMENT CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HL2A

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate builds on the Irrigation Technician certificate with additional instruction in sprinkler design and sustainable landscaping.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 150	Irrigation I	3
HLT 151	Irrigation II	3
HLT- REQ	Select HLT 132 or HLT 210:_____	3-4

Subtotal: 9-10

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT- REQ	Select HLT 132 or HLT 210:_____	3-4
HLT 250	Irrigation III: Design	2
INT- COO	HLT 280 or HLT 287:_____	3

Subtotal: 8-9

Total Credit Hours: 18

IRRIGATION TECHNICIAN CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HL2B

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate prepares you for entry-level employment with basic instruction in landscape irrigation and maintenance. Credits earned may be applied to the Irrigation Contracting & Management certificate.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 150	Irrigation I	3
HLT 151	Irrigation II	3

Subtotal: 6

Total Credit Hours: 6

LANDSCAPE CONTRACTING TECHNICIAN CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HLCT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program prepares you to work in or own a landscape construction company. Students learn how to bid landscape work and how to install retaining walls, decks, paver patios, landscape drainage, and lighting equipment. This program also

Covers woody plant identification and basic irrigation installation.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 150	Irrigation I	3
HLT 236	Landscape Construction	4
HLT 222	Woody Plants: Shrubs and Vines	3
		Subtotal: 10

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 221	Woody Plants: Trees and Conifers	3
HLT 237	Landscape Bidding and Estimating	2
INT- COO	HLT 280 or HLT 287: _____	3
		Subtotal: 8

Total Credit Hours: 18

LANDSCAPE DESIGN CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_LSPD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program prepares students to work as landscape design assistants. It emphasizes graphic communications and the landscape design process with a focus on residential and small scale design. It also serves as an introduction to the discipline of landscape design for those interested in starting their own landscape design-build firm.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 130	Landscape Design I	3
HLT 132	Sustainable Landscaping	3
CAD 101	Computer-Aided Drafting/2D I	3
		Subtotal: 9

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 230	Landscape Design II	3
INT- COO	HLT 280 or HLT 287: _____	3
		Subtotal: 6

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 232	Landscape Design III	3
		Subtotal: 3

Total Credit Hours: 18

LANDSCAPE MAINTENANCE TECHNICIAN CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HLT3

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program prepares you to work for landscape maintenance companies. Students learn essential landscape management skills such as plant identification, irrigation, fertilization, and turf care. You can choose to complete this certificate with a plant health care or an irrigation emphasis.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 210	Landscape Management	4
HLT- HLT	HLT 150 or HLT 202: _____	3-4
HLT- REQ	Horticulture	3
	Requirement: _____	
		Subtotal: 10-11

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 223	Annuals, Bulbs, and Grasses	2
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HLT- HLT	HLT 150 or HLT 202: _____	3-4
INT- COO	HLT 280 or HLT 287: _____	3
		Subtotal: 7-8

Total Credit Hours: 18

NURSERY, GREENHOUSE AND GARDEN CENTER MANAGEMENT CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HNGG

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

In this program students learn the skills necessary to work in a garden center, greenhouse or nursery. It emphasizes plant identification, propagation, and plant health. Business management concepts are also covered.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT- ELC	Horticulture Elective: _____	2-4
HLT- RE1	Select HLT 202 or HLT 260: _____	4
		Subtotal: 6-8

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT- REQ	Select HLT 160 or HLT 165: _____	4
HLT- ELC	Horticulture Elective: _____	2-4
INT- COO	HLT 280 or HLT 287: _____	3
		Subtotal: 9-11

Total Credit Hours: 17

TURFGRASS MANAGEMENT CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_HLTG

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you

can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program prepares students to work in commercial or residential lawn care or in the specialized fields of golf course turf management or sports turf management. Topics covered include turf identification, integrated pest management, plant and soil science, application of commercial fertilizers and pesticides, and drainage systems.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 210	Landscape Management	4
HLT 242	Turfgrass Management	4
HLT- HLT	HLT 150 or HLT 202: _____	3-4
		Subtotal: 11-12

Subtotal: 11-12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT- HL1	HLT 151 or HLT 208: _____	2-3
INT- COO	HLT 280 or HLT 287: _____	3
		Subtotal: 5-6

Subtotal: 5-7

Total Credit Hours: 17

URBAN AGRICULTURE MANAGEMENT CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_UAGM

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This program prepares students to manage or work at an urban farm that produces high value fruit and vegetable crops in an urban setting. Topics covered include crop planning, production

and harvesting, irrigation, organic certification, plant health care and food safety.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 202	Plant Health Care	4
HLT- REQ	Select HLT 240 and/or HLT 262: _____	4
		Subtotal: 8

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HLT 208	Pesticide Safety and Use	2
HLT- REQ	Select HLT 240 and/or HLT 262: _____	4
INT- COO	HLT 280 or HLT 287: _____	3
		Subtotal: 9

Total Credit Hours: 17

MATHEMATICS ASSOCIATE OF SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_MATH

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Ideal starting point to transfer and acquire a bachelor’s and/or graduate degree in mathematics. Also includes many of the courses required in other fields such as Engineering or Computer Science.

Mathematics Degrees

Mathematics AS Degree Required Courses (p. 159)

Career Opportunities

A degree in Mathematics can lead to careers in industry, academics or government.

Industry:

- Data Science: extracting meaning from large data sets for a wide variety of purposes.

- Quality Control: improving products and process through data analysis
- Software Engineer: create programs in a variety of languages (with a minor or double-major in computer science).
- Actuary: financial forecasting for insurance and investments
- Industrial research of all types, including marketing and financial analysis.
- Statistician: statistical analysis, “big data”

Academics:

- Teaching at the middle- or high-school level.
- Teaching at the college level (requires masters or PhD)
- Teaching and conducting research at the university level (requires PhD)

Government:

- National Security Agency (NSA) – the single largest employer of mathematicians in the US
- Government Labs in all areas of research: including medicine, meteorology, economics and urban planning

Transfer Degree: With this degree you can enter as a junior majoring in Math at the following four-year schools:

- Adams State University
- Colorado Mesa University
- Colorado State University-Fort Collins
- Colorado State University-Pueblo
- Fort Lewis College
- Metropolitan State University of Denver
- University of Colorado-Boulder
- University of Colorado-Colorado Springs
- University of Colorado-Denver
- University of Northern Colorado
- Western State Colorado University

Be sure to talk with an advisor when selecting your courses to ensure you will complete your degree on time with the classes you need.

First Semester

Courses should be completed in the order listed below. The Mathematics Faculty recommend you take your math courses in consecutive semesters (without taking a semester off, except possibly summer). The math in these courses build heavily on each other and taking courses in consecutive semesters increases skill retention. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAT- REQ	Mathematics: _____	3-5
ENG 121	English Composition I	3
PHI 113	Logic	3
GT- SS	Social & Behavioral Sciences (GT-SS):	3
CSC 119	Introduction to Programming	3

Subtotal: 15-17

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAT- RE1	Mathematics: _____	4-5
CSC 160	Computer Science I: (Language)	4
ENG 122	English Composition II	3
GT- AH	Arts & Humanities: _____	3

Subtotal: 14-15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAT- RE1	Mathematics: _____	4-5
PHY 211	Physics: Calculus-Based I with Lab	5
GT- AH	Arts & Humanities: _____	3
GT- SS	Social & Behavioral Sciences (GT-SS):	3

Subtotal: 15-16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Semester Four elective credits may vary depending on prior semester completion. You must complete a minimum of 60 credits to meet graduation requirements. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

MAT- RE1	Mathematics: _____	4-5
PHY 212	Physics: Calculus-Based II with Lab	5
COM- REQ	Communication: _____	3
GT- HI1	History (GT-HI1): _____	3
ELC LS1	Elective: _____	1

Subtotal: 16-17

Total Credit Hours: 60-62

PHYSICS ASSOCIATE OF SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_PHYD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Career Opportunities

A degree in Physics opens the door to careers in many areas, such as:

- Teaching
- Medicine
- Law
- Industry
- Medical Instrumentation Development
- Alternative Energy Research/Development
- Weather Forecasting
- Physicist
- Researcher
- Professor
- Engineer
- Radiologist
- Biophysicist

AS in Physics (p. 159)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

MAT 201	Calculus I: MA1	5
CHE 111	General College Chemistry I with Lab	5
GT- AH	Arts & Humanities: _____	3
ENG- REQ	English: _____	3

Subtotal: 16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHY 211	Physics: Calculus-Based I with Lab	5
MAT 202	Calculus II: MA1	5
ENG- REQ	English: _____	3
GT- AH	Arts & Humanities: _____	3

Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHY 212	Physics: Calculus-Based II with Lab	5
MAT- REQ	Mathematics: _____	4-5
CSC- CHE	CSC or CHE: _____	4-5

Subtotal: 13-15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PHY 213	Physics III: Calculus-Based Modern Physics	3
MAT- ELC	Mathematics: _____	3-4
GT- AH	Arts & Humanities: _____	3
GT- HI1	History (GT-HI1): _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3

Subtotal: 15-16

Total Credit Hours: 61-64

Social Sciences, Education & Public Service

My Academic Plans (MAPs) are designed by faculty to guide you toward program completion. You should complete courses in the recommended order provided below and work with an academic advisor to adjust your plan based on your scheduling needs.

ANTHROPOLOGY ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ANTH

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Anthropology is the study of humans, past and present. To understand the full sweep and complexity of cultures across all of human history, anthropology draws and builds upon knowledge from the social and biological sciences as well as the humanities and physical sciences. A central concern of anthropologists is the application of knowledge to the solution of human problems. Historically, anthropologists in the United States have been trained in one of four areas: sociocultural anthropology, biological/physical anthropology, archaeology, and linguistic anthropology.

Learn more about gainful employment (p. 254)

Career Opportunities

Jobs for anthropologists can be found in corporations, government, educational institutions, resource management, and non-profit organizations. Today, there are four main career paths for anthropology:

- Academic jobs: teaching and research oriented jobs in colleges and universities

- Corporate careers: helping international corporations understand the cultural complexities of their workforces and their customer bases

- Non-profit and/or environmental resource management: providing social services and/or providing information to inform resource and cultural preservation decisions

- Government applications: from social service branches of the government to resource protection agencies (the park service, forest service, etc.), to the military, anthropologists inform policies and programs.

Academic and corporate careers frequently require an MA or higher degree, while corporate, nonprofit, resource management, and government applications are available to those with Bachelor's degrees or higher.

More options:

- A career in museum, cultural studies or diversity program

- Participate in field studies in archaeology

AA in Anthropology (p. 137)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
ANT 101	Cultural Anthropology	3
GT- MA1	Mathematics (GT-MA1): _____	3-4
GT- HI1	History (GT-HI1): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 15-16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
ANT- REQ	Anthropology: _____	3-4
COM- REQ	Communication: _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
GT- AH	Arts & Humanities: _____	3

Subtotal: 15-16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ANT- REQ	Anthropology: _____	3-4
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4
GT- SS1	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 13-14

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

ANT- ELC	Anthropology: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4
GT- SS2	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LST	Approved Elective List: _____	3
GT- AH	Arts & Humanities: _____	3

Subtotal: 16

Total Credit Hours: 60-62

Criminal Justice & Public Safety

CRIMINAL JUSTICE ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_CRJT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Not all criminal justice careers require a college degree, but many employers prefer at least some college. When you earn a two year AA degree in criminal justice at Front Range, you will have an edge over other applicants for such careers as:

- Emergency Communication Dispatcher
- Police Officer
- Detention, adult and juvenile
- Community Corrections

However, after you earn your AA degree in CRJ at Front Range, you can also transfer your credits to area public four year universities such as: Metro State University at Denver, University of Northern Colorado, University of Colorado at Denver, Colorado Mesa University, or University of Colorado, Colorado Springs. After transferring to a four year school, you may be able to graduate with a bachelor’s degree (BA) in criminal justice in just two years.

AA in Criminal Justice (p. 140)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SOC 101	Introduction to Sociology I	3
ENG 121	English Composition I	3
COM- REQ	Communication: _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3
CRJ 110	Intro to Criminal Justice	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GT- HI1	History (GT-HI1): _____	3
CRJ 125	Policing Systems	3
ENG 122	English Composition II	3
GT- SC1	Natural & Physical Sciences (GT-SC1 and GT-SC2): _____	4-5
GT- MA1	Mathematics (GT-MA1): _____	3-4

Subtotal: 16-18

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CRJ 145	Correctional Process	3
CRJ- ELC	Criminal Justice: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1 and GT-SC2): _____	4-5
GT- SS	Social & Behavioral Sciences (GT-SS3): _____	3
ELC- LST	Elective: _____	3

Subtotal: 16-17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Semester Four elective credits may vary depending on prior semester completion. You must complete a minimum of 60 credits to complete your degree. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

CRJ- ELC	Criminal Justice: _____	3
ELC- LST	Elective: _____	3
ELC- LST	Elective: _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 12

Total Credit Hours: 60-62

CRIMINAL JUSTICE - ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

Field Code: F_AAS_CRJ7

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The mission of the Front Range Community College Law Enforcement Academy is to provide POST certification and an excellent education which prepares the cadet to become a member of the law enforcement profession and which meets the needs of agencies in the Northern Colorado area.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CRJ 110	Intro to Criminal Justice	3
ENG- REQ	English: _____	3
COM 115	Public Speaking	3
GT- MA1	Mathematics (GT-MA1):	3

Subtotal: 12

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CRJ 209	Criminal Investigations I	3
GEN- SS	SOC 101, PSY 101, or POS 111:	3
PHI 112	Ethics	3

Subtotal: 9

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

LEA 101	Basic Police Academy I	6
LEA 102	Basic Police Academy II	12
LEA 103	Basic Law Enforcement Academy III	2
LEA 104	Basic Law Enforcement Academy IV	1

LEA 105	Basic Law	8
LEA 106	Arrest Control Techniques	3
LEA 107	Law Enforcement Driving	3
LEA 108	Firearms	3
PED 112	Fitness Center Activity III	1

Subtotal: 39

Total Credit Hours: 60

PEACE OFFICERS STANDARDS & TRAINING CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_POS1

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

MY ACADEMIC PLAN

Program Mission & Description

The mission of the Front Range Community College Law Enforcement Academy is to provide POST certification and an excellent education which prepares the cadet to become a member of the law enforcement profession and which meets the needs of agencies in the Northern Colorado area.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

LEA 101	Basic Police Academy I	6
LEA 102	Basic Police Academy II	12
LEA 103	Basic Law Enforcement Academy III	2
LEA 104	Basic Law Enforcement Academy IV	1
LEA 105	Basic Law	8
LEA 106	Arrest Control Techniques	3
LEA 107	Law Enforcement Driving	3
LEA 108	Firearms	3
PED 112	Fitness Center Activity III	1

Subtotal: 39

Total Credit Hours: 39

FUNDAMENTALS OF PUBLIC SAFETY DISPATCH CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_EMRH

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Initial and ongoing training is an essential component of a 911 dispatcher’s career. And the most significant training often occurs within a 911 dispatcher certification program, either through the state, through a national association, or through a combination of the two.

While Colorado currently does not require certification to work as an emergency dispatcher, completing the Fundamentals of Public Safety Dispatch (PSD) certificate will assist students in understanding the foundations of the criminal justice system, policing, stress management, communication and various components of understanding human behavior.

AA in Criminal Justice (p. 140)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CRJ 110	Intro to Criminal Justice	3
CRJ 125	Policing Systems	3
PSY 101	General Psychology I	3
PSY 116	Stress Management	3
SOC- PSY	SOC 231 or PSY 226:	3
Subtotal:		15

Total Credit Hours: 15

PUBLIC SAFETY DISPATCH CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_EMRF

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

MY ACADEMIC PLAN

Program Mission & Description

Becoming a 911 operator involves preparing for employment by meeting minimum requirements, which usually involves being at least 18 years old and possessing a high school diploma or GED. Some agencies require candidates to also possess a valid driver’s license.

Many individuals who are interested in pursuing a career in emergency dispatch choose to complete a college program in a closely related field. Completing the Public Safety Dispatch (PSD) certificate can provide considerable knowledge of the criminal justice system, communications, emergency management, and public safety protocols – all of which are highly relevant to working as a 911 dispatcher.

As a dispatcher, strong listening skills, empathy, the ability to multi-task, leadership skills, problem-solving skills, typing skills, and proficiency in computer-aided dispatch software. The Public Safety Dispatch (PSD) certificate provides students hands-on training through internships in communication centers and through an Emergency Dispatch course (CRJ 201) where students will use the most recent and industry relevant curriculum developed and taught by industry experts.

In most cases, a high school diploma or the equivalent is enough for entry-level dispatcher positions, but some employers may not even require this level of education. In other cases, certain emergency response agencies may favor applicants who possess a college degree.

911 dispatchers need to possess a wide range of job-specific skills, so taking relevant electives outside of the major area of study can gain you experience. For example, a criminal justice major could benefit from computer courses, or a computer science major could benefit from liberal arts or communications courses. These various areas of study are represented in the Fundamentals of Emergency Dispatch.

The Bureau of Labor Statistics (BLS) reports that candidates with a two-or four-year degree in criminal justice, communications or computer science may have an advantage when applying for jobs. An associate's degree can help students gain valuable skills to help them excel after graduation.

For individuals with aspirations of advancing in the field of emergency communications, a college degree may better facilitate career advancement. In addition, many agencies accept a formal educational program as a substitution for experience, on a year-by-year basis, thereby allowing many individuals to advance at a faster pace into supervisory positions, or even qualify for entry-level jobs that stipulate experience requirements.

It is not always necessary to have a degree to work as a dispatcher, but an associate's or bachelor's degree may be preferred by employers. A degree in criminal justice, communications or computer science are some of the preferred degrees in this field. Certification may be required depending on the state.

Many individuals who are interested in pursuing a career in emergency dispatch choose to complete a college program in a closely related field. A degree program can provide considerable knowledge of the criminal justice system, communications, emergency management, and public safety protocols – all of which are highly relevant to working as a 911 dispatcher.

AA in Criminal Justice (p. 140)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CRJ 110	Intro to Criminal Justice	3
CRJ 125	Policing Systems	3
PSY 101	General Psychology I	3
PSY 116	Stress Management	3
SOC- PSY	SOC 231 or PSY 226:_____	3
Subtotal: 15		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

CRJ 280	Internship	1
CRJ 201	Emergency Dispatching	5
EMS 115	Emergency Medical Responder	3
ELC- LST	Elective Course:_____	3
Subtotal: 12		

Total Credit Hours: 27

Early Childhood Education

EARLY CHILDHOOD EDUCATION ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_ECE

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Interested in a career working with children in a child care center? Consider our Associate of Applied Science in Early Childhood Education.

This two-year, 60 credit A.A.S. degree provides training for a career involving the care and education of young children from birth through age eight. Courses in theory and internship are combined to provide a comprehensive base of growth and development. Early intervention, high-risk, gifted, and developmentally delayed issues are included. As part of this degree, you will earn two certificates - Foundations of Early Childhood Education and Early Childhood Director. The program meets or exceeds all Colorado Department of Human Services (CDHS) Office of Early Childhood licensing requirements.

AAS in Early Childhood Education degree (p. 186)

Learn more about gainful employment (p. 254)

Career Opportunities

Open or manage a child-care center, or teach preschool.

Become a paraeducator or director of a child-care facility.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. If you are enrolling in ECE 102, ECE 112, ECE 188, and ECE 288, must pass a criminal background check before you are allowed to start your practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC - ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

ECE 101	Introduction to Early Childhood Education	3
ECE 238	ECE Child Growth and Development	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3
ECE 220	ECE Curriculum Development: Methods and Techniques	3
Subtotal: 15		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 205	ECE Nutrition, Health and Safety	3
ECE 240	Administration of Early Childhood Care and Education Programs	3
ECE 256	Working with Parents, Families, and Community Systems	3
ENG- GEN	English:_____	3
PSY 101	General Psychology I	3
Subtotal: 15		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. If you are enrolling in ECE 102, ECE 112, ECE 188, and ECE 288, must pass a criminal background check before you are allowed to start your practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC - ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

ECE 111	Infant and Toddler Theory and Practice	3
ECE 260	The Exceptional Child	3
ECE 241	Administration: Human Relations for Early Childhood Education	3

ECE 188	Practicum	4
LIT 255	Children's Literature	3
Subtotal: 16		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 288	Practicum: Early Childhood Education	4
ECE 289	Capstone	1
MAT- GEN	Mathematics: _____	3-5
GT- HI1	History (GT-HI1): _____	3
ECE- ELC	ECE Elective: _____	3
Subtotal: 14-15		

Total Credit Hours: 60-62

EARLY CHILDHOOD EDUCATION ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AA_AA_ECTD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Interested in a career working with children in a district school setting? Consider our Associate of Arts in Early Childhood Education.

This two-year, 60 credit Associate of Arts degree prepares students to transfer to one of several four-year institutions in Colorado to earn a Bachelor's degree and CDE License (see list of schools below). With this degree you will be qualified to teach preschool up to third grade (ages 0-8).

Transfer Options: Your A.A. degree in early childhood education will transfer to the following four- year schools. If you wish to transfer to a school not on this list, be sure to contact that institution about transfer credits accepted.

- Adams State University (B.A. Interdisciplinary Studies with Elem. Ed. Licensure)
- Colorado State University (B.S. Early Childhood Education)
- Fort Lewis College (B.A. Early Childhood Education)
- Metropolitan State University of Denver (B.A. Early Childhood Education)
- University of Colorado Denver (B.A. Education and Human Development – Early Childhood)
- University of Northern Colorado (B.A. Early Childhood Teacher Education)

AA in ECE Degree (p. 142)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 101	Introduction to Early Childhood Education	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3
ENG 121	English Composition I	3
PSY 101	General Psychology I	3
Subtotal: 15		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 238	ECE Child Growth and Development	3
ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 256	Working with Parents, Families, and Community Systems	3
GT- HI1	History (GT-HI1): _____	3
LIT- LIT	LIT 115 or LIT 255: _____	3
Subtotal: 15		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SCI 155	Integrated Science I with Lab	4
GEO 105	World Regional Geography	3
MAT 120	Mathematics for the Liberal Arts	4
ENG 122	English Composition II	3
Subtotal: 14		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SCI 156	Integrated Science II with Lab	4
GT- AH	MUS, ART, THE (GT-AH): _____	3
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
Subtotal: 16		

Total Credit Hours: 60

Early Childhood Education Certificates

ASSISTANT EARLY CHILDHOOD TEACHER CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

Many positions in Colorado early childhood programs require employees to meet, at minimum, the Colorado Department of Human Services Office of Early Childhood requirements for Early Childhood Teacher (ECT). ECT and Director qualified requirements include a combination of verifiable experience and post-secondary education. This certificate is designed for students who already have verifiable experience in early childhood education or a bachelor’s degree in a non-education discipline. This certificate may be earned by students who do not meet the aforementioned criteria with the understanding that it might not qualify them to work in the field. Please contact the Colorado Department of Human Services Office of Early Childhood to determine which requirements you need. Students who place into CCR 093 (p. 310) or above may begin the coursework for this certificate. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Assistant Early Childhood Teacher Certificate (p. 187)

CDHS Office of Early Childhood

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 101	Introduction to Early Childhood Education	3
ECE 103	Guidance Strategies for Young Children	3

Subtotal: 6

Total Credit Hours: 6

EARLY CHILDHOOD DIRECTOR CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_DIRE

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete

courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

Interested in a career as an administrator at a child care center? Consider our Early Childhood Director Certificate.

This two-semester, 31 credit certificate prepares students to meet state education requirements for CDHS Director Certification. Curriculum development, child growth and development, and administrative skills are among focus areas. CDHS also requires experience hours. Please visit the CDHS Office of Early Childhood website for more information on experience hours.

Early Childhood Director Certificate (p. 187)

CDHS Office of Early Childhood

Many positions in Colorado early childhood programs require employees to meet, at minimum, the Colorado Department of Human Services Office of Early Childhood requirements for Early Childhood Teacher (ECT). ECT and Director qualified requirements include a combination of verifiable experience and post-secondary education. Please contact the Colorado Department of Human Services Office of Early Childhood to determine which requirements you need. Students who place into CCR 093 (p. 310) or above may begin the coursework for this certificate. Students scoring below this level should consult with a faculty member before registering for courses in this program of study.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 101	Introduction to Early Childhood Education	3
ECE 238	ECE Child Growth and Development	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3
ECE 220	ECE Curriculum Development: Methods and Techniques	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 111	Infant and Toddler Theory and Practice	3
ECE 205	ECE Nutrition, Health and Safety	3
ECE 240	Administration of Early Childhood Care and Education Programs	3
ECE 241	Administration: Human Relations for Early Childhood Education	3
ECE 260	The Exceptional Child	3

Subtotal: 15**Total Credit Hours: 30**

EARLY CHILDHOOD EDUCATION FOR PARAEDUCATORS CERTIFICATE

Locations: Boulder County Campus, Larimer Campus,
Westminster Campus, Online Learning

Field Code: F_CER_LT

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

Interested in a career working with children as a support to teachers in an inclusive child care center? Consider our Early Childhood Education for Paraeducators Certificate.

This two-semester, 21 credit certificate prepares students to work as a preschool paraeducator, or “para,” to support teachers in inclusive classrooms. Students receive a wide range of knowledge and skills including a solid foundation in the normal patterns of growth and development, various disabilities, giftedness, developmentally appropriate teaching techniques, and learning styles of children with developmental delays.

Early Childhood Education for Paraeducators Certificate (p. 188)

This certificate has been developed as an open-entry/open-exit program for those currently employed or those seeking employment to work with developmentally delayed infants, toddlers, preschool, and school-age children in inclusive settings. The coursework in this certificate provides students with the wide range of knowledge and skills including a solid foundation in the normal patterns of growth and development, various disabilities, giftedness, developmentally appropriate teaching techniques, and learning styles of children with developmental delays. These skills prepare paraprofessionals to be effective team members.

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 101	Introduction to Early Childhood Education	3
ECE 238	ECE Child Growth and Development	3
ECE 103	Guidance Strategies for Young Children	3

Subtotal: 9

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 157	Family Dynamics	1
ECE 161	The Team Process	1
ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 260	The Exceptional Child	3

Subtotal: 11**Total Credit Hours: 20**

ECE FOUNDATIONS OF EARLY CHILDHOOD EDUCATION CERTIFICATE

Locations: Boulder County Campus, Larimer Campus,
Westminster Campus, Online Learning

Field Code: F_CER_EC5

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

Interested in a career working with children at a child care center? Consider our Foundations of Early Childhood Education Certificate.

This one-semester, 16 credit certificate provides students with the knowledge, techniques, and strategies to become qualified to be an early childhood teacher in Colorado. It meets or exceeds the education requirements for CDHS “Early Childhood Teacher (ECT).” CDHS also requires experience hours. Please visit the CDHS Office of Early Childhood website for more information on experience hours. Offered at all campuses and Online.

Foundations of Early Childhood Education Certificate (p. 188)

CDHS Office of Early Childhood

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ECE 101	Introduction to Early Childhood Education	3
ECE 238	ECE Child Growth and Development	3
ECE 102	Introduction to Early Childhood Education Techniques	3

ECE 103	Guidance Strategies for Young Children	3
ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 256	Working with Parents, Families, and Community Systems	3

Subtotal: 18

Total Credit Hours: 18

ECONOMICS ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ECON

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

You can earn an Associate of Arts (A.A.) degree at FRCC and transfer to any public four-year college or university in Colorado in Economics.

Economics AA Degree (p. 141)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
ECO 101	Economics of Social Issues	3
GT- SC1	Natural & Physical Sciences (GT-SC1):	4-5
GT- AH	Arts & Humanities (GT-AH):	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 16-17

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ELC- LST	Approved Elective List: _____	3
ENG 122	English Composition II	3
MAT 135	Introduction to Statistics	3
ECO 202	Principles of Microeconomics	3
GT- AH	Arts & Humanities (GT-AH):	3

Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GT- HI1	History (GT-HI1): _____	3
ELC- LST	Approved Elective List: _____	3
ECO 201	Principles of Macroeconomics	3
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	2-3

Subtotal: 14-15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

MAT 201	Calculus I: MA1	5
GT- AH	Arts & Humanities (GT-AH):	3
ELC- LST	Approved Elective List: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1):	4-5

Subtotal: 15-16

Total Credit Hours: 60-63

ELEMENTARY EDUCATION ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AA_AA_EMTD

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

This two-year, 60 credit A.A. degree prepares students to transfer to one of several four-year institutions in Colorado to earn a Bachelor's degree and CDE License in elementary education. Students take 41 credits from FRCC that are accepted universally at the Colorado public four-year institutions listed below. The other 19 credits taken at FRCC are unique to the transfer institution, so students need to decide on a target transfer college or university to know what to take. Speak to an advisor for information on the other 19 credits.

AA in Elementary Education (p. 143)

Transfer Options: Your A.A. degree in early childhood education will transfer to the following four-year schools. If you wish to transfer to a school not on this list, be sure to contact that institution about transfer credits accepted.

- Adams State University (B.A. Interdisciplinary Studies)
- Colorado Mesa University (B.A. Liberal Arts)
- Colorado Mountain College (B.A. Interdisciplinary Studies)
- Colorado State University-Pueblo (B.S. Liberal Studies)
- Fort Lewis College (B.A. Elementary Education)
- Metropolitan State University of Denver (B.A. Human Development; B.A. Elementary Education)
- University of Colorado Boulder (B.A. History)
- University of Colorado - Colorado Springs (B.A. Biology, B.A. English Literature, B.A. Geography & Environmental Studies, B.A. History or B.A. Spanish)
- University of Colorado Denver (B.A. Individually Structured Major, Elementary Education emphasis; B.A. Education and Human Development – Elementary Education)
- University of Northern Colorado (B.A. Elementary Education)
- Western State Colorado University (B.A. Elementary Education, CLD emphasis)

Learn more about gainful employment (p. 254)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

EDU 221	Introduction to Education	3
PSY 238	Child Development	3
MAT- REQ	Mathematics: _____	3
ENG- REQ	English: _____	3
GEO 105	World Regional Geography	3
		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

COM 115	Public Speaking	3
ENG- REQ	English: _____	3
MAT- REQ	Mathematics: _____	3
HIS 121	U.S. History to Reconstruction	3
GT- AH	Arts & Humanities (GT-AH):	3
		Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

POS 111	American Government	3
SCI 155	Integrated Science I with Lab	4
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
		Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

SCI 156	Integrated Science II with Lab	4
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3
ELC- LS1	Approved Elective List: _____	1
		Subtotal: 14

Total Credit Hours: 60-62

GEOGRAPHY ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_GEOM

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Geography is unique in bridging the social sciences and the natural sciences. There are two main branches of geography: human geography and physical geography. Human geography is concerned with the spatial aspects and interrelationships of human existence. Study in human geography includes exploration of cultures, societies, economies, and populations. Physical geographers study patterns of the natural world. Fields within physical geography include geomorphology, hydrology, ecology, and climatology. Geographers use many tools and techniques in their work that are increasingly important for understanding our complex world. A.A. coursework in geography covers the social science, science, and mathematics subjects needed to transfer to a four-year institution. Geography is a discipline that is rich in possibilities. Geographers pursue rewarding careers in education, research, business, government agencies, and nonprofit organizations.

AA in Geography (p. 145)

Learn more about gainful employment (p. 254)

Career Opportunities

A degree in Geography opens the door to a career in:

- Education
- Cartography & GIS
- Demography
- Market Research

- Urban and Regional Planning
- Environmental Science
- Geoscience
- Climatology
- Meteorology
- Forestry
- Park Management
- Agricultural Science
- Government
- and many more fields of spatial analysis

Paid Internship Opportunity:

Geo-Launchpad is a paid summer research internship open to all community college students. It is dedicated to increasing the diversity of students in the geosciences, and develops research-ready skills for a career path in science, engineering, or technology. This eight week program takes place at UNAVCO located in Boulder, CO from early June to late July. If needed, housing and a bus pass are provided to those who are accepted. Learn more.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- REQ	English: _____	3
GT- MA1	Mathematics (GT-MA1): _____	3-4
GEO 106	Human Geography	3
GEO- REQ	Geography: _____	4
ELC- LST	Approved Elective List: _____	3
Subtotal: 16-17		

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- REQ	English: _____	3
GEO- REQ	Geography: _____	4
GT- HI1	History (GT-HI1): _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LST	Approved Elective List: _____	3
Subtotal: 16		

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GEO 105	World Regional Geography	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4-5
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4-5
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
Subtotal: 14-16		

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should take a minimum of 60 credits and not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GIS 101	Introduction to Geographic Information Systems	3
GT- AH	Arts & Humanities (GT-AH): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3
GEO 210	Careers and Research in Geosciences	1
ELC- LST	Approved Elective List: _____	3
ELC- LS1	Approved Elective List: _____	1
Subtotal: 14		

Total Credit Hours: 60-62

HISTORY ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_HIST

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The FRCC history program offers a wide variety of history courses, each of which focuses on a different historical subject. While differing in content, each FRCC history course teaches you the skills historians use in their work. A history course teaches you to understand events that happened in the past, but you also learn why people behave as they do today. This is the two-sided value of studying history. Students of history learn not only why things happened, but therefore, better understand why things *are happening* today. The utility of studying history is to be able to understand the context of how humans have lived, and do live, in their various historical periods, and apply that understanding to our lives today.

At FRCC, you can take history courses at all three campuses, at the Brighton Center, and online. All courses are taught by historians with a Masters degree or PhD in history. Our historians are passionate about teaching, they enjoy demonstrating how to apply the study of history, and they love to expose students to the wonderful world and ways of understanding the past.

If the following things resonate with you, then you might enjoy and excel in the History program:

- You are interested in learning more about the way the world has worked, and learning about the structures and principles of how people have and do live.

- You like to understand both how people in the past lived, and how people in other nations, ethnicities, and religions developed and behaved. You think about what it would have been like to live in another era.

- You often ask questions such as:

- “Why do Americans act in certain ways? Why does our government do the things it does?”
- “Why are the values of certain cultures so very different from our own?”
- “What was it like to live in the ancient or medieval world? Why did those people act and believe the way they did? Were they like us, or very different from us?”

- There are thousands of such questions that we could ask ourselves, and history is the field that helps us to answer them. We understand the present by first understanding what happened in the past. That might seem counterintuitive at first, but people act and behave based on the values, beliefs, practices and behaviors we learned from our parents, and grandparents, and great-grandparents, and so on. Only by understanding the past, can we truly understand the present; this enables us to live better in the future. As the Roman philosopher, Cicero, said: “To understand only your own generation is to remain always a child.”

- Today, more than ever, it is important for people to be able to distinguish truth from falsehood.

- We are all aware of the prevalence of fake news, unreliable and biased reporting, misleading and manipulative information, and outright lies and distortions of all kinds of information. How are we to be able to distinguish truth from falsehood? The answer to this is to see information through the lens of an historian.
- The discipline of history, as a social science, began in the late 19th century in order to make better sense of the past. Historians have since developed particular skills, methods, and approaches to understanding information. We call this source reliability. Historians constantly judge and evaluate sources to determine their reliability, and then reach reliable conclusions using that information. The study of history provides you valuable tools that enable you to become more discerning, wiser, and more successful in life.

History AA Degree (p. 146)

Learn more about gainful employment (p. 254)

Career Opportunities

A Bachelor's degree in History opens the door to:

- Teaching (secondary, and college level)
- Historian for a Museum
- Historian for a Government Agency
- Attend Law School (after achieving a 4-year degree)

You can earn an Associate of Arts degree at FRCC and transfer to any public four-year college or university in Colorado for History.

As a liberal arts major, of course, the world is your oyster and you can consider a multitude of careers.

Among the jobs you can consider are: advertising executive, analyst, archivist, broadcaster, campaign worker, consultant, congressional aide, editor, foreign service officer, foundation staffer, information specialist, intelligence agent, journalist, legal assistant, lobbyist, personnel manager, public relations staffer, researcher, teacher . . . the list can be almost endless.

More specifically, though, by transferring to a four-year institution and completing a Bachelor's degree in History you can be an educator, researcher, communicator or editor, information manager, advocate, or even a businessperson.

Below is a brief list of the career opportunities available to the undergraduate history major. The links will take you to more good information at the American Historical Association, which is a preeminent professional organization for historians.

History majors at FRCC who plan to attain an Associate of Arts degree and are intending to pursue an advanced degree in history should read the excellent guide, *Careers for Students of History*, also at the American Historical Association site.

Historians as Educators

Elementary Schools

Secondary Schools

Postsecondary Education

Historic Sites & Museums

Historians as Researchers

Museums & Historical Organizations

Cultural Resources Management & Historic Preservation

Historians as Communicators

Writers & Editors

Documentary Editors

Producers of Multimedia Material

Historians as Information Managers

Archivists

Records Managers

Librarians

Information Managers

Historians as Advocates

Lawyers and Paralegals

Litigation Support

Legislative Staff Work

Foundations

Historians in Businesses & Associations

Historians in Corporations

Contract Historians

Historians and Nonprofit Associations

AA in History

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- REQ	English: _____	3
GT- MA1	Mathematics (GT-MA1): _____	3-4
GT- SS	Social & Behavioral Sciences (GT-SS3): _____	3
HIS 121	U.S. History to Reconstruction	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 15-16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG- REQ	English: _____	3
ELC- LST	Approved Elective List: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4
GT- SS	Social & Behavioral Sciences (GT-SS3): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

HIS 122	U.S. History Since the Civil War	3
HIS- REQ	History: _____	3
COM- REQ	Communication: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1 and GT-SC2): _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Semester Four elective credits may vary depending on prior semester completion. You must have a minimum of 60 credits to complete your degree. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GT- AH	Arts & Humanities (GT-AH): _____	3
HIS- REQ	History: _____	3
GT- HI1	History (GT-HI1): _____	3
ELC- LST	Approved Elective List: _____	3
ELC- LS1	Approved Elective List: _____	2

Subtotal: 14

Total Credit Hours: 60-61

Paralegal

PARALEGAL ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_PAR2

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

The paralegal program prepares individuals for employment in the legal field as a paralegal or legal assistant, as well as opportunities to upgrade their existing job skills for the current legal market.

Students receive training in a variety of legal areas, including contracts and property law, as well as legal ethics, research, and writing. Choose electives in fields that interest you most, such as family law, administrative law, evidence, criminal law, probate and estates, employment law, and intellectual property law. You will gain practical hands-on experience in a local work setting to see firsthand what it is like to be a paralegal.

AAS Paralegal Degree

Paralegal Degree Required Courses (p. 226)

Learn more about gainful employment (p. 254)

Career Opportunities

This degree is designed for individuals who are seeking a career in the legal profession as a legal assistant/paralegal. Paralegals work under the supervision of an attorney and their work includes preparing legal documents, researching and compiling information, and communicating with clients. Paralegals are not authorized to practice law under any circumstances. Excellent written and oral communication skills, as well as computer literacy skills, are important to the paralegal. This program allows for technical training in the paralegal field and to work effectively with computers and legal research.

Courses in this program are offered online and in the classroom. Classroom courses are offered at both the Westminster and Larimer campuses. Classes are offered Fall, Spring and Summer semesters. Students must be computer literate and knowledgeable about the internet.

In addition, the program provides the opportunity for students and current paralegals who wish to upgrade existing job skills or those who are seeking a career change.

Learn more about employment and career pathways in this industry.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
POS 111	American Government	3
COM- REQ	Communication: _____	3
MAT- REQ	Mathematics Requirement: _____	3-4
<hr/>		
PAR 115	Introduction to Law	3
		Subtotal: 15-16

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 122	English Composition II	3
PAR 127	Legal Ethics	3
PAR 116	Torts	3
PAR 118	Contracts	3
PAR 211	Legal Research	3
<hr/>		
		Subtotal: 15

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PAR 201	Civil Litigation	3
PAR 219	E-Discovery and Litigation Technology	3
PAR 212	Legal Writing	3
INT- CAP	Capstone, Internship, Cooperative Education: _____	3
PAR- REQ-1	Paralegal Requirement: _____	3
<hr/>		
		Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PAR 206	Business Organizations	3
PAR- ELC	Paralegal Requirement: _____	3
PAR- ELC	Paralegal Requirement: _____	3
PAR- ELC	Paralegal Requirement: _____	3
ELC- LST	Approved Elective List: _____	3
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		Subtotal: 15

Total Credit Hours: 60-61

PARALEGAL CERTIFICATE

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_LGA4

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In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Description

This certificate program prepares students for an entry-level position as a legal assistant. The certificate allows for technical training in the paralegal field and working effectively with computers and legal research. Courses in this program are offered online and in the classroom. Courses in this program are offered Fall, Spring, and Summer semesters. All students enrolled in the program must be computer literate and knowledgeable about the Internet.

Paralegal Certificate

Paralegal Certificate Required Courses (p. 227)

Learn more about gainful employment (p. 254)

Career Opportunities

This certificate is designed for individuals who are seeking a career in the legal profession as a legal assistant/paralegal.

Learn more about employment and career pathways in this industry.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
PAR 115	Introduction to Law	3
PAR 127	Legal Ethics	3
PAR- REQ-2	Paralegal Requirement: _____	3
PAR- REQ-2	Paralegal Requirement: _____	3
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		Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PAR 201	Civil Litigation	3
PAR 211	Legal Research	3
PAR 212	Legal Writing	3
PAR 219	E-Discovery and Litigation Technology	3

INT- CAP	Capstone, Internship, Cooperative Education: _____	3
Subtotal: 15		Total Credit Hours: 30

POLITICAL SCIENCE ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_POLS

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

You can earn an Associate of Arts (A.A.) degree with Political Science designation at FRCC and transfer as a junior to Colorado public four-year schools.

Political science examines the role and effects of government actions on society. The A.A. program prepares students for transfer with coursework in history, literature, economics and government. Political scientists may work in various government jobs, or may work as lobbyists, researchers, political analysts or journalists. In addition to graduate work in the field, a Bachelor's degree in political science also prepares students for law school.

AA Political Science Degree

Political Science Degree Required Courses (p. 148)

Learn more about gainful employment (p. 254)

Career Opportunities

A degree in Political Science opens the door to careers as a:

- Teacher (secondary, and college level)
- Politician
- Assistant to an Elected Official
- Political Campaign Worker
- Researcher for Business/Government Agency
- Diplomat

AA in Political Science (p. 148)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

POS 105	Introduction to Political Science	3
ENG 121	English Composition I	3
ECO 202	Principles of Microeconomics	3
GT- HI1	History (GT-HI1): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

POS 111	American Government	3
ENG 122	English Composition II	3
ECO 201	Principles of Macroeconomics	3
GT- MA1	Mathematics (GT-MA1): _____	3-4

ELC- LST	Approved Elective List: _____	3
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Subtotal: 15-16

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

POS 205	International Relations	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4

GT- AH1	Arts & Humanities (GT-AH): _____	3
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ELC- LS1	Approved Elective List: _____	3
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ELC- LS2	Approved Elective List: _____	3
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Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

POS 225	Comparative Government	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4

ELC- LS3	Approved Elective List: _____	3
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ELC- LS4	Approved Elective List: _____	3
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ELC- LS5	Approved Elective List: _____	3
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Subtotal: 16

Total Credit Hours: 60-62

Psychology

PSYCHOLOGY ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_PSYA

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete

courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

ABOUT THE PROGRAM

Program Mission & Description

The psychology program provides quality education in the study of behavior and mental processes through both the traditional classroom setting and online learning environments.

This program might be for you if:

- You are interested in learning more about the way the mind works and the science behind our everyday thoughts.
- You would like to gain new techniques in order to organize your own life through personal growth and insight.
- You often ask questions about human behavior or even the actions and responses of animals.

There are thousands of questions that all of us ask in our everyday lives and psychology is the field that organizes what science has discovered in an attempt to answer them all! Just as you might take a course to improve computer skills, psychology classes allow you to improve a variety of other skills, such as understanding research, human development, human relations, parenting, stress management, and more.

Psychology is the science of human behavior and mental processes that affect mental and physical health. A.A. coursework covers the science and mathematics subjects needed to transfer to a four-year institution. In addition, with the designation in psychology you will be taking a variety of psychology courses (5) that will transfer over to most four year institutions in Colorado.

Career Opportunities:

While the Bachelor’s degree in psychology could be useful in a number of careers, professional psychologists must continue to graduate study. Employment opportunities with a Doctorate or a Masters’ degree include teaching or counseling in a wide variety of settings. All four year state schools in Colorado offer an AA in psychology. You can find the information about these schools here: College in Colorado.

A degree in Psychology opens the door to careers in:

- School Counseling
- Psychiatrist/Psychologist
- Treatment Facility for Youth/Adults
- Private Counseling Practice

AA in Psychology (p. 149)

Learn more about gainful employment (p. 254)

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty to guide you toward program completion. You should complete courses in the recommended order provided below and work with an academic advisor to adjust your plan based on your scheduling needs.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PSY 101	General Psychology I	3
ENG 121	English Composition I	3

COM- REQ	Communication: _____	3
GT- HI1	History (GT-HI1): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PSY 102	General Psychology II	3
ENG 122	English Composition II	3
GT- BIO	Biology with Lab (GT-SC1): _____	4-5
GT- MA1	Mathematics (GT-MA1): _____	3-4
ELC- LST	Approved Elective List: _____	1-2

Subtotal: 14-17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PSY- ELC	Psychology: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4-5
ELCT- LST1	Approved Elective List: _____	3
GT- AH1	Arts & Humanities (GT-AH): _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3

Subtotal: 16-17

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should take a minimum of 60 credits. Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

PSY- ELC	Psychology: _____	3
PSY- ELC	Psychology: _____	3
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
ELC- LS1	Approved Elective List: _____	3-4
GT- AH2	Arts & Humanities (GT-AH): _____	3

Subtotal: 15-16

Total Credit Hours: 60-62

PSYCHOLOGY ASSOCIATE OF SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_PSYS

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

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ABOUT THE PROGRAM

Program Mission & Description

The psychology program provides quality education in the study of behavior and mental processes through both the traditional classroom setting and online learning environments.

This program might be for you if:

- You are interested in learning more about the way the mind works and the science behind our everyday thoughts.
- You would like to gain new techniques in order to organize your own life through personal growth and insight.
- You often ask questions about human behavior or even the actions and responses of animals.

There are thousands of questions that all of us ask in our everyday lives and psychology is the field that organizes what science has discovered in an attempt to answer them all! Just as you might take a course to improve computer skills, psychology classes allow you to improve a variety of other skills, such as understanding research, human development, human relations, parenting, stress management, and more.

Psychology is the science of human behavior and mental processes that affect mental and physical health. A.A. coursework covers the science and mathematics subjects needed to transfer to a four-year institution. In addition, with the designation in psychology you will be taking a variety of psychology courses (5) that will transfer over to most four year institutions in Colorado.

Learn more about gainful employment (p. 254)

Career Opportunities

While the Bachelor’s degree in psychology could be useful in a number of careers, professional psychologists must continue to graduate study. Employment opportunities with a Doctorate or a Masters’ degree include teaching or counseling in a wide variety of settings. All four year state schools in Colorado offer an AA in psychology. You can find information about these schools here: College in Colorado.

A degree in Psychology opens the door to careers in:

- School Counseling
- Psychiatrist/Psychologist
- Treatment Facility for Youths/Adults
- Private Counseling Practice

AS in Psychology (p. 161)

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty to guide you toward program completion. You should complete courses in the recommended order provided below and work with an academic advisor to adjust your plan based on your scheduling needs.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

ENG 121	English Composition I	3
PSY 101	General Psychology I	3
ELC- LST	Approved Elective List: _____	3-4
BIO 111	General College Biology I with Lab	5
		Subtotal: 14-15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

PSY 102	General Psychology II	3
GT- HI1	History (GT-HI1): _____	3
ENG 122	English Composition II	3
GT- AH	Arts & Humanities (GT-AH): _____	3
BIO 112	General College Biology II with Lab	5
		Subtotal: 17

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
GT- AH1	Arts & Humanities (GT-AH): _____	3
MAT 121	College Algebra	4
CHE 111	General College Chemistry I with Lab	5
		Subtotal: 15

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should take a minimum of 60 credits. Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
CHE 112	General College Chemistry II with Lab	5
COM- REQ	Communication: _____	3
GT- AH1	Arts & Humanities (GT-AH): _____	3
		Subtotal: 14

Total Credit Hours: 60-61

SOCIOLOGY ASSOCIATE OF ARTS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_SOCL

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

MY ACADEMIC PLAN

Program Mission & Description

Sociology is the study of the development, structure, and functioning of human society. Career options for students who study sociology include business, counseling and social services, criminology and law, international development, or preparation for graduate studies in fields such as sociology, social work, or law.

Learn more about gainful employment (p. 254)

Career Opportunities

A bachelor's degree in Sociology opens the door to careers such as:

- Becoming a Youth/Victim's Advocate in a Police Department
- Counselor
- Youth Organization Director
- Social Worker
- Teaching (secondary/college)
- Business/Government Researcher
- Alcohol/Drug Offender Program Counselor

AA in Sociology (p. 150)

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SOC 101	Introduction to Sociology I	3
GT- AH	Arts & Humanities (GT-AH): _____	3
ENG 121	English Composition I	3
COM- REQ	Communication: _____	3
GT- HI1	History (GT-HI1): _____	3

Subtotal: 15

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SOC 102	Introduction to Sociology II	3
ENG 122	English Composition II	3
GT- MA1	Mathematics (GT-MA1): _____	3-4
ELC- LS1	Approved Elective List: _____	1
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3

Subtotal: 13-14

Third Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows.

SOC- ELC	Sociology: _____	3
SOC- ELC	Sociology: _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4
GT- SS	Social & Behavioral Sciences (GT-SS): _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3

Subtotal: 16

Fourth Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. You should take a minimum of 60 credits. Semester Four elective credits may vary depending on prior semester completion. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress.

SOC- ELC	Sociology: _____	3
GT- AH	Arts & Humanities (GT-AH): _____	3
GT- SC1	Natural & Physical Sciences (GT-SC1): _____	4
ELC- LST	Approved Elective List: _____	3
ELC- LST	Approved Elective List: _____	3

Subtotal: 16

Total Credit Hours: 60-61

TESL Certificates

This certificate prepares students for entry-level employment as tutors, paraprofessionals, or teachers of English to adults and school-age children in numerous educational settings. In some cases, a university degree may be required for English as a Second Language instructor.

TEACHING ENGLISH AS A SECOND LANGUAGE/ABROAD

Locations: Boulder County Campus

Field Code: F_CER_TESA

ABOUT THE PROGRAM

Program Mission & Description

Program Mission: The Teaching English as a Second Language (TESL) program provides high quality instruction through innovative teaching practices and experiential learning. It prepares teacher leaders to be knowledgeable, creative thinkers, and reflective decision makers.

Program Description: This certificate program provides training for those who wish to teach English to children or adults in other countries around the world.

Teaching English as a Second Language Abroad Certificate
Required Courses (p. 232)

Learn more about gainful employment (p. 254)

Getting into the Program

Application Process and Admission Requirements

Application Process:

Students are strongly encouraged to contact the campus program director before enrolling to gain a clear understanding of the program and whether it meets their needs. Students must first complete an application. Students can attend an informational meeting (held once per semester).

Program Admission Requirements:

1. Complete and submit applications for admission to the Teaching English as a Second Language (TESL) program and to FRCC at www.frontrange.edu/tesl.
2. Demonstrate proficiency in English by placing into ENG 121 or above. International students seeking admission to the program are required to have a minimum score of 475 on the paper/pencil TOEFL test, a score of 153 on the computer-based examination, or an "equated" score of 75 on the Michigan Test of English Language proficiency.
3. Apply to FRCC for admission upon acceptance into the program.

Assessment testing is required for all students. Students who place into ENG 121 or above and MAT 050 or above may begin this program of study.

What You Will Learn

Program Learning Outcomes

Upon completion of this program you will be able to:

- Analyze the major elements of language as a system, and articulate the relationships between the various elements (phonology, morphology, syntax, lexis).
- Use the knowledge and understanding of the elements of language system to explain language to non-native English speakers.
- Demonstrate an understanding of the intersection between culture, language, language learning and teaching. Apply theoretical knowledge of current language acquisition theories in second language learning contexts.
- Identify instructional strategies and teaching methods, curriculum frameworks and apply them to various language learning and teaching situations.
- Develop ESL curriculum plans for diverse groups, design and utilize assessment instruments.
- Complete a supervised practicum in which you plan lessons and teach English to an ESL class.
- Evaluate your own teaching with regard to outcomes 1-5 above.
- Effectively write and present for professional audiences.

Career Opportunities

Teach English to adults and school-age children. Work as a tutor, paraprofessional, or teacher.

Learn more about employment and career pathways in this industry.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. TEL 225 may be taken in either Semester 1 or Semester 2.

TEL 103	Career Strategies for the TESL Workplace	1
TEL 100	TESL (Teaching English as a Second Language) English Study	3
TEL 102	Procedures and Techniques for the English as a Second Language Classroom	3
TEL 225	Second Language Acquisition	3
		Subtotal: 10

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. TEL 225 may be taken in either Semester 1 or Semester 2.

EDU 134	Teaching English as a Second Language (ESL) to Adults	3
TEL 188	TESL Teaching Practicum	2
EDU 289	Capstone	1
		Subtotal: 6

Total Credit Hours: 16

TEACHING ENGLISH AS A SECOND LANGUAGE/K-12

Locations: Boulder County Campus

Field Code: F_CER_TESK

ABOUT THE PROGRAM

Program Mission & Description

Program Mission: The Teaching English as a Second Language (TESL) program provides high quality instruction through innovative teaching practices and experiential learning. It prepares teacher leaders to be knowledgeable, creative thinkers, and reflective decision makers.

Program Description: This certificate program provides training for public or private school teachers or para-educators who wish to enhance or improve their skills working with English Language Learners.

Teaching English as a Second Language K-12 Certificate Required Courses (p. 232)

Learn more about gainful employment (p. 254)

Getting into the Program**Application Process and Admission Requirements****Application Process:**

Students are strongly encouraged to contact the campus program director before enrolling to gain a clear understanding of the program and whether it meets their needs. Students must first complete an application. Students can attend an informational meeting (held once per semester).

Program Admission Requirements:

1. Complete and submit applications for admission to the Teaching English as a Second Language (TESL) program and to FRCC at www.frontrange.edu/tesl.
2. Demonstrate proficiency in English by placing into ENG 121 or above. International students seeking admission to the program are required to have a minimum score of 475 on the paper/pencil TOEFL test, a score of 153 on the computer-based examination, or an "equated" score of 75 on the Michigan Test of English Language proficiency.
3. Apply to FRCC for admission upon acceptance into the program.

Assessment testing is required for all students. Students who place into ENG 121 or above and MAT 050 or above may begin this program of study.

What You Will Learn**Program Learning Outcomes****Upon completion of this program you will be able to:**

- Analyze the major elements of language as a system, and articulate the relationships between the various elements (phonology, morphology, syntax, lexis).
- Use the knowledge and understanding of the elements of language system to explain language to non-native English speakers.
- Demonstrate an understanding of the intersection between culture, language, language learning and teaching. Apply theoretical knowledge of current language acquisition theories in second language learning contexts.
- Identify instructional strategies and teaching methods, curriculum frameworks and apply them to various language learning and teaching situations.
- Develop ESL curriculum plans for diverse groups, design and utilize assessment instruments.
- Complete a supervised practicum in which you plan lessons and teach English to an ESL class.
- Evaluate your own teaching with regard to outcomes 1-5 above.
- Effectively write and present for professional audiences.

Career Opportunities

Teach English to adults and school-age children. Work as a tutor, paraprofessional, or teacher.

Learn more about employment and career pathways in this industry.

MY ACADEMIC PLAN

My Academic Plans (MAPs) are designed by faculty and displayed in a semester format showing the fastest path to finishing your certificate or degree. While this is the ideal, you can take courses as your schedule permits. Contact an academic advisor regarding your scheduling needs.

In most cases, the courses you need are available on your selected campus. However, there may be times to complete courses online or travel to another FRCC campus. Location availability is indicated at the time of registration.

First Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. TEL 225 may be taken in either Semester 1 or Semester 2.

TEL 103	Career Strategies for the TESL Workplace	1
TEL 100	TESL (Teaching English as a Second Language) English Study	3
TEL 102	Procedures and Techniques for the English as a Second Language Classroom	3
TEL 225	Second Language Acquisition	3
		Subtotal: 10

Second Semester

Courses should be completed in the order listed below. If you are unable to complete the entire semester list, complete as many courses in this sequence as your schedule allows. TEL 225 may be taken in either Semester 1 or Semester 2.

TEL 245	ESL in the Content Areas	3
TEL 188	TESL Teaching Practicum	2
EDU 289	Capstone	1
		Subtotal: 6

Total Credit Hours: 16

Program Requirements**Transfer Degrees****A.A. Degrees**

The Associate of Arts (AA) Degree provides students with a general liberal arts education that prepares them for transfer into a bachelor degree program at a four-year college or university. Students looking to transfer with guaranteed junior standing in a specific field of study should pursue an associate of arts degree with designation. These areas are listed below.

While a student may tailor the generic Associate of Arts (AA) Degree to prepare for specific transfer options, all official documents and diplomas issued by the college will only indicate the awarding of an Associate of Arts Degree without any indication of a more specific area of study, unless the student completes the requirements for one of the Associate Degrees with Designation (DwD) noted below.

A.A. NO DESIGNATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA

The Associate of Arts (AA) Degree provides students with a general liberal arts education that prepares them for transfer into a bachelor degree program at a four-year college or university. Students looking to transfer with guaranteed junior standing in a specific field of study should pursue an associate of arts degree with designation in the following areas:

anthropology, art history, business, communication, criminal justice, economics, early childhood education, elementary education, English (literature) emphasis, French, geography, history, music, philosophy, political science, psychology, sociology, Spanish, studio art, and theater.

More information on these degree plans can be found in the Associate Degrees with Designation section of this catalog.

While a student may tailor the generic Associate of Arts (AA) Degree to prepare for specific transfer options, all official documents and diplomas issued by the college will only indicate the awarding of an Associate of Arts Degree without any indication of a more specific area of study unless the student completes the requirements for one of the areas of designation noted above.

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121, ENG 122

Oral Communication

Select one course (3 credits) from: COM 115, 125, 220

Mathematics

Select one gtPathways Mathematics course (GT-MA1). Credits

over 3 will be applied to electives.

Subtotal: 3-5

Arts and Humanities

Select two gtPathways Arts & Humanities courses from two different areas (GT-AH1, GT-AH2, GT-AH3, GT-AH4).

Subtotal: 6

History

Select one gtPathways History course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One course must have a required laboratory (GT-SC1). Credits over 7 will be applied to electives.

Subtotal: 7-10

Student Choice

Select one additional course from the categories below:

- One gtPathways Arts & Humanities course (GT-AH1, GT-AH2, GT-AH3, GT-AH4).

- One gtPathways History course (GT-HI1).

- One gtPathways Social and Behavioral Sciences course (GT-SS1, GT-SS2, or GT-SS3).

Subtotal: 3

Electives

- Select 18-23* credits from the approved list of electives or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

*The number of electives remaining will vary since these are determined by selection of Natural and Physical Science

coursework between 7-10 credits and Mathematics coursework between 3-5 credits.

Subtotal: 18-23

Total Credit Hours: 60

Additional Graduation Requirements

- No developmental courses may be applied to this degree.
- Students must have a minimum cumulative GPA of 2.0 (all grades "C" or better) to be eligible to graduate.
- Submit Graduation Application, transfer credits, and Prior Learning Assessment Credit to the Registrar's Office by published deadline.
- Students must complete at least 25% of their degree/certificate credit requirements at Front Range in order to earn their award from Front Range.
- Continuing students without a 12 month lapse in enrollment are allowed to select a catalog published during their enrollment that best aligns with their completed coursework toward their intended program of study.

ANTHROPOLOGY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ANTH

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

*Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

One GT Pathways course (GT-MA1), prefer MAT 135: Introduction to Statistics, except:

- University of Colorado Denver requires either MAT 135: Introduction to Statistics or MAT 121: College Algebra;

- Western State Colorado University requires MAT 121: College Algebra.

Subtotal: 3-4

Arts and Humanities

Select three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 9

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select three gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 9

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1)

	Subtotal: 8
Anthropology	
ANT 101 Cultural Anthropology	3
ANT 107 Introduction to Archaeology	3
ANT 111 Biological Anthropology with Laboratory	4

	Subtotal: 10
Additional Required GTPathway Course	
Select one gtPathways ANT course in Social & Behavioral Sciences (GT-SS3)	

	Subtotal: 3
Oral Communication	
Select one course (3 credits) listed below:	
COM 115 Public Speaking	3
COM 125 Interpersonal Communication	3
COM 220 Intercultural Communication	3

	Subtotal: 3
Electives	
<ul style="list-style-type: none"> Select 5-6 credits from the approved list of electives or log into eWOLF to see elective requirements in DegreeCheck. Selection of elective credits should be done with a Front Range advisor and your intended transfer institution. 	

Subtotal: 5-6

Please note: Additional ANT courses beyond the 4 courses (13 credit hours) identified above may not count toward the Anthropology major at the receiving 4-year institution. See explanation in Limitations section (pg.3).

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado State University-Ft Collins [B.A. Anthropology]
- Fort Lewis College [B.A. Anthropology]
- Metropolitan State University of Denver [B.A. Anthropology]
- University of Colorado Boulder [B.A. Anthropology]
- University of Colorado Colorado Springs [B.A. Anthropology]
- University of Colorado Denver [B.A. Anthropology]
- University of Northern Colorado [B.A. Anthropology]
- Western State Colorado University [B.A. Anthropology]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.

Total Credit Hours: 60

ART HISTORY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ATHD

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121 English Composition I	3
ENG 122 English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one 3-credit OR 4-credit gtPathways Mathematics course (GT-MA1), prefer MAT 120 (p. 363): Mathematics for the Liberal Arts.

Subtotal: 3-4

Arts and Humanities

Select two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

EXCEPT the courses listed in the Additional Required Courses section below

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7-8

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

ART 111	Art History Ancient to Medieval	3
ART 112	Art History Renaissance to Modern	3
ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3
ART 132	Visual Concepts 3-D Design	3
ART 207	Art History - 1900 to Present	3

Subtotal: 18

Electives

- Select 9-11 credits* from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 9-11

* Students planning to transfer to CSU-FC will be required to complete a 200-level foreign language for completion of the BA in Art – Art History. Students will be expected to be prepared upon completion of the associate's degree to take an intermediate foreign language or be able to pass the CSU-FC Foreign Language placement exam at the sophomore level. It may not be possible to complete the BA in Art – Art History concentration in two years without this prior foreign language competency.

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado Mesa University [B.F.A. Art; Art History concentration]
- Colorado State University-Ft Collins [B.A. Art; Art History concentration]

- Metropolitan State University of Denver [B.A. Art History, Theory, & Criticism]
- University of Colorado Boulder [B.A. Art History]
- University of Colorado Colorado Springs [B.A. Visual & Performing Arts; Art History option]
- University of Colorado Denver [B.A. Fine Arts; Art History emphasis]
- University of Northern Colorado [B.A. Art & Design; Art History emphasis]
- Western State Colorado University [B.A. Art; Art History & Theory emphasis]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

BUSINESS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_BSTR

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Mathematics

MAT 121	College Algebra	4
MAT 125	Survey of Calculus	4
		Subtotal: 8

Students may complete MAT 125 or a higher level Calculus course to fulfill the Mathematics requirement.

Arts and Humanities

Select two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
		Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2).

Subtotal: 8

Additional Required Courses

ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
BUS 216	Legal Environment of Business	3
BUS 115	Introduction to Business	3
BUS 217	Business Communication and Report Writing	3

BUS 226	Business Statistics	3
COM 115	Public Speaking	3

Subtotal: 23

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.A. Business Administration; emphases in Advertising, Business Teacher Education, General Business or International Business; B.S. Business Administration; emphases in Accounting, Agribusiness, Economics, Finance, General Business, Health Care Administration, Management, Management Information Systems, Marketing, or Small Business Management]
- Colorado Mesa University [Bachelor of Business Administration (B.B.A.); concentrations in Business Economics, Emerging Markets, Energy Management/Landman, Entrepreneurship, Finance, Hospitality Management, Human Resource Management, Information Systems, Insurance, Management, Managerial Informatics, or Marketing]
- Colorado State University-Ft Collins [B.S. Business Administration]
- Colorado State University-Global Campus [B.S. Accounting; B.S. Business Management; B.S. Healthcare Administration and Management; B.S. Human Resource Management; B.S. Information Technology Management; B.S. Management Information Systems and Business Analytics; B.S. Marketing; B.S. Project Management]
- Colorado State University-Pueblo [B.S. Business Administration; majors in Management, Accounting or Economics]
- Fort Lewis College [B.A. Business Administration; Business Administration option]
- Metropolitan State University of Denver [B.S. Accounting; B.S. Computer Information Systems; B.S. Finance; B.S. Management; B.S. Marketing]
- University of Colorado Boulder [B.S. Business Administration]
- University of Colorado Colorado Springs [B.S. Business; emphases in Accounting, Business Administration, Finance, Human Resources Management, Information Systems, International Business, Management, Marketing, PGA Golf Management, Service Management, or Sport Management]
- University of Colorado Denver [BS Business Administration; emphases in Accounting, Finance, Financial Management, Human Resources Management, Information Systems, International Business, Management, or Marketing]
- University of Northern Colorado [B.A. Business Administration; all emphases]
- Western State Colorado University [B.A. Business Administration]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

COMMUNICATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_COMD

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120 (p. 363): Mathematics for the Liberal Arts.

Subtotal: 3**Arts and Humanities**

Select two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 6**History**

Select one gtPathways course (GT-HI1)

Subtotal: 3**Social and Behavioral Sciences**

Select one gtPathways Social and Behavioral Sciences course (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 3**Social and Behavioral Sciences / Communication**

COM 220	Intercultural Communication	3
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Subtotal: 3**Natural and Physical Sciences**

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT SC2); one course must be with required laboratory (GT-SC1).

Subtotal: 7**Communication Courses**

COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3
COM 217	Group Communication	3

Subtotal: 9**Additional Required Courses**

Select two (2) gtPathways courses (total of 6 credits) from either:

- History (GT-HI1) OR
- Social & Behavioral Sciences (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Select one (1) three-credit course with a COM prefix.

Subtotal: 3**Electives**

- Select 11 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 11

Please note: Additional COM courses beyond the courses identified in the agreement above may not count toward the Communication major at the receiving 4-year institution. Please avoid selecting additional COM courses as electives in this

agreement, unless verified by the intended transfer institution. See explanation in Limitations section (pg.3).

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado State University-Ft Collins [B.A. Communication Studies]
- Colorado State University-Global Campus [B.S. Communication]
- Metropolitan State University of Denver [B.A. Speech Communication; Organizational Communication emphasis]
- University of Colorado Boulder [B.A. Communication]
- University of Colorado Colorado Springs [B.A. Communication; General Communication Studies emphasis]
- University of Colorado Denver [B.A. Communication]
- University of Northern Colorado [B.A. Communication Studies]
- Western State Colorado University [B.A. Communication Arts; Communication emphasis]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.

Total Credit Hours: 60**CRIMINAL JUSTICE**

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_CRJT

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

One GT Pathways course (GT-MA1), prefer MAT 135: Introduction to Statistics, except:

- Colorado Mesa University requires either MAT 120: Mathematics for the Liberal Arts or MAT 121: College Algebra;

- University of Northern Colorado requires MAT 135: Introduction to Statistics.

Subtotal: 3-4**Arts and Humanities**

Select two gtPathways Arts & Humanities courses from two (2) different categories. (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 6**History**

Select one gtPathways course (GT-HI1)

Subtotal: 3**Social and Behavioral Sciences**

Select one gtPathways Social and Behavioral Sciences course (GT-SS3)

		Subtotal: 3
Social and Behavioral Sciences / Sociology		
SOC 101	Introduction to Sociology I	3

		Subtotal: 3
Natural and Physical Sciences		
Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2); one (1) course must be lab-based (GT-SC1).		

		Subtotal: 7-8
Additional Required Courses		
COM 115	Public Speaking or	3
COM 125	Interpersonal Communication	3
CRJ 110	Intro to Criminal Justice	3
CRJ 125	Policing Systems	3
CRJ 145	Correctional Process	3

		Subtotal: 12
Additional Criminal Justice Courses		
Select two courses from the following:		
CRJ 127	Crime Scene Investigation	3
CRJ 135	Judicial Function	3
CRJ 205	Principles of Criminal Law	3
CRJ 209	Criminal Investigations I	3
CRJ 230	Criminology	3
CRJ 231	Intro to Forensic Science & Criminalistics	3
CRJ 235	Delinquent Behavior	3
CRJ 236	Criminal Justice Research Methods	3
CRJ 257	Victimology	3
CRJ 268	Criminal Profiling	3

		Subtotal: 6
Social and Behavioral Science Courses		
Select three courses (minimum of 9 credit hours) from the following*:		
ANT 201	Introduction to Forensic Anthropology	3
CNG 258	Digital Forensics	4
COM 217	Group Communication	3
COM 225	Organizational Communication	3
POS 111	American Government	3
POS 125	American State and Local Government	3
PSY 207	Intro Forensic Psychology	3
PSY 217	Human Sexuality	3
PSY 226	Social Psychology	3
PSY 249	Abnormal Psychology	3
SOC 231	Sociology of Deviant Behavior	3
		Subtotal: 9

* If these courses are applied to this second section of the Prescribed Curriculum (Additional Required Courses) for credit, they may not be applied to the first section of the Prescribed Curriculum (General Education Requirements) for credit.

Electives

- Select 0-2 credit from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Students completing 8 credits or more in Natural and Physical Sciences will have 0 credits of electives to complete.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

		Subtotal: 0-2
PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION		

- Colorado Mesa University [B.A. Criminal Justice; Criminal Justice or Law Enforcement concentrations]
 - Colorado State University-Global Campus [B.S. Criminal Justice & Law Enforcement Administration]
 - Metropolitan State University of Denver [B.S. Criminal Justice & Criminology]
 - University of Colorado Colorado Springs [B.A. Criminal Justice]
 - University of Colorado Denver [B.A. Criminal Justice]
 - University of Northern Colorado [B.A. Criminal Justice]
- The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

ECONOMICS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ECON

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Mathematics

MAT 201	Calculus I: MA1	5
		Subtotal: 5

Arts and Humanities

Select three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

		Subtotal: 9
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History

Select one gtPathways course (GT-HI1)

		Subtotal: 3
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Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
		Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2).

		Subtotal: 8
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Additional Required Courses

MAT 135	Introduction to Statistics	3
		Subtotal: 3

Electives

- Select 20 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 20

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University* [B.S. Business Administration; Economics emphasis]
- Colorado State University-Ft Collins [B.A. Economics]
- Fort Lewis College [B.A. Economics; Economics option]
- Metropolitan State University of Denver [B.A. Economics]
- University of Colorado Boulder [B.A. Economics]
- University of Colorado Colorado Springs [B.A. Economics]
- University of Colorado Denver [B.A. Economics]
- University of Northern Colorado [B.A. Economics]
- Western State Colorado University [B.A. Economics]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

* Adams State University also offers two-year degrees; it is participating in this agreement as both a two-year and four-year degree-granting institution.

Total Credit Hours: 60

EARLY CHILDHOOD TEACHER EDUCATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AA_AA_ECTD

Assessment testing is required for all students. Students who place into CCR 093 or above and MAT 050 or above may begin coursework for the Early Childhood Teacher Education AAS and AA degrees. Students who place into CCR 093 or above may begin coursework for the Early Childhood Education Certificates. Students scoring below this level should consult with a faculty member before registering for courses in this program of study.

This degree prepares students for transfer into the area of early childhood education at a four-year college or university, including those programs that incorporate CDE licensure into their Bachelor's degrees. Students should consult with a program advisor to select electives appropriate to the institution to which they intend to transfer.

REQUIREMENTS

Students enrolling in ECE 102 (p. 324), ECE 112 (p. 324), ECE 188 (p. 325), and ECE 288 (p. 326) must pass a criminal background check before they are allowed to start their practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC – ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

Required Courses

ECE 101	Introduction to Early Childhood Education	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3

ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 238	ECE Child Growth and Development	3
ECE 256	Working with Parents, Families, and Community Systems	3
	Electives: Select in consultation with program advisor	9

Subtotal: 27

Please refer to the official Statewide Transfer Articulation Agreement to view each participating University and the qualifying courses that satisfy the nine (9) elective credit hours for this degree.

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Mathematics

MAT 120	Mathematics for the Liberal Arts	4
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Subtotal: 4

Arts and Humanities

Select two courses total.

Select one course from the following:

ART 110	Art Appreciation	3
MUS 120	Music Appreciation	3
THE 105	Theatre Appreciation	3

AND select one course from the following:

LIT 115	Introduction to Literature I	3
LIT 255	Children's Literature	3

Subtotal: 6

Natural and Physical Sciences

SCI 155	Integrated Science I with Lab	4
SCI 156	Integrated Science II with Lab	4

Subtotal: 8

Social and Behavioral Sciences

GEO 105	World Regional Geography	3
HIS 121	U.S. History to Reconstruction or	3
HIS 122	U.S. History Since the Civil War	3
PSY 101	General Psychology I	3

Subtotal: 9

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.A. Interdisciplinary Studies with Elem. Ed. Licensure]
- Colorado State University [B.S. Early Childhood Education]
- Fort Lewis College [B.A. Early Childhood Education]
- Metropolitan State University of Denver [B.A. Early Childhood Education]
- University of Colorado Denver [B.A. Teaching, Learning, and Development – Early Childhood]
- University of Northern Colorado [B.A. Early Childhood Teacher Education (Birth – Grade 3)]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer

to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.

Total Credit Hours: 60

ELEMENTARY TEACHER EDUCATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AA_AA_EMTD

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a faculty member before registering for courses in this program of study.

This degree is designed to provide students with the first two years of a baccalaureate degree in elementary teacher education. The degree requirements are based upon a statewide articulation agreement with the teacher education programs in Colorado. Students should consult with a program advisor to select courses based upon the requirements of the institution to which the student intends to transfer.

REQUIREMENTS

Required Courses

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Some educator preparation programs require a "B" in ENG 121 as an admission requirement. However, a "C" or better guarantees the general education GT-CO1 requirement has been met.

Oral Communication

COM 115	Public Speaking	3
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Subtotal: 3

Completing COM 115 is Colorado Community College System Requirement, not a gtPathways requirement.

Mathematics

MAT 155	Integrated Mathematics I	3
MAT 156	Integrated Mathematics II	3

Subtotal: 6

Students completing the Elementary Education statewide articulation agreement with MAT 155/MAT 156 and who later change to a major outside Elementary Education will not receive the guaranteed completion of lower division general education at the receiving 4-yr institution, as MAT 155/MAT 156 are not gtPathways approved courses.

Arts & Humanities

Select one Literature course (3 credits) from below:

LIT 115	Introduction to Literature I	3
LIT 201	World Literature to 1600	3
LIT 202	World Literature After 1600	3
LIT 211	American Literature to the Civil War	3
LIT 221	British Literature to 1770	3

Subtotal: 3

History

HIS 121	U.S. History to Reconstruction	3
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Subtotal: 3

Social and Behavioral Sciences

GEO 105	World Regional Geography	3
POS 111	American Government	3

Subtotal: 6

Natural and Physical Sciences

SCI 155	Integrated Science I with Lab	4
SCI 156	Integrated Science II with Lab	4

Subtotal: 8

Students must successfully pass BOTH SCI 155 & SCI 156 to satisfy the gtPathways science requirement.

Additional Required Courses

EDU 221	Introduction to Education	3
PSY 238	Child Development	3

Subtotal: 6

PSY 238: ECE 238 does not fulfill this requirement

Required Course Credits

Subtotal: 41

Electives

An additional 19 credits of electives are required. These electives vary per university.

Please review the Statewide Transfer Articulation Agreement for more information related to all programs and participating institutions per this agreement.

Subtotal: 19

Intended Transfer Institution:

The additional 19 credits for this degree are determined by your intended transfer institution. Please note that the qualifying courses may total more than 19 credits if the courses are taken at FRCC (exceeding the 60 credits you need to complete this degree). In order to graduate with this degree, students, regardless of transfer plans, must complete the additional 19 credits for one of the public institutions that is part of the articulation agreement.

Please see your FRCC advisor for a list of qualifying courses for all participating institutions or visit <http://higher.ed.colorado.gov/Academics/Transfers/Student.s.html> to view this agreement.

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.A. Interdisciplinary Studies]
- Colorado Mesa University [B.A. Liberal Arts]
- Colorado Mountain College [B.A. Interdisciplinary Studies]
- Colorado State University Pueblo [B.S. Liberal Studies]
- Fort Lewis College [B.A. Elementary Education]
- Metropolitan State University of Denver [B.A. Human Development, B.A. Elementary Education]
- University of Colorado Boulder [B.A. History]
- University of Colorado Colorado Springs [B.A. Inclusive Elementary Education, B.A. Biology, B.A. English Literature, B.A. Geography & Environmental Studies, B.A. History or B.A. Spanish]
- University of Colorado Denver [B.A. Individually Structured Major, Elementary Education emphasis, B.A. Education & Human Development - Elementary Education]
- University of Northern Colorado [B.A. Elementary Education]
- Western State Colorado University [B.A. Elementary Education, CLD emphasis]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.

Total Credit Hours: 60

ENGLISH (LITERATURE EMPHASIS)

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_ENGD

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Students may complete ENG 122 and ENG 201.

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3

Arts and Humanities

Select three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2*, GT-AH3, or GT-AH4)

(*NOTE: GT-AH2 Literature (LIT) courses will NOT be accepted to fulfill this requirement.)

Subtotal: 9

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

COM 115	Public Speaking	3
	or	
COM 125	Interpersonal Communication	3
	or	
COM 225	Organizational Communication	3
		Subtotal: 3

Literature courses

Students are required to take a total of five (5) LIT courses (15 credits), four (4) of which must be at the 200-level within the GT-

AH2 category. Please consult with your receiving institution regarding best choices for literature courses.

Subtotal: 15

Electives

- Select 8 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- ENG 221 Creative Writing I (3 credits) is a recommended elective.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 8

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.A. English; Liberal Arts emphasis]
- Colorado Mesa University [B.A. English; Literature concentration]
- Colorado State University-Ft Collins [B.A. English]
- Colorado State University-Pueblo [B.A. English]
- Fort Lewis College [B.A. English, General option]
- Metropolitan State University of Denver [B.A. English]
- University of Colorado Boulder [B.A. English]
- University of Colorado Colorado Springs [B.A. English]
- University of Colorado Denver [B.A. English; Literature emphasis]
- University of Northern Colorado [B.A. English; Liberal Arts emphasis]
- Western State Colorado University [B.A. English]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

FRENCH

Locations: Boulder County Campus, Larimer Campus, Online Learning

Field Code: F_AA_AA_FREN

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

*Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3

Arts and Humanities

Select one gtPathways Arts & Humanities course (GT-AH1, GT-AH2, GT-AH3)

Subtotal: 3

Arts and Humanities / French Language

FRE 211	French Language III	3
FRE 212	French Language IV	3

Subtotal: 6**History**

Select one gtPathways course (GT-HI1) *

Subtotal: 3

*CSU-Ft. Collins requires two non-US history courses.

Social and Behavioral Sciences

Select one gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 3**Natural and Physical Sciences**

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7**Additional Required Courses**

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

FRE 111	French Language I	5
FRE 112	French Language II	5

Subtotal: 10

PLEASE NOTE: FRE 111 and/or FRE 112 may be waived, based on a student's proficiency level.

Electives

- Select 19 credits** from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

****PLEASE NOTE:** it is recommended, but not required, that a student take either COM 115 (Public Speaking) or COM 125 (Interpersonal Communications).

Subtotal: 19**PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION**

- Colorado State University-Ft Collins [B.A. Foreign Language & Literatures; French concentration]
- Metropolitan State University of Denver [B.A. Modern Languages; French concentration]
- University of Colorado Boulder [B.A. French]
- University of Colorado Denver [B.A. French]
- University of Northern Colorado [B.A. Foreign Languages; French Liberal Arts emphasis]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60**GEOGRAPHY**

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_GEOM

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

One GT Pathways course (GT-MA1), prefer MAT 135: Introduction to Statistics, except:

- Adams State University requires MAT 121: College Algebra;
- Metropolitan State University of Denver requires either MAT 135: Introduction to Statistics or MAT 121: College Algebra;
- University of Colorado Denver requires either MAT 121: College Algebra or MAT 135: Intro to Statistics.

Subtotal: 3-4**Arts and Humanities**

Select two gtPathways Arts & Humanities courses from the following AH categories. (GT-AH1, GT-AH2, GT-AH3)

Subtotal: 6**History**

Select one gtPathways course (GT-HI1)

Subtotal: 3**Social and Behavioral Sciences**

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1 or GT-SS3)

Subtotal: 6**Natural and Physical Sciences**

Select two gtPathways Natural & Physical Sciences courses (GT-SC1 only)**

Subtotal: 8****PLEASE NOTE:**

- NO GEO-prefix science courses
- GEY 111 **NOT** RECOMMENDED
- For Adams State, students must take BIO 111 and CHE 101.

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

Subtotal: 14

Electives

- Select 13-14 credits* from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

*Maximum of 6 (six) credits may be in GEO or GIS prefix. Number of elective credits may vary according to receiving institution. You are advised to contact an advisor at the receiving institution.

Subtotal: 13-14

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University* [B.A. Earth Sciences; Physical Geography emphasis]
- University of Colorado Boulder [B.A. Geography]
- University of Colorado Colorado Springs [B.A. Geography]
- University of Colorado Denver [B.A. Geography]
- University of Northern Colorado [B.A. Geography; Global & Area Studies or Geographic Information Science emphases]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

*Adams State University also offers two-year degrees; it is participating in this agreement as both a two-year and four-year degree-granting institution.

Total Credit Hours: 60

HISTORY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_HIST

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

*Students may complete ENG 122 and a gtPathways approved CO3 course to fulfill the required six (6) credits of written communication required; GT-CO3 courses include HIS 265.

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3

- Credits over 3 will be applied to the electives section.

Arts and Humanities

Select three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 9

History

HIS 101	Western Civilization: Antiquity-1650	3
	or	

HIS 111	The World: Antiquity-1500	3
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Subtotal: 3

*Students planning to transfer to University of Colorado Boulder must take either HIS 101 or HIS 102 to fulfill this requirement.

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2); one course must be with required laboratory GT-SC1).

Subtotal: 7

- Credits over 7 will be applied to the electives section.

Additional Required Courses

Select one communication course listed below:

COM 115	Public Speaking	3
	or	
COM 125	Interpersonal Communication	3
HIS 102	Western Civilization: 1650-Present	3
	or	
HIS 112	The World: 1500-Present	3
HIS 121	U.S. History to Reconstruction	3
HIS 122	U.S. History Since the Civil War	3

Subtotal: 12

*Students planning to transfer to University of Colorado Boulder must take either HIS 101 or HIS 102 to fulfill this requirement.

Additional required gtPathway courses

Select one gtPathways History course in (GT-HI1).

Subtotal: 3

Electives*

- Select 11 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 11

* Students planning to transfer to CSU-Ft. Collins are advised to complete at least two semesters of one college-level foreign language.

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University* [B.A. History, Anthropology, & Political Science: History]
- Colorado Mesa University* [B.A. History; History or Secondary Education concentrations]
- Colorado State University-Ft Collins [B.A. History; General History concentration]
- Colorado State University-Pueblo [B.A. History; General emphasis; B.S. History; General emphasis]
- Fort Lewis College [B.A. History; United States Option]
- Metropolitan State University of Denver [B.A. History]
- University of Colorado Boulder [B.A. History]
- University of Colorado Colorado Springs [B.A. History]
- University of Colorado Denver [B.A. History]

- University of Northern Colorado [B.A. History; Liberal Arts emphasis]
- Western State Colorado University [B.A. History]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

*Adams State University and Colorado Mesa University also offer two-year degrees; they are participating in this agreement as both two-year and four-year degree-granting institutions.

Total Credit Hours: 60

MUSIC

Locations: Boulder County Campus, Larimer Campus, Online Learning

Field Code: F_AA_AA_MUSD

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3

Arts and Humanities

MUS 121	Music History Medieval to Classical	3
MUS 122	Music History Early Romantic to Present	3
		Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

CSU-Ft. Collins requires that one of these courses be PSY 101 – General Psychology I.

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

MUS 110	Music Theory I	3
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MUS 111	Music Theory II	3
MUS 210	Music Theory III	3
MUS 211	Music Theory IV	3
MUS 112	Ear Training/Sight-Singing I Lab	1
MUS 113	Ear Training/Sight-Singing II Lab	1
MUS 212	Advanced Ear Training/Sight-Singing I Lab	1
MUS 213	Advanced Ear Training/Sight-Singing II Lab	1
MUS 151	Ensemble I (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo)	1
MUS 152	Ensemble II (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo)	1
MUS 251	Ensemble I	1
MUS 252	Ensemble II	1
MUS 141	Private Instruction I	1-2
MUS 142	Private Instruction II	1-2
MUS 241	Private Instruction I	1-2
MUS 242	Private Instruction II	1-2
MUS 131	Music Class I (Guitar, Piano or Voice)	2

Subtotal: 26

Electives

- Select 3 credits from any Music (MUS) Electives (p. 371) or from the [approved list of electives](#). Log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 3

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.A. Music; Liberal Arts emphasis]
- Colorado Mesa University [B.A. Music]
- Colorado State University-Ft Collins [B.A. Music]
- Colorado State University-Pueblo [B.A. Music]
- Fort Lewis College [B.A. Music; General Studies Music option]
- Metropolitan State University of Denver [B.A. Music]
- University of Colorado Boulder [B.A. Music]
- University of Colorado Colorado Springs [B.A. Visual & Performing Arts; Music option]
- University of Northern Colorado [B.A. Music]
- Western State Colorado University [B.A. Music]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

PHILOSOPHY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_PHIM

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3**Arts and Humanities**

Select two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH4)

Subtotal: 6**History**

Select one gtPathways course (GT-HI1)

Subtotal: 3**Social and Behavioral Sciences**

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6**Natural and Physical Sciences**

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7**Additional Required Courses**

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

PHI 111	Introduction to Philosophy	3
PHI 112	Ethics	3
PHI 113	Logic	3
		Subtotal: 9

Additional Philosophy Courses

Select two courses from the following:

PHI 214	Philosophy of Religion	3
PHI 218	Environmental Ethics	3
PHI 220	Philosophy of Death and Dying	3
		Subtotal: 6

Electives

- Select 14 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 14**PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION**

- Colorado State University-Ft Collins [B.A. Philosophy; General Philosophy concentration]
- Fort Lewis College [B.A. Philosophy]
- Metropolitan State University of Denver [B.A. Philosophy]

- University of Colorado Boulder [B.A. Philosophy]
- University of Colorado Colorado Springs [B.A. Philosophy]
- University of Colorado Denver [B.A. Philosophy]
- University of Northern Colorado [B.A. Philosophy]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60**POLITICAL SCIENCE**

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_POLS

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1)

Subtotal: 3**Arts and Humanities**

Select two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 6**History**

Select one gtPathways course (GT-HI1)

Subtotal: 3**Social and Behavioral Sciences**

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
		Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1).

Subtotal: 8**Additional Required Courses**

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

POS 105	Introduction to Political Science	3
POS 111	American Government	3
POS 205	International Relations	3
POS 225	Comparative Government	3
		Subtotal: 12

Electives

- Select 16 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.

- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 16

Please note: Additional Political Science (POS) courses beyond the 4 courses (12 credit hours) identified above may not count toward the Political Science major at the receiving 4-year institution. See explanation in Limitations section (pg.3).

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University* [B.A. History, Anthropology, & Political Science: Political Science]
- Colorado Mesa University* [B.A. Political Science]
- Colorado State University-Ft Collins [B.A. Political Science]
- Colorado State University-Pueblo [B.A. Political Science; B.S. Political Science]
- Fort Lewis College [B.A. Political Science]
- Metropolitan State University of Denver [B.A. Political Science]
- University of Colorado Boulder [B.A. Political Science]
- University of Colorado Colorado Springs [B.A. Political Science]
- University of Colorado Denver [B.A. Political Science]
- University of Northern Colorado [B.A. Political Science]
- Western State Colorado University [B.A. Politics & Government]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.

*Adams State University and Colorado Mesa University also offer two-year degrees; they are participating in this agreement as both two-year and four-year degree-granting institutions.

Total Credit Hours: 60

PSYCHOLOGY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_PSYA

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

One GT Pathways course (GT-MA1), prefer MAT 135: Introduction to Statistics, except:

- Colorado Mesa University requires either MAT 120: Mathematics for the Liberal Arts or MAT 121: College Algebra;
- Colorado State University – Pueblo prefers MAT 121: College Algebra;
- Fort Lewis College requires MAT 135: Intro to Statistics;
- University of Colorado Boulder requires MAT 121: College Algebra or higher;

- University of Colorado Colorado Springs requires MAT 121: College Algebra;

- Western State Colorado University requires MAT 121: College Algebra.

Subtotal: 3-4

Arts and Humanities

Select three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4).

No more than two (2) courses from any one category.

Subtotal: 9

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select one gtPathways BIOLOGY course – must be (GT-SC1) (course with lab).

Select one gtPathways (GT-SC1) course of the student’s choosing.

Subtotal: 8

Additional Required Courses

COM 115	Public Speaking	3
	or	
COM 125	Interpersonal Communication	3
PSY 101	General Psychology I	3
PSY 102	General Psychology II	3

Subtotal: 9

Additional Required Psychology Courses

Select three gtPathways Psychology (PSY) courses (GT-SS3)

Subtotal: 9

Electives

- Select 6-8 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 6-8

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University* [B.A. Psychology; Developmental, Clinical, Sport Psychology, or Psychology emphases]
- Colorado Mesa University* [B.A. Psychology; Psychology or Counseling Psychology concentrations]
- Colorado State University-Pueblo [B.A. Psychology]
- Fort Lewis College [B.A. Psychology]
- Metropolitan State University of Denver [B.A. Psychology]
- University of Colorado Boulder [B.A. Psychology]
- University of Colorado Colorado Springs [B.A. Psychology]
- University of Colorado Denver [B.A. Psychology]
- University of Northern Colorado [B.A. Psychology]
- Western State Colorado University [B.A. Psychology]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

*Adams State University and Colorado Mesa University also offer two-year degrees; they are participating in this agreement as both two-year and four-year degree-granting institutions.

Total Credit Hours: 60

SOCIOLOGY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_SOCL

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

One GT Pathways course (GT-MA1), prefer MAT 135: Introduction to Statistics, except:

- Adams State University prefers MAT 121: College Algebra;
- Colorado Mesa University requires either MAT 120: Mathematics for the Liberal Arts or MAT 121: College Algebra;
- University of Colorado Denver requires MAT 121: College Algebra or MAT 123: Finite Mathematics or MAT 135: Intro to Statistics;
- Western State Colorado University requires MAT 120: Mathematics for the Liberal Arts or MAT 121: College Algebra

Subtotal: 3-4

Arts and Humanities

Select three (3) gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4).

Subtotal: 9

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1)

Subtotal: 8

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with

the receiving institution to determine in which way these courses will be applied.

COM 115	Public Speaking	3
	or	
COM 125	Interpersonal Communication	3
SOC 101	Introduction to Sociology I	3
SOC 102	Introduction to Sociology II	3

Subtotal: 9

Additional Required Sociology Courses

Select three gtPathways Sociology (SOC) courses in Social and Behavioral Sciences (GT-SS3)

Subtotal: 9

Electives

- Select 6-7 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 6-7

Please note: Additional SOC courses beyond the 5 courses (15 credit hours) identified above may not count toward the Sociology major at the receiving 4-year institution. See explanation in Limitations section (pg.3).

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University** [B.A. Sociology; Criminology or Social Welfare emphases]
- Colorado Mesa University** [B.A. Sociology; Sociology concentration]
- Colorado State University-Ft Collins [B.A. Sociology; General Sociology concentration]
- Colorado State University-Pueblo [B.A. Sociology; B.S. Sociology]
- Fort Lewis College [B.A. Sociology; Human Services-General option]
- Metropolitan State University of Denver [B.A. Sociology]
- University of Colorado Boulder [B.A. Sociology]
- University of Colorado Colorado Springs [B.A. Sociology]
- University of Colorado Denver [B.A. Sociology]
- University of Northern Colorado [B.A. Sociology; all emphases]
- Western State Colorado University [B.A. Sociology]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.

* Colorado Mountain College also offers some four-year degrees; it is participating in this agreement as both a two-year and four-year degree-granting institution.

**Adams State University and Colorado Mesa University also offer two-year degrees; they are participating in this agreement as both two-year and four-year degree-granting institutions.

Total Credit Hours: 60

SPANISH

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_SPAN

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

*Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3**Arts and Humanities**

Select one gtPathways Arts & Humanities course (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 3**Arts and Humanities / Spanish Language**

SPA 211	Spanish Language III	3
SPA 212	Spanish Language IV	3
		Subtotal: 6

PLEASE NOTE: Those students who have a higher proficiency level than is required for SPA 211 or SPA 212 should substitute other Arts & Humanities courses. Heritage speakers may want to substitute SPA 261 (Grammar-Heritage Lang Speaker) and SPA 262 (Comp-Heritage Lang Speaker), if available.

History

HIS 244	History of Latin America	3
		Subtotal: 3

Students may complete HIS 244 History of Latin America OR another gtPathways History course (GT-HI1) focusing on the Spanish-speaking world (non-U.S.) or another gtPathways non-U.S. History course. HIS 244 is recommended.

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6**Natural and Physical Sciences**

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7**Additional Required Courses**

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

COM 115	Public Speaking	3
	or	
COM 125	Interpersonal Communication	3
SPA 111	Spanish Language I	5
SPA 112	Spanish Language II	5
		Subtotal: 13

PLEASE NOTE: SPA 111 and/or SPA 112 may be waived, based on a student's proficiency level. Students should consult a departmental advisor at the four-year college or university.

Electives

- Select 13 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Other suggested courses may include: 200-level Spanish courses; courses outside the Spanish department with content related to the Spanish-speaking world.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 13**PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION**

- Adams State University* [B.A. Spanish]
- Colorado Mesa University* [B.A. Spanish; Applied Professional Spanish or Literature & Language concentrations]
- Colorado State University-Ft Collins [B.A. Foreign Language & Literatures; Spanish concentration]
- Colorado State University-Pueblo [B.A. Foreign Language – Spanish]
- Fort Lewis College [B.A. Spanish Option]
- Metropolitan State University of Denver [B.A. Modern Languages; Spanish concentration]
- University of Colorado Boulder [B.A. Spanish]
- University of Colorado Colorado Springs [B.A. Spanish]
- University of Colorado Denver [B.A. Spanish]
- University of Northern Colorado [B.A. Spanish; Liberal Arts emphasis]
- Western State Colorado University [B.A. Spanish]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement [here](#).

*Adams State University and Colorado Mesa University also offer two-year degrees; they are participating in this agreement as both two-year and four-year degree-granting institutions.

Total Credit Hours: 60**STUDIO ART**

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AA_AA_SARD

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3

Arts and Humanities

Select two gtPathways Arts & Humanities courses (GT-AH2, GT-AH3, GT-AH4).

No GT-AH1 courses.

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

ART 111	Art History Ancient to Medieval	3
ART 112	Art History Renaissance to Modern	3
ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3
ART 132	Visual Concepts 3-D Design	3
ART 221	Drawing II or	3
ART 128	Figure Drawing I	3

Subtotal: 18

Any three-credit STUDIO ART course

Includes all ART courses (p. 298) in this catalog excluding Art History & Lecture courses. Exclusions are listed here: ART 107, ART 110, ART 111, ART 112, ART 113, ART 205 and ART 207

Subtotal: 3

Electives

- Select 8 credits* from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 8

*Students planning to transfer to CSU-FC for completion of the BA in Studio Art must complete two semesters of one foreign language for their electives OR be able to pass the CSU-FC Foreign Language placement exam at the sophomore level. It may not be possible to complete the BA in Studio Art in two years without this prior foreign language competency.

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.A. Liberal Arts; Studio Art emphasis]
- Colorado Mesa University [B.F.A Art; Studio Art concentration]

- Colorado State University-Ft Collins [B.A. Art; Studio concentration]
- Colorado State University-Pueblo [B.A. Art]
- Fort Lewis College [B.A. Art; Art option]
- Metropolitan State University of Denver [B.A. Art]
- University of Colorado Boulder [B.A. Studio Arts]
- University of Colorado Colorado Springs [B.A. Visual & Performing Arts; Visual Art option]
- University of Colorado Denver [B.A. Fine Arts; Studio Art emphasis]
- University of Northern Colorado [B.A. Art & Design; Art emphasis]
- Western State Colorado University [B.A. Art; Studio Art emphasis]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

THEATER

Locations: Larimer Campus, Online Learning

Field Code: F_AA_AA_THRD

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

Select one gtPathways Mathematics course (GT-MA1), prefer MAT 120: Mathematics for the Liberal Arts.

Subtotal: 3

Arts and Humanities

THE 105	Theatre Appreciation	3
THE 211	Development of Theatre: Greek-Renaissance	3

Subtotal: 6

Students planning to attend University of Colorado Boulder in Theater should consult UCB Theater advisors regarding THE 105 – Theater Appreciation.

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

Select two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1).

Subtotal: 7

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

THE 116	Technical Theatre	3
THE 111	Acting I	3
THE 108	Theatre Script Analysis	3
THE 212	Development of Theatre: Restoration-Modern	3
THE 215	Playwriting	3
		Subtotal: 15

Additional Theater Course

Select one (1) course from the following:

THE 131	Theatre Production I	3
THE 132	Theatre Production II	3
THE 231	Theatre Production III	3
THE 232	Theatre Production IV	3
		Subtotal: 12

Electives

- Select 11 credits from the [approved list of electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 11

- Students interested in attending MSU Denver or CSU-Fort Collins are advised to take COM 115 – Public Speaking.
- Students who plan to transfer to UCB or UCCS may not take elective courses with a THE prefix.

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.A. Theater]
- Colorado State University-Ft Collins [B.A. Theater]
- Fort Lewis College [B.A. Theater; Theater Generalist option]
- Metropolitan State University of Denver [B.A. Theater]
- University of Colorado Boulder [B.A. Theater]
- University of Colorado Colorado Springs [B.A. Visual & Performing Arts; Theater option]
- University of Northern Colorado [B.A. Theater Arts]
- Western State Colorado University [B.A. Communication Arts; Theater & Performance Studies emphasis]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

A.S. Degrees

The Associate of Science (AS) Degree provides students with both breadth and depth of knowledge in science and math that prepares them for transfer into a bachelor degree program at a four-year college or university. Students looking to transfer with guaranteed junior standing in a specific field of study should pursue an associate of science degree with designation. These areas are listed below.

While a student may tailor the generic Associate of Science (AS) Degree to prepare for specific transfer options, all official

documents and diplomas issued by the college will only indicate the awarding of an Associate of Science Degree without any indication of a more specific area of study unless the student completes the requirements for one of the Associate Degrees with Designation (DwD) noted below.

**Please note that the AS degree with designation in chemistry requires a student to complete a reverse transfer within 30 hours or 12 calendar months. The student must transfer one gtPathways approved course in Arts and Humanities and in Social and Behavioral Sciences from the university back to FRCC to earn their AS degree with a Chemistry designation.*

A.S. NO DESIGNATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS

The Associate of Science (AS) Degree provides students with both breadth and depth of knowledge in science and math that prepares them for transfer into a bachelor degree program at a four-year college or university. Students looking to transfer with guaranteed junior standing in a specific field of study should pursue an associate of science degree with designation in the following areas: biology, chemistry*, geology, fermentation sciences, horticulture business management, environmental horticulture-landscape business, mathematics, physics, or psychology.

More information on these degree plans can be found in the Associate Degrees with Designation section of this catalog.

While a student may tailor the generic Associate of Science (AS) Degree to prepare for specific transfer options, all official documents and diplomas issued by the college will only indicate the awarding of an Associate of Science Degree without any indication of a more specific area of study unless the student completes the requirements for one of the areas of designation noted above.

**Please note that the AS degree with designation in chemistry requires a student to complete a reverse transfer within 30 hours or 12 calendar months. The student must transfer one gtPathways approved course in Arts and Humanities and in Social and Behavioral Sciences from the university back to FRCC to earn their AS degree with a Chemistry designation.*

DEGREE REQUIREMENTS**General Education Requirements**

Written Communication (6 credits): ENG 121, ENG 122

Oral Communication

Select one course (**3 credits**) from: COM 115, 125, 220

Mathematics

Select one gtPathways Mathematics (GT-MA1) course (**3-5 credits**) from: MAT 121, 122, 166, 201 or higher. Credits over 3 will be applied to electives.

Arts and Humanities

Select two gtPathways Arts & Humanities courses (**6 credits**) from two different areas (GT-AH1, GT-AH2, GT-AH3, GT-AH4).

History

Select one gtPathways History course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

OR

Select one gtPathways Social and Behavioral Science course (GT-SS1, GT-SS2, or GT-SS3)

AND

Select one gtPathways History course (GT-HI1)

Subtotal: 6

Natural and Physical Sciences

Select one pair of gtPathways Natural & Physical Sciences courses listed below. Credits over 8 will be applied to electives.

Subtotal: 8-10

Astronomy

Biology (General College)

Biology (Human Anatomy and Physiology)

Chemistry

Geography

Geology

Physics (Algebra-Based)

Physics (Calculus-Based)

Natural & Physical Science Elective

Select one additional gtPathways Natural & Physical Science course (GT-SC1). Credits over 4 will be applied to electives.

Subtotal: 4-5

Mathematics and Science Electives

Select two additional courses (minimum of 8 credits) from the courses below. Credits over 8 will be applied to the electives.

- ANT 111

- AST 101, AST 102

- BIO 105 or higher

- CHE 101 or higher

- CSC 119 or higher

- ENV 101

- GEO 111, GEO 112, GEO 160

- GEY 111 or higher

- MAT 120 or higher

- MET 150

- PHY 105 or higher

- SCI 105 or higher

Subtotal: 8-10

Electives

- Select 6-13* credits from the Approved Elective List or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

*The number of electives remaining will vary since these are determined by selection of Natural and Physical Science coursework between 12-15 credits, Mathematics coursework

between 3-5 credits, and Mathematics and Science electives between 8-10 credits.

Subtotal: 6-13

Total Credit Hours: 60

Additional Graduation Requirements

- No developmental courses may be applied to this degree.
- Students must have a minimum cumulative GPA of 2.0 (all grades "C" or better) to be eligible to graduate.
- Submit Graduation Application, transfer credits, and Prior Learning Assessment Credit to the Registrar's Office by published deadline.
- Students must complete at least 25% of their degree/certificate credit requirements at Front Range in order to earn their award from Front Range.
- Continuing students without a 12 month lapse in enrollment are allowed to select a catalog published during their enrollment that best aligns with their completed coursework toward their intended program of study.

BIOLOGY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_BIOD

The curriculum for this Degree with Designation assumes students enter FRCC prepared to take Calculus (MAT 201 (p. 364)) and Chemistry (CHE 111 (p. 311)). Prerequisite coursework the student needs might not be applied towards graduation, due to limited space for elective credits. See an advisor for details.

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

MAT 201	Calculus I: MA1	5
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Subtotal: 5

Arts and Humanities

Select two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

BIO 111	General College Biology I with Lab	5
CHE 111	General College Chemistry I with Lab	5

Subtotal: 10

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

BIO 112	General College Biology II with Lab	5
CHE 112	General College Chemistry II with Lab	5
PHY 111	Physics: Algebra-Based I with Lab	5
PHY 112	Physics: Algebra-Based II with Lab	5

Subtotal: 20

Students are strongly encouraged to seek academic advising prior to registration regarding the acceptability of online science courses if they anticipate transferring to a 4-year institution or completing graduate work in the sciences or health professions. It should be noted that per Colorado Revised Statute, §23-1-125(1)(e), general education courses taken online are guaranteed to satisfy core course (gtPathways) requirements at all Colorado public institutions of higher education.

Electives

- Select 4 credits from the [Approved List of Electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 4**PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION**

- Adams State University [B.S. Biology; Cellular & Molecular Biology, Organismal Biology, & Wildlife Biology emphases]
- Colorado Mesa University [B.S. Biological Sciences; Biology concentration]
- Colorado State University-Ft Collins [B.S. Biological Sciences]
- Colorado State University-Pueblo [B.S. Biology]
- Fort Lewis College [B.S. Biology; General Biology option]
- Metropolitan State University of Denver [B.S. Biology]
- University of Colorado Boulder [B.A. Ecology & Evolutionary Biology]
- University of Colorado Colorado Springs [B.S. Biology]
- University of Colorado Denver [B.S. Biology]
- University of Northern Colorado [B.S. Biological Sciences; Cell & Molecular Biology, Ecology & Evolutionary Biology, Pre-Health & Biomedical Sciences emphases]
- Western State Colorado University [B.A. Biology; Cell Biology/Pre-medicine, Environmental Biology & Ecology, General Biology, Pre-allied Health emphases]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60**CHEMISTRY**

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_CHED

The curriculum for this Degree with Designation assumes students enter FRCC prepared to take Calculus (MAT 201) and Chemistry (CHE 111). Any prerequisite coursework the student needs will not be applied towards graduation. See an advisor for details.

DEGREE REQUIREMENTS**General Education Requirements****Written Communication**

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

MAT 201	Calculus I: MA1	5
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Subtotal: 5**Arts and Humanities**

Select one gtPathways Arts & Humanities course (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

(Notes 1, 2, 3)

Subtotal: 3**History**

Select one gtPathways course (GT-H11)

Subtotal: 3**Social and Behavioral Sciences**

Select one gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

(Notes 1,2,3)

Subtotal: 3**Natural and Physical Sciences**

CHE 111	General College Chemistry I with Lab	5
CHE 112	General College Chemistry II with Lab	5

Subtotal: 10**Additional Required Courses**

MAT 202	Calculus II: MA1	5
MAT 203	Calculus III	4
PHY 211	Physics: Calculus-Based I with Lab	5
PHY 212	Physics: Calculus-Based II with Lab	5
CHE 211	Organic Chemistry I with Lab	5
CHE 212	Organic Chemistry II with Lab	5

Subtotal: 29

Lecture and laboratory portions of organic chemistry, CHE 211 and CHE 212, must not be taken in an online delivery format.

Electives

- Select 1 credit* from the [Approved List of Electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credit should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 1

Notes:

1. This statewide transfer articulation agreement in Chemistry does not fulfill requirements for the gtPathways general education curriculum or the Associate of Science degree prior to transfer; however, this agreement does guarantee a student, if admitted, junior standing and completion of the baccalaureate

degree within an additional 60 semester hours at the receiving institution.

2. Completion of the receiving institution’s lower division general education requirements is fulfilled only under the condition that one gtPathways-approved course in arts and humanities (GT-AH1, GT-AH2, GT-AH3, GT-AH4) and one gtPathways-approved course in social and behavioral sciences (GT-SS1, GT-SS2, or GT-SS3) are successfully completed at the receiving institution within the first 30 hours or 12 calendar months.

3. Students transferring to a 4-yr college/university under this Chemistry agreement are encouraged to ‘reverse’ transfer the one gtPathways course in arts and humanities and the one gtPathways course in social and behavioral sciences (Note #2 above) back to their community college in order to complete the gtPathways general education program and to earn their Associate of Science degree with a Chemistry designation.

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University [B.S. Chemistry]
- Colorado Mesa University [B.S. Chemistry]
- Colorado State University-Ft Collins [B.S. Chemistry]
- Colorado State University-Pueblo [B.S. Chemistry]
- Fort Lewis College [B.S. Chemistry; Chemistry option]
- Metropolitan State University of Denver [B.A./B.S. Chemistry]
- University of Colorado Boulder [B.A. Chemistry]
- University of Colorado Colorado Springs [B.A./B.S. Chemistry]
- University of Colorado Denver [B.S. Chemistry]
- University of Northern Colorado [B.S. Chemistry; Biochemistry, Chemistry, Forensic Science, Industrial Chemistry, Pre-Health emphases]
- Western State Colorado University [B.A. Chemistry; General Chemistry, Biochemistry emphases]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

FERMENTATION SCIENCES

Locations: Boulder County Campus, Larimer Campus

Field Code: F_AS_AS_FERD

DEGREE REQUIREMENTS

<http://fronrange.smartcatalogiq.com/en/2017-2018/Catalog/Associate-Degrees-with-Designation> (p. 136)

Fermentation Courses

Select eight (8) credits from the Fermentation Science courses listed below:

FER 101	Craft Beer Brewing	4
FER 201	Wine Fundamentals	4
FER 203	Fermented Foods Science	4
		Subtotal: 8

General Education Requirements

Written Communication

ENG 121	English Composition I	3
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ENG 122	English Composition II	3
		Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Oral Communication

COM 115	Public Speaking	3
		Subtotal: 3

Mathematics

MAT 121	College Algebra	4
		Subtotal: 4

Arts and Humanities

Select two gtPathways Arts & Humanities courses from one of the following AH categories. (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select one gtPathways Social and Behavioral Sciences course (GT-SS1 or GT-SS2).

Subtotal: 3

Social and Behavioral Sciences / Sociology

SOC 101	Introduction to Sociology I	3
		Subtotal: 3

Natural and Physical Sciences

BIO 111	General College Biology I with Lab	5
CHE 101	Introduction to Chemistry I with Lab	5
		Subtotal: 10

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor’s degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

BIO 208	General College Microbiology with Lab	5
CIS 118	Introduction to PC Applications	3
CIS 115	Introduction to Computer Information Systems	3
PHY 111	Physics: Algebra-Based I with Lab	5
		Subtotal: 13

Electives

- Select 1 credit from the [Approved List of Electives](#) or log into eWOLF to see elective requirements in DegreeCheck. Students may take FER 102 or FER 280 as an option.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 1

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado State University-Ft. Collins [B.S. Fermentation Science and Technology]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Note: Completion of this Degree with Designation will enable the student to transfer to Colorado State University. For CSU core curriculum requirements please click here. For more on the CSU B.S. in Fermentation Science and Technology program please click here.

For a different set of classes that will enable the student to transfer to Metro State University - Denver please click here.

Total Credit Hours: 60

GEOLOGY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_GEOL

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

MAT 201	Calculus I: MA1	5
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Subtotal: 5

Arts and Humanities

Select two gtPathways Arts & Humanities course (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

CHE 111	General College Chemistry I with Lab	5
CHE 112	General College Chemistry II with Lab	5

Subtotal: 10

Additional Required Courses

GEY 111	Physical Geology with Lab	4
GEY 112	Historical Geology with Lab	4
MAT 202	Calculus II: MA1	5
PHY 211	Physics: Calculus-Based I with Lab	5
PHY 212	Physics: Calculus-Based II with Lab	5

Subtotal: 23

Electives

- Select 1 credit* from the [Approved List of Electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credit should be done with a Front Range advisor and your intended transfer institution.

PLEASE NOTE: In addition to meeting the requirements listed here, contact the department at the school to which you want to transfer for program-specific information.

Subtotal: 1

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University** [B.A./B.S. Earth Sciences; Geology emphasis]
- Colorado Mesa University** [B.S. Geosciences; Geology concentration]
- Colorado State University-Ft Collins [B.S. Geology; Geology concentration]
- Fort Lewis College [B.S. Geology; Geology option]
- University of Colorado Boulder [B.A. Geology]
- University of Northern Colorado [B.S. Earth Sciences; Geology emphasis]
- Western State Colorado University [B.A. Geology; Geology emphasis]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

*Colorado Mountain College also offers some four-year degrees; it is participating in this agreement as both a two-year and four-year degree-granting institution.

**Adams State University and Colorado Mesa University also offer two-year degrees; they are participating in this agreement as both two-year and four-year degree-granting institutions.

Total Credit Hours: 60

ENVIRONMENTAL HORTICULTURE - LANDSCAPE BUSINESS

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_EHLD

HLT prefixed courses are available only at the Westminster Campus and Larimer Campus.

DEGREE REQUIREMENTS

PLEASE NOTE: The catalog requirements listed include recommended courses that can be used to fulfill this agreement. To view this agreement in its entirety please visit: http://highered.colorado.gov/Academics/Transfers/Agreements/STAA_ENVIRON_HORTICULTURE_Landscape_Business_FINAL.pdf

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

- Students may instead complete ENG 122 and a gtPathways approved CO3 course

Mathematics

MAT 166	Pre-Calculus	5
		Subtotal: 5

Arts and Humanities

Select two gtPathways Arts & Humanities courses from one of the following AH categories. (GT-AH1, GT-AH2, GT-AH4)

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3

Subtotal: 6

Natural and Physical Sciences

BIO 221	Botany with Lab and	5
CHE 101	Introduction to Chemistry I with Lab or	5
CHE 111	General College Chemistry I with Lab	5

Subtotal: 10

BIO 221 is recommended, however, BIO 111 and BIO 112 may also be used to complete these degree requirements.

Horticulture Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

HLT 101	Introduction to Horticulture	4
HLT 202	Plant Health Care	4
HLT 240	Introductory Soil Science	4

Subtotal: 12

Additional Required Courses

Choose at least 6 credits and no more than 12 credits of coursework from the list below. If you choose to take just the minimum of 6 credits, then you will need the 6 credits of recommended HLT electives below.

ACC 101	Fundamentals of Accounting or	3
ACC 121	Accounting Principles I	4
CIS 118	Introduction to PC Applications	3
MAN 230	Corporate Ethics & Social Resp	3
SPA 111	Spanish Language I	5

Subtotal: 6-9

Recommended Electives

- Select 3-6 credits from additional HLT (p. 347) courses (except HLT 208; HLT 216; HLT 249).

- Students completing a minimum of 3 credits of HLT electives meet the requirements for the Horticulture certificate.

- **Recommended HLT courses include:** HLT 131, HLT 150, HLT 151, HLT 250, HLT 260. Student completing HLT 150 and HLT 151 meet the requirements for the Irrigation Technician certificate.

- Selection of elective credits should be done with a Front Range advisor, HLT Program Director, and your intended transfer institution.

Subtotal: 3-6

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado State University-Ft Collins [B.S. Environmental Horticulture; Landscape Business concentration]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis.

Total Credit Hours: 60

HORTICULTURE BUSINESS MANAGEMENT

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_HBMD

HLT prefixed courses are available only at the Westminster Campus and Larimer Campus.

DEGREE REQUIREMENTS

PLEASE NOTE:

The catalog requirements listed include recommended courses that can be used to fulfill this agreement. To view this agreement in its entirety please visit:

http://higher.ed.colorado.gov/academics/transfers/Agreements/STAA_HORT_BUS_MGMT_Final.pdf

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may instead complete ENG 122 and a gtPathways approved CO3 course

Mathematics

MAT 121	College Algebra	4
		Subtotal: 4

Arts and Humanities

Select two gtPathways Arts & Humanities courses from one of the following AH categories. (GT-AH1, GT-AH2, GT-AH4)

Subtotal: 6

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3

Subtotal: 6

Natural and Physical Sciences

BIO 221	Botany with Lab and	5
CHE 101	Introduction to Chemistry I with Lab or	5

CHE 111	General College Chemistry I with Lab	5
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Subtotal: 10

BIO 221 (p. 307) is recommended, however, BIO 111 (p. 306) and BIO 112 (p. 306) may also be used to complete these degree requirements.

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor’s degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

CIS 118	Introduction to PC Applications	3
HLT 101	Introduction to Horticulture	4
HLT 240	Introductory Soil Science	4
HLT 260	Plant Propagation	4
BUS 226	Business Statistics or	3
MAT 135	Introduction to Statistics	3

Subtotal: 18

Recommended Electives

- Select 7 credits from additional HLT (p. 347) or FLD (p. 335) courses (except HLT 208; HLT 216; HLT 249; FLD 100 & FLD 289).

- Selection of elective credits should be done with a Front Range advisor, HLT Program Director, and your intended transfer institution.

Subtotal: 7

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado State University-Ft Collins [B.S. Horticulture; Horticulture Business Management concentration]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

MATHEMATICS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_MATH

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Students may also complete ENG 122 (p. 331) and a gtPathways approved CO3 course

Mathematics

MAT 201	Calculus I: MA1	5
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Subtotal: 5

Arts and Humanities

Select three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 9

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

PHY 211	Physics: Calculus-Based I with Lab	5
PHY 212	Physics: Calculus-Based II with Lab	5

Subtotal: 10

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor’s degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

COM 115	Public Speaking or	3
COM 125	Interpersonal Communication	3
MAT 202	Calculus II: MA1	5
MAT 203	Calculus III or	4
MAT 204	Calculus III with Engineering Applications	5
CSC 160	Computer Science I: (Language)	4

Subtotal: 16-17

CSU-Ft Collins requires a different computer science course than CSC 160. Students should seek advising at CSU-Ft Collins for information on the appropriate computer science course to take.

Electives

- Select 4-5 credits from the [Approved List of Electives](#) or log into eWOLF to see elective requirements in DegreeCheck.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 4-5

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Adams State University* [B.A. Mathematics]
- Colorado Mesa University* [B.S. Mathematics; Mathematics, Secondary Education, or Statistics concentrations]
- Colorado State University-Ft Collins [B.S. Mathematics]
- Colorado State University-Pueblo [B.A. Mathematics; B.S. Mathematics]
- Fort Lewis College [B.A. Mathematics; Mathematics option]
- Metropolitan State University of Denver [B.A. Mathematics]
- University of Colorado Boulder [B.A. Mathematics]
- University of Colorado Colorado Springs [B.A. Mathematics; B.S. Mathematics]
- University of Colorado Denver [B.S. Mathematics]

- University of Northern Colorado [B.S. Mathematics; Applied Mathematical Sciences or Liberal Arts emphases]
- Western State Colorado University [B.A. Mathematics]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

*Adams State University and Colorado Mesa University also offer two-year degrees; they are participating in this agreement as both two-year and four-year degree-granting institutions.

Total Credit Hours: 60

PHYSICS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_PHYD

The curriculum for this Degree with Designation assumes students enter FRCC prepared to take Calculus (MAT 201) and Chemistry (CHE 111). Any prerequisite coursework the student needs will not be applied towards graduation. See an advisor for details.

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

MAT 201	Calculus I: MA1	5
		Subtotal: 5

Arts and Humanities

Select three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4)

Subtotal: 9

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select one gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 3

Natural and Physical Sciences

PHY 211	Physics: Calculus-Based I with Lab	5
PHY 212	Physics: Calculus-Based II with Lab	5
		Subtotal: 10

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

PHY 213	Physics III: Calculus-Based Modern Physics	3
MAT 202	Calculus II: MA1	5
MAT 203	Calculus III or	4
MAT 204	Calculus III with Engineering Applications	5
MAT 265	Differential Equations or	3
MAT 266	Differential Equations with Linear Algebra	4
CHE 111	General College Chemistry I with Lab	5
CHE 112	General College Chemistry II with Lab or	5
CSC 160	Computer Science I: (Language)	4
		Subtotal: 24

- **PLEASE BE ADVISED:** If you choose to take one of the following courses: MAT 204, MAT 266, or CHE 112, it will put you over 60 credits. The courses will transfer but the extra credits may not. That is, the receiving institution may still require the completion of 60 credits for the major.
- Students planning to transfer to University of Colorado Boulder must take CHE 112 (not CSC 160) to fulfill this requirement.
- Students planning to transfer to University of Northern Colorado must take CSC 160 (not CHE 112) to fulfill this requirement.
- Students planning to transfer to Fort Lewis College or University of Colorado-Colorado Springs must take both CSC 160 and CHE 112.
- Students planning to transfer to a receiving institution not listed here may choose either one of these courses.

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado Mesa University [B.S. Physics]
- Colorado State University-Ft Collins [B.S. Physics]
- Colorado State University-Pueblo [B.S. Physics]
- Fort Lewis College [B.S. Physics – Physics option]
- Metropolitan State University of Denver [B.A./B.S. Physics]
- University of Colorado Boulder [B.A. Physics]
- University of Colorado Colorado Springs [B.S. Physics]
- University of Colorado Denver [B.S. Physics]
- University of Northern Colorado [B.S. Physics; Astronomy, Engineering, Mathematics emphases]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

PSYCHOLOGY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AS_AS_PSYS

DEGREE REQUIREMENTS

General Education Requirements

Written Communication

ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 6

Students may also complete ENG 122 and a gtPathways approved CO3 course

Mathematics

MAT 121	College Algebra	4
		Subtotal: 4

Arts and Humanities

Select six (6) additional credits from at least two different categories of gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4).

Subtotal: 6

Arts and Humanities / Philosophy

PHI 111	Introduction to Philosophy	3
	or	
PHI 112	Ethics	3
		Subtotal: 3

History

Select one gtPathways course (GT-HI1)

Subtotal: 3

Social and Behavioral Sciences

Select two gtPathways Social and Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3)

Subtotal: 6

Natural and Physical Sciences

BIO 111	General College Biology I with Lab	5
BIO 112	General College Biology II with Lab	5
CHE 111	General College Chemistry I with Lab	5
CHE 112	General College Chemistry II with Lab	5
		Subtotal: 20

Completing both two-semester sequences of BIO 111 & BIO 112 and CHE 111 & CHE 112 as listed above, fulfills agreement requirements for all participating universities (University of Colorado-Denver; Colorado State University-Ft. Collins; Colorado State University-Pueblo).

Students planning to transfer to Colorado State University-Ft. Collins or Colorado State University-Pueblo and electing not to complete both BIO & CHE sequences above, must complete **EITHER** BIO 112 **OR** CHE 112 **AND** one GT-SC1 course. If the GT-SC1 course selected is only 4 credits, students must complete 4 credits of electives from the approved elective list.

Additional Required Courses

Please note: if these credits are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit towards graduation. Please check with the receiving institution to determine in which way these courses will be applied.

COM 115	Public Speaking	3
	or	
COM 125	Interpersonal Communication	3
PSY 101	General Psychology I	3
PSY 102	General Psychology II	3

Subtotal: 9

Electives

- Select 3-4 credits from the Approved Elective List or log into eWOLF to see elective requirements in DegreeCheck; electives are restricted to **non-Psychology** courses.
- Selection of elective credits should be done with a Front Range advisor and your intended transfer institution.

Subtotal: 3-4

PARTICIPATING COLORADO PUBLIC FOUR-YEAR INSTITUTIONS OF HIGHER EDUCATION

- Colorado State University-Ft. Collins [B.S. Psychology; General Psychology concentration]
- Colorado State University-Pueblo [B.S. Psychology]
- University of Colorado Denver [B.S. Psychology]

The receiving institutions listed above in this agreement will accept all applicable credits earned within ten years of transfer to the receiving institution. Credits earned more than ten years earlier will be evaluated on a course-by-course basis. Please view the official agreement here.

Total Credit Hours: 60

Career Education

AAS Degrees & Certificates

This degree prepares students to enter the workforce in skilled and technical occupations. These programs are not intended to transfer to bachelor's degree programs, but certain courses may be accepted toward a bachelor's degree at some institutions. FRCC awards the Associate of Applied Science Degree upon completion of a specific approved program listed in this catalog. View programs by transfer degree (p. 136), career education (p. 161), by location (p. 240), or by career & academic community (p. 11).

Assessment testing is required for all students. Students should consult with a faculty member before registering for courses in this program of study.

Accounting

ACCOUNTING - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_ACC2

This program offers a range of courses that provide an introduction to accounting theory and practice, as well as more extensive exposure to accounting applications in selected areas.

Courses meet the diverse needs of students and of clerical and paraprofessional accounting personnel in business, industry, government, and other economic organizations.

The AAS degree in accounting prepares students for job entry or job upgrading within a wide variety of clerical and

paraprofessional positions in the accounting field. The program provides students with knowledge and skills needed to work effectively under the supervision of controllers, chief accountants, accounting supervisors, certified public accountants, and other professional accountants.

Note: Students are required to meet with an accounting program advisor to develop an educational plan before completing any elective courses.

For further information, contact Jim Vernon at (303)-678-3703 for the Boulder County Campus, Lauren Smith at (970)-204-8503 for the Larimer Campus, and Bev Mason at (303)-404-5417 for the Westminster Campus.

All courses in both the degree and certificate programs must be completed with a "C" or better to graduate.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a faculty member before registering for courses in this program of study.

Required Courses

ACC 115	Payroll Accounting	3
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
ACC 133	Tax Help Colorado Practicum	1
ACC 135	Spreadsheet Applications for Accounting	3
ACC 245	Computerized Accounting with a Professional Package	3
ACC 131	Income Tax or	3
ACC 132	Tax Help Colorado	2
		Subtotal: 20-21

Capstone and Community Engagement

Select one course (1 credit) from below:

ACC 280	Internship	1
ACC 289	Capstone: Company Financial Overview	1
ACC 294	Service Learning	1
		Subtotal: 1

Electives

Select 6 credits from below:

ACC 101	Fundamentals of Accounting	3
ACC 115	Payroll Accounting	3
ACC 131	Income Tax	3
ACC 132	Tax Help Colorado and	2
ACC 133	Tax Help Colorado Practicum	1
		Subtotal: 6

Accounting 200-Level Elective Courses

Select 6-8 credits from below:

ACC 211	Intermediate Accounting I	4
ACC 212	Intermediate Accounting II	4
ACC 226	Cost Accounting	3
ACC 231	Business Taxation	3

Subtotal: 6-8

Business Support Courses

BUS 115	Introduction to Business	3
BUS 217	Business Communication and Report Writing	3
BUS 216	Legal Environment of Business	3
BUS 226	Business Statistics	3
CIS 155	PC Spreadsheet Concepts: Excel	3
MAN 230	Corporate Ethics & Social Resp	3

Subtotal: 18

General Education Courses

Computer Technology

Select one course (3 credits) from below:

CIS 118	Introduction to PC Applications or	3
CIS 135	Complete PC Word Processing: Word	3

Subtotal: 3

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3

Subtotal: 6

General Education Courses

Subtotal: 15

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

Accounting - Certificates

ACCOUNTING

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_ACC2

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review for a title change to "Bookkeeping". Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of title change approval.

This Accounting Certificate prepares students for job entry into a wide variety of clerical and technical positions that have a recordkeeping or bookkeeping component.

Students must have previous knowledge and skills in basic computer applications in a Microsoft Windows operating environment. Students without prior computer experience should remedy any computer deficiencies before beginning the certificate course of study. Consulting with an accounting faculty

advisor is strongly recommended before beginning the accounting certificate program.

REQUIREMENTS

Required Courses

ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
ACC 135	Spreadsheet Applications for Accounting	3
ACC 138	Payroll and Sales Tax	3
ACC 245	Computerized Accounting with a Professional Package	3
BUS 217	Business Communication and Report Writing	3
CIS 155	PC Spreadsheet Concepts: Excel	3

Subtotal: 23

Capstone & Community Engagement

Select 1 course (1 credit) from below:

ACC 280	Internship	1
ACC 289	Capstone: Company Financial Overview	1

Subtotal: 1

Total Credit Hours: 24

Learn more about gainful employment (p. 254)

See gainful employment information

ACCOUNTING TRANSFER

Locations:

Field Code:

The AAS degree in Accounting is offered primarily as a job-entry or job-advancement program, rather than as a transfer program. However, students may continue their studies in Accounting at Regis University to earn a Bachelor Science in Accounting by completing credits at FRCC and Regis see transfer guide to learn more about transferring to Regis. Students interested in transferring should view the Associate Degrees with Designation - Business (p. 139) section of this catalog.

Applied Technology

APPLIED TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_APT1

This program aligns with a statewide articulation agreement that allows Area Technical College (ATC) graduates at Delta-Montrose Technical College, Emily Griffith Technical College and Pickens Technical College to apply up to 45 credits of transfer credit from an **approved certificate**¹ toward the completion of an AAS degree in Applied Technology at FRCC. The AAS degree in Applied Technology requires the completion of at least 60 credit hours with at least 15 credit hours of approved elective courses completed at FRCC. All courses must be completed with a "C" or better to graduate from this program. The required general education courses can be selected from below.

REQUIREMENTS

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3-5

Required Courses

Select 12 credits from the Approved Elective List (p. 247).

Subtotal: 12

Individual coursework from the technical college is credited to the student's transcript upon completion of the requirements of both institutions. Students may enroll concurrently at both a technical college and at FRCC. Students must comply with the regulations and requirements relating to admission and attendance at each institution.

Total Credit Hours: 60-62

¹**Approved certificate** is a certificate program approved by the State Board for Community Colleges and Occupational Education (SBCCOE)

Architectural Engineering and Construction Technology Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 055 or above may begin this program of study. Students scoring below this level should consult with a faculty member before registering for courses in this program of study.

For further information, call Vrushali Bharadwaj at 303-404-5446 or email vrushali.bharadwaj@frontrange.edu for Westminster students. Contact Jamie Hahn at 970-204-8380 or email jamie.hahn@frontrange.edu for Larimer students.

All courses applied to the degree or certificate must be completed with a grade of "C" or better.

ARCHITECTURAL AND BUILDING SCIENCE - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus

Field Code: F_AAS_ARB

This degree is a comprehensive two-year study in architectural drafting, elementary design and building science. The program emphasizes green/sustainable architectural practices and essential technical concepts used in architectural CAD and building information modeling (BIM). It prepares students for employment in the following areas: architectural CAD drafting technician for architectural design and construction firms, governmental entities, large corporations, and manufacturers/suppliers or building products. Graduates may also pursue further study in architecture or engineering.

REQUIREMENTS

Required Courses

AEC 101	Basic Architectural Drafting	4
AEC 102	Residential Construction Drawing	4
AEC 121	Construction Materials and Systems	3
AEC 122	Construction Practices and Documents	2
AEC 123	Commercial Construction Drawings	4
AEC 200	Building Design Development	3
AEC 208	Building Environmental Systems I	3
AEC 218	Sustainable Building Systems	3
AEC 289	Capstone	3

CAD 101	Computer-Aided Drafting/2D I	3
CAD 224	Revit Architecture	3
		Subtotal: 35

Electives

Students will work with an advisor in order to select **9 credits** from any combination of AEC (p. 295), CAD (p. 308) or IND (p. 354) classes.

Subtotal: 9**General Education Courses****Arts and Humanities**

ART 121	Drawing I	3
		Subtotal: 3

Communication

COM 115	Public Speaking	3
		Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
		Subtotal: 3

Note: The statement above reading *MAT 107 or higher* (ONLY includes MAT 107; MAT 121; MAT 122; MAT 125 or MAT 166 or higher (p. **Error! Bookmark not defined.**)). Students desiring professional advancement in this field should consider taking MAT 121 (4 credits) and MAT 122 (3 credits) or MAT 166 (5 credits) or higher to satisfy general education requirements in mathematics.

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
		Subtotal: 3

Natural and Physical Sciences

PHY 105	Conceptual Physics with Lab or	4
PHY 111	Physics: Algebra-Based I with Lab	5
		Subtotal: 4-5

Note: PHY 105 students desiring professional advancement in this field should consider taking PHY 111 Physics: Algebra-Based I with Lab (5 credit hours) to satisfy general education requirements in physics.

Required General Education Courses**Subtotal: 16-17****Total Credit Hours: 60-61**

Learn more about gainful employment (p. 254)

ARCHITECTURAL DRAFTING - CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_DRA3

This certificate provides students with entry-level drafting and CAD skills. This certificate emphasizes foundation concepts in building information modeling (BIM).

REQUIREMENTS**Required Courses**

AEC 101	Basic Architectural Drafting	4
AEC 102	Residential Construction Drawing	4
AEC 121	Construction Materials and Systems	3

AEC 122	Construction Practices and Documents	2
AEC 123	Commercial Construction Drawings	4
CAD 101	Computer-Aided Drafting/2D I	3
CAD 102	Computer-Aided Drafting/2D II	3
CAD 224	Revit Architecture	3

Interior Design students must take CAD 105 (p. 308) AutoCAD for Interiors (4 credits) in replacement of CAD 101 (p. 308) (3 credits) and CAD 102 (p. 308) (3 credits). The remaining 2 credits may be fulfilled by any AEC (p. 295), CAD (p. 308) or IND (p. 354) related coursework.

Total Credit Hours: 26

Learn more about gainful employment (p. 254)

See gainful employment information

Automotive Technology

AUTOMOTIVE TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_AUT

This program provides students with entry-level skills and upgrading for those in the automotive field. Program graduates use their technical skills to test, diagnose, and repair the complex mechanical, chemical, and electronic equipment found in today's automobiles. This includes an understanding of the principles associated with engines and drive trains, brakes and alignment, and fuel and emission controls. All automotive technology programs are National Automotive Technician's Education Foundation (NATEF)-accredited, and all program instructors are ASE certified.

Automotive Technology coursework is offered on an open entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Specific courses may not be offered every semester. Working professionals may take individual classes to upgrade skills without earning a degree. Credit may be granted for previous education/training or related work experience. Demonstrated mastery of skills is required. Refer to the Prior Learning Assessment Credit section.

Articulation agreements exist with many local secondary and postsecondary vocational programs. Contact a program advisor to determine whether credit may be awarded for previous training.

Assessment testing is required for all students. Students who place into CCR 092 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

All courses applied to the degree and/or certificate must be completed with a grade of "C" or better.

NEW students are strongly encouraged to meet with a Pathway Advisor.

Students with relevant coursework and/or relevant industry job experience should contact an ASE pathway advisor/faculty member to determine if credit can be granted.

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 110	Brakes I	2
ASE 111	Automotive Brake Service II	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2
ASE 130	General Engine Diagnosis	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 151	Automotive Manual Transmission/Transaxles and Clutches I	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2
ASE 160	Automotive Engine Repair	2
ASE 161	Engine Repair and Rebuild	3
ASE 162	Automotive Engine Repair	2
ASE 210	Automotive Power and ABS Brake Systems	2
ASE 221	Automotive and Diesel Body Electrical	4
ASE 231	Automotive Computers and Ignition Systems	2
ASE 233	Auto Fuel Injection and Emissions Systems II	4
ASE 240	Suspension and Steering III	2
ASE 250	Automatic Transmission/Transaxle Service	1
ASE 251	Automotive Transmission and Transaxle Repair	3
ASE 264	Introduction Automotive Heating and Air Conditioning	1
ASE 265	Heating and Air Conditioning Systems	4

Subtotal: 54

Note: ASE 285 Independent Study may be substituted for any of the ASE modules with permission of the instructor and cannot exceed 6 credit hours.

General Education Courses

Communication

Select one course (3 credits) from below:

MTE 110	Applied Communication & Teamwork in Industry	3
COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3

Subtotal: 3

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Natural and Physical Sciences

PHY 105	Conceptual Physics with Lab or higher	4
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Subtotal: 4

General Studies Elective

Select one course (3 credits) from the Approved Electives List

Subtotal: 3

Required General Education Courses

Subtotal: 16

Total Credit Hours: 70

Learn more about gainful employment (p. 254)

Automotive Technology - Certificates

AUTOMATIC TRANSMISSION/TRANSAXLE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AAUT

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2
ASE 250	Automatic Transmission/Transaxle Service	1
ASE 251	Automotive Transmission and Transaxle Repair	3

Total Credit Hours: 10

BRAKES

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AUB

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 110	Brakes I	2
ASE 111	Automotive Brake Service II	2
ASE 120	Basic Automotive Electricity	2
ASE 210	Automotive Power and ABS Brake Systems	2

Total Credit Hours: 10

AUTOMOTIVE ELECTRICAL/ELECTRONIC SYSTEMS

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AAE1

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2
ASE 221	Automotive and Diesel Body Electrical	4
ASE 231	Automotive Computers and Ignition Systems	2

Total Credit Hours: 12

ENGINE PERFORMANCE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_ENPR

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2
ASE 130	General Engine Diagnosis	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 231	Automotive Computers and Ignition Systems	2
ASE 233	Auto Fuel Injection and Emissions Systems II	4

Total Credit Hours: 16

Learn more about gainful employment (p. 254)

See gainful employment information

ENGINE REPAIR

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AER

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 130	General Engine Diagnosis	2
ASE 160	Automotive Engine Repair	2
ASE 161	Engine Repair and Rebuild	3
ASE 162	Automotive Engine Repair	2

Total Credit Hours: 13

GENERAL AUTOMOTIVE MAINTENANCE AND REPAIR

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_GAMR

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 110	Brakes I	2
ASE 120	Basic Automotive Electricity	2
ASE 130	General Engine Diagnosis	2
ASE 140	Suspension and Steering I	2

Total Credit Hours: 10

AUTOMOTIVE HEATING AND AIR CONDITIONING

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AHVC

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 264	Introduction Automotive Heating and Air Conditioning	1
ASE 265	Heating and Air Conditioning Systems	4

Total Credit Hours: 9

LIGHT DIESEL ENGINE REPAIR

Locations: Larimer Campus

Field Code: F_CER_ATDT

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging System	2
DPM 100	Introduction to Diesel Mechanics	2
DPM 103	Diesel Engines I	4
DPM 203	Diesel Engines II	4

Total Credit Hours: 16

Learn more about gainful employment (p. 254)

See gainful employment information

MANUAL DRIVETRAIN AND AXLES

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AUTW

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 151	Automotive Manual Transmission/Transaxles and Clutches I	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2

Total Credit Hours: 10

SUSPENSION AND STEERING

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AUTS

REQUIREMENTS

Required Courses

ASE 101	Auto Shop Orientation	2
ASE 120	Basic Automotive Electricity	2
ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 240	Suspension and Steering III	2

Total Credit Hours: 10

Business
Business - Associate of Applied Science Degrees

BUSINESS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_BUS3

This program is designed to give students the flexibility to develop a customized business degree. Required courses include foundational business, as well as general education courses. With the assistance of a Business Faculty Advisor, students develop a customized educational plan for their business elective courses. (NOTE: Students are highly encouraged to meet with a Business Faculty Advisor each semester BEFORE registering for classes).

All courses in the degree and certificate programs must be completed with a "C" or better

Articulation agreements exist with many secondary and post-secondary programs. Contact a program advisor to determine whether credits may be awarded.

For further information, contact Abel Coombs at 303-404-5440 for Westminster Campus, Jim Vernon at 303-678-3703 for Boulder County Campus, and Tiffany Broesche at 970-204-8502 for Larimer Campus.

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 055 or above may begin this program of study. Students scoring below this level should consult with a Business Faculty Advisor before registering for courses in this program of study.

REQUIREMENTS

Required Major Courses

ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
BUS 226	Business Statistics	3
BUS 289	Capstone	2
	or	
BUS 281	Internship	2
MAN 226	Principles of Management	3
MAN 230	Corporate Ethics & Social Resp	3
MAR 216	Principles of Marketing	3

Subtotal: 27

Students are to complete BUS 281 (p. 308) or BUS 289 (p. 308) in their final semester.

Electives

Students must select 15 credits from any of the following areas of study: Accounting (ACC) (p. 293), Business (BUS) (p. 307), Computer Information Systems (CIS) (p. 312), Computer Networking (CNG) (p. 314), Computer Web-Based (CWB) (p. 321), Economics (ECO) (p. 326), Finance (FIN) (p. 335), Management (MAN) (p. 360), Marketing (MAR) (p. 362), and Multimedia Graphic Design (MGD) (p. 365).

Subtotal: 18

General Education Courses

Computer Technology

Select one course (3 credits) from the following PC application courses:

CIS 118	Introduction to PC Applications	3
CIS 135	Complete PC Word Processing: Word	3
CIS 145	Complete PC Database: ACCESS	3
CIS 155	PC Spreadsheet Concepts: Excel	3

Subtotal: 3

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 121	College Algebra or higher	4
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Subtotal: 3-4

Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3

Subtotal: 6

General Education Courses

Subtotal: 15-16

Total Credit Hours: 60-61

Learn more about gainful employment (p. 254)

BUSINESS LOGISTICS

Locations: Westminster Campus

Field Code: F_AAS_BSLG

This program is designed to give students the flexibility to develop a customized business degree. Required courses include foundational business, as well as general education courses. With the assistance of a Business Faculty Advisor, students develop a customized educational plan for their business elective courses. (NOTE: Students are highly encouraged to meet with a Business Faculty Advisor each semester BEFORE registering for classes).

All courses in the degree and certificate programs must be completed with a "C" or better.

Articulation agreements exist with many secondary and post-secondary programs. Contact a Program Advisor to determine whether credits may be awarded.

For further information, contact Abel Coombs at 303-404-5440 for the Westminster Campus.

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 055 or above may begin this program of study. Students scoring below this level should consult with a Business Faculty Advisor before registering for courses in this program of study.

REQUIREMENTS

Required Major Courses

ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
BUS 201	Business Logistics Optimization	3
BUS 202	Purchasing, Supply, and Sourcing Logistics	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
BUS 218	Legal Environment of Business II	3
BUS 226	Business Statistics	3
BUS 289	Capstone or	2
BUS 281	Internship	2
MAN 105	Logistics Management	3
MAN 226	Principles of Management	3
MAN 230	Corporate Ethics & Social Resp	3
MAR 216	Principles of Marketing	3

Subtotal: 39

Students are to complete BUS 281 (p. 308) or BUS 289 (p. 308) in their final semester.

Electives

Select 3 credits from any CIS (p. 312) course AND 3 credits from the GIS courses listed below:

GIS 101	Introduction to Geographic Information Systems	3
GIS 131	Global Positioning Systems for Global Information Systems	3

Subtotal: 6

NOTE: Students are highly encouraged to meet with a Business Faculty Advisor each semester BEFORE registering for classes.

General Education Courses

Computer Technology

Select one course (3 credits) from the following PC application courses:

CIS 118	Introduction to PC Applications	3
CIS 135	Complete PC Word Processing: Word	3
CIS 145	Complete PC Database: ACCESS	3
CIS 155	PC Spreadsheet Concepts: Excel	3

Subtotal: 3

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 121	College Algebra or higher	4
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Subtotal: 3-4

Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3

Subtotal: 6

General Education Courses

Subtotal: 15-16

Total Credit Hours: 60-61

Learn more about gainful employment (p. 254)

BUSINESS TRANSFER

Locations:

Field Code:

FRCC provides a transfer pathway in business to many Colorado state four-year colleges and universities. Students interested in transferring should view the Associate Degrees with Designation-Business (p. 139) section of this catalog.

Business - Certificates

BUSINESS SPECIALIZATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_BSPC

This certificate is targeted at specific business categories; therefore, at least 3 credits must be selected from the BUS prefix and 6 credits selected from the following prefixes: ACC, BUS, CIS/CSC/CNG/CWB, ECO, MAN, MAR, MGD, or FIN.

Total Credit Hours: 9

FOUNDATIONS OF BUSINESS

Locations: Boulder County Campus, Brighton Center, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_

This certificate provides students with foundational business and accounting principle knowledge necessary for entry-level work. Students strengthen their core knowledge with elective coursework focusing on marketing, management or business and legal relationships.

REQUIREMENTS

Required Courses

ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
BUS 217	Business Communication and Report Writing	3

Subtotal: 10

Electives

Select one course (3 credits) from the courses listed below:

BUS 216	Legal Environment of Business	3
MAN 226	Principles of Management	3
MAR 216	Principles of Marketing	3

Subtotal: 3

Total Credit Hours: 13

FOUNDATIONS OF LEADERSHIP & MANAGEMENT

Locations: Boulder County Campus, Online Learning

Field Code: F_CER_MAN6

This certificate program is designed for individuals who seek to develop and improve their business management skills.

REQUIREMENTS

Required Courses

BUS 217	Business Communication and Report Writing	3
MAN 224	Leadership	3
MAN 226	Principles of Management	3

Total Credit Hours: 9

INTERNATIONAL BUSINESS BASICS

Locations: Boulder County Campus

Field Code: F_CER_BUSN

This certificate program is designed for individuals who seek to develop and improve skills in international business.

REQUIREMENTS

Required Courses

BUS 115	Introduction to Business	3
BUS 203	Introduction to International Business	3
MAR 240	International Marketing	3

Total Credit Hours: 9

LOGISTICS

Locations: Westminster Campus

Field Code: F_CER_LOG

Students who successfully earn an FRCC Certificate in Logistics will have a comprehensive understanding of distribution, warehousing, purchasing and transportation. Warehousing addresses the storage and staging of materials for their ultimate need and end use. Purchasing addresses the associated costs of materials in conjunction with and interrelated with transportation, distribution and warehousing.

REQUIREMENTS

Required Courses

BUS 201	Business Logistics Optimization	3
BUS 202	Purchasing, Supply, and Sourcing Logistics	3
BUS 217	Business Communication and Report Writing	3
BUS 218	Legal Environment of Business II	3
MAN 105	Logistics Management	3

Total Credit Hours: 15

PROJECT MANAGEMENT

Locations: Brighton Center, Westminster Campus

Field Code: F_CER_PRJ1

This certificate program introduces the tools and skills necessary to develop and implement project management planning that can be used in a multitude of different industries including biotech, construction, information systems, marketing, telecommunications, engineering, and manufacturing.

REQUIREMENTS

Required Courses

MAN 241	Project Management in Organizations	3
MAN 243	Project Management in Action	3
CIS 202	Automated Project Management: MS Project	3

Total Credit Hours: 9

RETAIL MANAGEMENT

Locations: Boulder County Campus, Brighton Center, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_BMR

This certificate program prepares students for the fast-paced changes taking place in the retail and grocery industry, so they are prepared to fill the numerous and varied management opportunities available. This broad program is appropriate for retailers AND suppliers and is endorsed by the Western Association of Food Chains (WAFC). All of the WAFC member grocery chains recognize this unique Retail Management Certificate (www.wafc.com). Some classes will be offered in hybrid, online, or 7 1/2 week formats.

REQUIREMENTS

Required Courses

BUS 217	Business Communication and Report Writing	3
CIS 118	Introduction to PC Applications	3
MAN 128	Human Relations in Organizations	3
MAN 200	Human Resources Management I	3
MAN 225	Managerial Finance	3
MAN 226	Principles of Management	3
MAR 117	Principles of Retailing	3
MAR 216	Principles of Marketing	3

Total Credit Hours: 24

Learn more about gainful employment (p. 254)

See gainful employment information

SMALL BUSINESS OPERATIONS

Locations: Boulder County Campus, Brighton Center, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_

This certificate program prepares students for the entrepreneurial challenge of starting, marketing, and operating a successful new small business. It provides students with financial analysis tools to aid in making quality financial decisions.

REQUIREMENTS

Required Courses

BUS 102	Entrepreneurial Operations	3
	or	
MAN 216	Small Business Management	3

MAN 225 Managerial Finance 3

Total Credit Hours: 6

Computer-Aided Drafting and Design

This program provides career opportunities to the advanced computer-aided drafting and design technician. It is designed to offer advanced training for the professional and technician already in the field or for students in a related drafting program.

Assessment testing is required for all students. Students who are reading at the college level and place into CCR 093 or above and MAT 055 or above may begin this program of study. All courses applied to the certificates must be completed with a grade of "C" or better.

COMPUTER AIDED DRAFTING AND DESIGN - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_CAD4

This program provides advanced CAD skills to the student seeking a career within computer-aided drafting and design. The student will complete 2D and 3D projects using the most current releases of the CAD software. Upon completion of this AAS degree, the student is prepared to enter the workforce as a CAD technician.

This program will meet unique computer-aided drafting and design, CAD illustration, and graphics needs. With the growth of employment needs in small- to mid-sized companies, employers are increasingly seeking employees with advanced and specialized computer-aided drafting skills.

Coursework is offered on an open-entry basis: students may complete some of the courses, enter the workforce, and then return to complete the program or upgrade a specific skill. Some certificates and courses may not be offered every semester or at every campus. Please work with a Program Advisor in selection of your courses. Please contact Claudia Romero, 970-204-8632 at the Larimer Campus or Vrushali Bharadwaj at vrushali.bharadwaj@frontrange.edu at the Westminster Campus.

REQUIREMENTS

All courses applied to the degree must be completed with a grade of "C" or better.

Required Courses

CAD 100	Print Reading for CAD	3
CAD 101	Computer-Aided Drafting/2D I	3
CAD 102	Computer-Aided Drafting/2D II	3
CAD 115	Sketchup	3
CAD 201	Computer-Aided Drafting/Custom	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 219	3DS MAX	3
CAD 262	3D Printing	3
CAD 289	Capstone or	3
CAD 280	Internship	3
		Subtotal: 27

Drawing Courses:

Select one of the following drawing courses:

AEC 101 Basic Architectural Drafting 4

EGT 101	Mechanical Design I	3
EGT 143	Civil/Survey Drafting I	3
HLT 130	Landscape Design I	3

Subtotal: 3-4

Elective Courses:

Students are strongly advised to work with a CAD program advisor in order to select at least 15 credits from among the following courses: (Those appropriate in the student's occupational interests). Not all courses are offered at every campus.

AEC 102	Residential Construction Drawing	4
AEC 121	Construction Materials and Systems	3
AEC 123	Commercial Construction Drawings	4
AEC 215	Elementary Site Planning	3
CAD 105	AutoCAD for Interiors	4
CAD 216	Advanced Sketchup	3
CAD 220	3DS/MAX Advanced Character Modeling	3
CAD 221	3DS/MAX Advanced Architectural Visualization	3
CAD 222	Autodesk Navisworks	3
CAD 224	Revit Architecture	3
CAD 225	CAD Architecture	3
CAD 227	Advanced Revit Architecture	3
CAD 229	Revit Structure	3
CAD 233	Civil 3D (Software)	3
CAD 240	Inventor I/Autodesk	3
CAD 244	Advanced Inventor	3
CAD 255	SolidWorks/Mechanical	3
CAD 259	Advanced Solidworks	3
CAD 264	3D Scanning and Modeling	4
CAD 266	Advanced 3D Printing	3
EGT 201	Engineering Materials	3
EGT 205	Geometric Dimension & Tolerance	3
EGT 243	Civil/Survey Drafting II	3
GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
GIS 131	Global Positioning Systems for Global Information Systems	3
HLT 230	Landscape Design II	3
IND 114	Space Planning	3
IND 200	Kitchen and Bath Design	4
IND 261	Advanced Kitchen and Bath Design	4

Subtotal: 15

General Education Courses

Arts and Humanities

ART 121	Drawing I	3
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Subtotal: 3

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Computer Technology

Select one course (3 credits) from the CIS or MGD courses found on the Approved Elective List. Courses are listed below:

- CIS 115 or higher (p. 312)
- MGD 111, MGD 112, MGD 117, MGD 133, MGD 143, MGD 164

Subtotal: 3

General Studies

Select one course (3 credits) from the Approved Elective List. Please Note: AEC, CAD, and IND coursework cannot be used to satisfy general education requirements in this program. Recommended areas of study include: Communication (p. 316), Business and Information Technology, Physics (p. 385), Psychology (p. 387) and/or Sociology (p. 389).

Subtotal: 3

Required General Education Courses

Subtotal: 15

Total Credit Hours: 60

Learn more about gainful employment (p. 254)

Computer-Aided Drafting and Design - Certificates

BASIC COMPUTER-AIDED DRAFTING AND DESIGN

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CAD4

This certificate prepares students to become proficient in the use of computer-aided drafting software and skills.

All courses applied to the certificates must be completed with a grade of "C" or better.

Not all certificates are offered at both campuses, please inquire with the campus Program Director or CAD Faculty for more information. Students contemplating the CAD Advanced certificates are encouraged to complete the Basic CAD certificate before starting advanced coursework.

REQUIREMENTS

Required Courses

CAD 100	Print Reading for CAD	3
CAD 101	Computer-Aided Drafting/2D I	3
CAD 102	Computer-Aided Drafting/2D II	3
CAD 115	Sketchup	3

Subtotal: 12

Drawing Course Elective

Select one of the following drawing courses:

AEC 101	Basic Architectural Drafting	4
EGT 101	Mechanical Design I	3
EGT 143	Civil/Survey Drafting I	3
HLT 130	Landscape Design I	3

Subtotal: 3-4

Interior Design students must take CAD 105 AutoCAD for Interiors (4 credits) in replace of CAD 101 (3 credits) and CAD 102 (3 credits). The remaining 2 credits may be fulfilled by any CAD or IND related coursework.

Electives

Select one of the following courses:

CAD 180	Internship	1
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CAD 185	Independent Study	1
CAD 189	Capstone	1
CAD 201	Computer-Aided Drafting/Custom	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 216	Advanced Sketchup	3

Total Credit Hours: 16-19

Learn more about gainful employment (p. 254)

See gainful employment information

ADVANCED 3D PRINTING AND 3D SCANNING

Locations: Larimer Campus

Field Code: F_CER_3DPS

This certificate prepares students to become proficient in the use of 3D Printing & 3D Scanning software & technology using Advanced CAD modeling software specific to the industry of their choice. Students contemplating the CAD Advanced certificates are encouraged to complete the Basic CAD certificate before starting advanced coursework.

REQUIREMENTS

Required Courses

CAD 202	Computer-Aided Drafting/3D	3
CAD 262	3D Printing	3
CAD 264	3D Scanning and Modeling	4
CAD 266	Advanced 3D Printing	3

CAD 289	Capstone or	3
CAD 280	Internship	3

Electives

Select 6 credits from one pathway below:

Animation & Visualization Pathway

CAD 219	3DS MAX and	3
CAD 220	3DS/MAX Advanced Character Modeling or	3
CAD 221	3DS/MAX Advanced Architectural Visualization	3

Subtotal: 6

Civil / Survey Pathway

CAD 233	Civil 3D (Software)	3
GIS 101	Introduction to Geographic Information Systems	3

Subtotal: 6

Architecture / Design Pathway

CAD 224	Revit Architecture	3
CAD 227	Advanced Revit Architecture	3

Subtotal: 6

Mechanical Pathway

CAD 240	Inventor I/Autodesk and	3
CAD 244	Advanced Inventor	3

or

CAD 255	SolidWorks/Mechanical and	3
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CAD 259	Advanced Solidworks	3
		Subtotal: 6

Total Credit Hours: 22

Learn more about gainful employment (p. 254)

See gainful employment information

ADVANCED ARCHITECTURAL COMPUTER-AIDED DRAFTING

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CADA

See also Architectural Engineering and Construction Technology. (p. 163)

This certificate prepares students to become proficient in the use of advanced architectural computer-aided drafting software with a concentration in Architectural CAD applications.

Students contemplating the CAD Advanced certificates are encouraged to complete the Basic CAD certificate before starting advanced coursework.

All courses applied to the certificates must be completed with a grade of "C" or better.

Not all certificates are offered at both campuses, please inquire with the campus Program Director or CAD Faculty for more information.

REQUIREMENTS**Required Courses**

AEC 102	Residential Construction Drawing	4
CAD 201	Computer-Aided Drafting/Custom	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 224	Revit Architecture	3
CAD 227	Advanced Revit Architecture	3
CAD 280	Internship	3
	or	
CAD 289	Capstone	3

Subtotal: 19**Electives**

Choose any 3 courses:

AEC 121	Construction Materials and Systems	3
AEC 123	Commercial Construction Drawings	4
CAD 216	Advanced Sketchup	3
CAD 219	3DS MAX	3
	Any MGD Course	3

Subtotal: 9-10**Total Credit Hours: 28-29**

Learn more about gainful employment (p. 254)

See gainful employment information

ADVANCED MECHANICAL COMPUTER-AIDED DRAFTING

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CADX

This certificate prepares students to become proficient in the use of advanced mechanical computer-aided drafting software with a concentration in Mechanical CAD applications.

Students contemplating the CAD Advanced certificates are encouraged to complete the Basic CAD certificate before starting advanced coursework.

All courses applied to the certificates must be completed with a grade of "C" or better.

Not all certificates are offered at both campuses, please inquire with the campus Program Director or CAD Faculty for more information.

REQUIREMENTS**Required Courses**

CAD 201	Computer-Aided Drafting/Custom	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 255	SolidWorks/Mechanical	3
CAD 259	Advanced Solidworks	3
CAD 262	3D Printing	3
CAD 289	Capstone	3
	or	
CAD 280	Internship	3
EGT 205	Geometric Dimension & Tolerance	3

Subtotal: 21**Electives**

Select one course (3-4 credits) from below:

CAD 216	Advanced Sketchup	3
CAD 219	3DS MAX	3
CAD 240	Inventor I/Autodesk	3
CAD 244	Advanced Inventor	3
CAD 264	3D Scanning and Modeling	4

Subtotal: 3**Total Credit Hours: 24**

Learn more about gainful employment (p. 254)

See gainful employment information

ADVANCED ANIMATION AND VISUALIZATION COMPUTER-AIDED DRAFTING

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_AAVC

See also Multimedia Technology.

This certificate prepares students to become proficient in the use of advanced computer-aided drafting software with a concentration in 3D graphics and animation and visualization applications.

Students contemplating the CAD Advanced certificates are encouraged to complete the Basic CAD certificate before starting advanced coursework.

All courses applied to the certificates must be completed with a grade of "C" or better.

Not all certificates are offered at both campuses, please inquire with the campus Program Director or CAD Faculty for more information.

REQUIREMENTS

Required Courses

CAD 202	Computer-Aided Drafting/3D	3
CAD 216	Advanced Sketchup	3
CAD 219	3DS MAX	3
CAD 220	3DS/MAX Advanced Character Modeling	3
	or	
CAD 221	3DS/MAX Advanced Architectural Visualization	3
CAD 289	Capstone	3
	or	
CAD 280	Internship	3
	MGD Electives	3
		Subtotal: 18

Total Credit Hours: 18

Learn more about gainful employment (p. 254)

See gainful employment information

ADVANCED CIVIL COMPUTER-AIDED DRAFTING

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CDV1

This certificate prepares students to become proficient in the use of advanced civil computer-aided drafting software with a concentration in Civil CAD applications.

Students contemplating the CAD Advanced certificates are encouraged to complete the Basic CAD certificate before starting advanced coursework.

All courses applied to the certificates must be completed with a grade of "C" or better.

Not all certificates are offered at both campuses, please inquire with the campus Program Director or CAD Faculty for more information.

REQUIREMENTS

Required Courses

CAD 201	Computer-Aided Drafting/Custom	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 219	3DS MAX	3
CAD 233	Civil 3D (Software)	3
CAD 289	Capstone	3
	or	
CAD 280	Internship	3
EGT 243	Civil/Survey Drafting II	3
GIS 101	Introduction to Geographic Information Systems	3
		Subtotal: 21

Total Credit Hours: 21

Learn more about gainful employment (p. 254)

See gainful employment information

Computer Information Systems

This program is designed to prepare students for employment in the computer information field. Although the courses are not intended for transfer, some courses may transfer. Course transferability should be confirmed with the receiving institution.

The computer information systems program offers AAS degrees in programming, web development, database administration or in consultation with a CIS Program Advisor, develop a customized degree that is more related to the student's employment plans.

Students entering the degree and certificate programs should have adequate skills in keyboarding, internet, mathematics, oral and written communications, and the ability to read at an appropriate technical level.

Please note that Credit by Examination and CLEP tests are available for some required and elective courses. Please see a CIS Advisor to determine the availability of such exams.

All courses applied to AAS degrees and certificates must be completed with a grade of "C" or better.

Assessment testing is required for all students. Students who place into CCR 093 or above and MAT 055 or above, or receive appropriate assessment scores and currently enrolled in a math course may begin this program of study.

Computer Information Systems - Associate of Applied Science Degrees

COMPUTER INFORMATION SYSTEMS

Locations: Boulder County Campus, Westminster Campus, Online Learning

Field Code: F_AAS_FCIS

In consultation with a CIS Program Advisor, the student may develop an Individualized Computer Information Systems Associate of Applied Science degree that is customized to relate to the student's employment or skill development. Students may take either CNG 201 or CIS 223 to complete the Linux: OS requirement. CNG 201 is listed below.

REQUIREMENTS

Required Courses

Application Course

Select one PC Application course (3 credits). Recommend courses are listed below:

CIS 118	Introduction to PC Applications	3
CIS 145	Complete PC Database: ACCESS	3
CIS 155	PC Spreadsheet Concepts: Excel	3
CIS 202	Automated Project Management: MS Project	3
CIS 218	Advanced PC Applications	3
		Subtotal: 3

Linux Operating System (OS) Course

Select one Linux Operating System (OS) course (3 credits) from below:

CNG 201	Linux Configuration: (OS)	3
		Subtotal: 3

Core Requirements

Students must select a minimum of 27 credits from any combination of CIS (p. 312), CNG (p. 314), CSC (p. 318), or/and CWB (p. 321) courses. Credits over 27 will reduce the remaining electives needed to fulfill degree requirements.

Subtotal: 27

Electives

Students may select an additional 12 credits of electives from the following ACC (p. 293), BUS (p. 307), CIS (p. 312), CNG (p. 314), CSC (p. 318), CWB (p. 321), MAN (p. 360), MAR (p. 362), MGD (p. 365), or MAT 201 or higher (p. **Error! Bookmark not defined.**) to fulfill remaining degree requirements.

Subtotal: 12

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

Select 3-5 credits of Mathematics (MAT 121 or higher (p. 362)).

MAT 121	College Algebra or higher	4
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Subtotal: 3-5

Note: Students desiring professional advancement in this field through transfer, especially in Computer Programming should consider taking MAT 201: Calculus I or higher (5 credits) to satisfy general education requirements in mathematics.

General Studies

Select three courses (9 credits) from the **Approved Elective List** (p. 247). **Recommended** categories and courses include **ANY Business & Information Technology**, or courses in **Ethics, Communication and Management** as listed below. *Please Note: CIS and CSC coursework cannot be used to satisfy general education requirements in this program.*

Ethics

MAN 230	Corporate Ethics & Social Resp	3
PHI 205	Business Ethics	3
PHI 112	Ethics	3

Subtotal: 3

Communication

COM 125	Interpersonal Communication	3
COM 220	Intercultural Communication	3
COM 209	Intrapersonal Communication	3

Subtotal: 3

Management

MAN 216	Small Business Management	3
MAN 226	Principles of Management	3
MAN 241	Project Management in Organizations	3

Subtotal: 3

Required General Education Courses

Subtotal: 15-17

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

DATABASE ADMINISTRATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AAS_CIS9

This AAS degree pathway is designed to prepare students for entry-level employment working with databases. The student will be introduced to several different databases and complementary office skills.

Program applicants must demonstrate course proficiency or course completion of CIS 128 Windows Complete.

Students may take either CNG 201 or CIS 223 to complete the Linux: OS requirement. CNG 201 is listed below.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

Application Course

Select one PC Application course (3 credits). Recommend courses are listed below:

CIS 118	Introduction to PC Applications	3
CIS 202	Automated Project Management: MS Project	3
CIS 218	Advanced PC Applications	3

Subtotal: 3

Core Requirements

BUS 217	Business Communication and Report Writing	3
CIS 115	Introduction to Computer Information Systems	3
CIS 145	Complete PC Database: ACCESS	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
CNG 201	Linux Configuration: (OS)	3

Subtotal: 18

Database Administration Electives

Select a minimum of 12 credits from below. Credits over 12 will reduce the remaining electives needed to fulfill degree requirements.

CIS 155	PC Spreadsheet Concepts: Excel	3
CIS 246	Oracle Database Administration I	4
CIS 252	Implement & Maintain MS SQL Svr	3
CIS 254	Oracle Forms	4
CIS 256	Oracle Reports	3
CIS 268	Systems Analysis and Design I	3
CIS 280	Internship	3
CSC 252	Database Program/Visual Basic	3

Subtotal: 12-14

Electives

Students may select a minimum of 12 credits from any combination of ACC (p. 293), BUS (p. 307), CIS (p. 312), CNG (p. 314), CSC (p. 318), CWB (p. 321), MAR (p. 362) or MAN (p. 360) courses to fulfill remaining degree requirements.

Subtotal: 12

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
		Subtotal: 3

Mathematics

Select 3-5 credits of Mathematics (MAT 121 or higher (p. 362)).

MAT 121	College Algebra or higher	4
		Subtotal: 3-5

Note: Students desiring professional advancement in this field through transfer, especially in Computer Programming should consider taking MAT 201: Calculus I or higher (5 credits) to satisfy general education requirements in mathematics.

General Studies

Select three courses (9 credits) from the **Approved Elective List** (p. 247) **Recommended** categories and courses include **ANY Business & Information Technology**, or courses in **Ethics, Communication and Management** as listed below. Please Note: CIS and CSC coursework cannot be used to satisfy general education requirements in this program.

Ethics

MAN 230	Corporate Ethics & Social Resp	3
PHI 205	Business Ethics	3
PHI 112	Ethics	3
		Subtotal: 3

Communication

COM 125	Interpersonal Communication	3
COM 220	Intercultural Communication	3
COM 209	Intrapersonal Communication	3
		Subtotal: 3

Management

MAN 216	Small Business Management	3
MAN 226	Principles of Management	3
MAN 241	Project Management in Organizations	3
		Subtotal: 3

Required General Education Courses

Subtotal: 15-17

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

PROGRAMMING

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_CPGM

This AAS degree pathway is designed to prepare students for entry-level employment in computer programming. This pathway contains many courses that transfer to a Bachelor's degree in programming/Computer Science. See a CIS Program Advisor for more information about what transfers, it could be a combination of computer information systems as well as computer science courses.

Students may take either CNG 201 or CIS 223 to complete the Linux: OS requirement. CNG 201 is listed below.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

Application Course

Select one PC Application course (3 credits). Recommend courses are listed below:

CIS 118	Introduction to PC Applications	3
CIS 135	Complete PC Word Processing: Word	3
CIS 155	PC Spreadsheet Concepts: Excel	3
CIS 167	Desktop Publishing	3
CIS 202	Automated Project Management: MS Project	3
CIS 218	Advanced PC Applications	3
		Subtotal: 3

Core Requirements

CIS 145	Complete PC Database: ACCESS	3
CSC 119	Introduction to Programming	3
CSC 160	Computer Science I: (Language)	4
CSC 161	Computer Science II	4
CNG 201	Linux Configuration: (OS)	3
		Subtotal: 17

Computer Science Electives

Select a minimum of 9 credits from any Computer Science (p. 318) course. Credits over 9 will reduce the remaining electives needed to fulfill degree requirements.

MAT 201	Calculus I: MA1	5
MAT 202	Calculus II: MA1	5
	or	
	Any CSC prefix courses	
		Subtotal: 9-12

Electives

Please meet with a Program Advisor to discuss electives that align with your intended career interests.

Select (13-16) credits from Math 201 Calculus I or higher courses (p. 362) or any combination of CIS (p. 312), CSC (p. 318), CWB (p. 321) to fulfill remaining degree requirements. Students uncertain of career interests may complete courses that will also complete additional certificates in Database (p. 177) and Web Development (p. 178) to compliment programming knowledge and skills.

Subtotal: 9

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
		Subtotal: 3

Mathematics

Select 3-5 credits of Mathematics (MAT 121 or higher (p. 362)).

MAT 121	College Algebra or higher	4
		Subtotal: 3-5

Note: Students desiring professional advancement in this field through transfer, especially in Computer Programming should consider taking MAT 201: Calculus I or higher (5 credits) to satisfy general education requirements in mathematics.

General Studies

Select three courses (9 credits) from the **Approved Elective List** (p. 247). **Recommended** categories and courses include **ANY Business & Information Technology**, or courses in **Ethics, Communication and Management** as listed below. *Please Note: CIS and CSC coursework cannot be used to satisfy general education requirements in this program.*

Transfer students are strongly advised to meet with the Program Director before selecting general studies coursework for the AAS Degree in Programming. GT coursework such as Natural and Physical Sciences sequenced coursework (e.g. PHY 111 and PHY 112), MAT 121 or higher and ENG 122 may be quality courses to consider but will be dependent on the intended transfer institution.

Ethics

MAN 230	Corporate Ethics & Social Resp	3
PHI 205	Business Ethics	3
PHI 112	Ethics	3

Subtotal: 3

Communication

COM 125	Interpersonal Communication	3
COM 220	Intercultural Communication	3
COM 209	Intrapersonal Communication	3

Subtotal: 3

Management

MAN 216	Small Business Management	3
MAN 226	Principles of Management	3
MAN 241	Project Management in Organizations	3

Subtotal: 3

Required General Education Courses

Subtotal: 15-17

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

WEB DEVELOPER

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_DVL

This degree is designed to prepare students for entry-level employment in Web Development. Its primary focus is on the integration of all the components of a web page and includes some designing of web pages.

Students may take either CNG 201 or CIS 223 to complete the Linux: OS requirement. CNG 201 is listed below.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

Application Course

Select one PC Application course (3 credits). Recommend courses are listed below:

CIS 118	Introduction to PC Applications	3
CIS 155	PC Spreadsheet Concepts: Excel	3
CIS 202	Automated Project Management: MS Project	3
CIS 218	Advanced PC Applications	3

Subtotal: 3

Core Requirements

CIS 145	Complete PC Database: ACCESS	3
CIS 243	Introduction to SQL	3
CNG 201	Linux Configuration: (OS)	3
CSC 119	Introduction to Programming	3
CWB 110	Complete Web Authoring	3
CWB 205	Client-Side Scripting: (Software)	3
CWB 206	Server-Side Scripting: (Software)	3
CWB 208	Web Application Development: PHP	3
MGD 141	Web Design I	3
CWB 130	Web Editing Tools: (Editor)	3

Subtotal: 24

Object-Oriented Programming Course

Select two Object-Oriented Programming (OOP) courses (6-8 credits). Credits over 6 will reduce the remaining electives needed to fulfill degree requirements. Recommended courses are listed below:

CSC 160	Computer Science I: (Language)	4
CSC 161	Computer Science II	4
CSC 217	Advanced Python Programming	3
CSC 220	Intro to Microsoft Visual Basic.NET	3
CSC 233	Object-oriented Programming (Lang)	3
CSC 234	C++ Programming	4
CSC 236	C# Programming	4
CSC 240	Java Programming	3
CSC 241	Advanced Java Programming	3
CSC 246	Mobile App Development: (platform)	3

Subtotal: 6-8

Electives

Select 12 credits from any combination of CWB (p. 321), MGD (p. 365), CIS (p. 312), CSC (p. 318), and/or CNG (p. 314) courses to fulfill remaining degree requirements.

Subtotal: 12

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

Select 3-5 credits of Mathematics (MAT 121 or higher (p. 362)).

MAT 121	College Algebra or higher	4
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Subtotal: 3-5

Note: Students desiring professional advancement in this field through transfer, especially in Computer Programming should

consider taking MAT 201: Calculus I or higher (5 credits) to satisfy general education requirements in mathematics.

General Studies

Select three courses (9 credits) from the **Approved Elective List** (p. 247). **Recommended** categories and courses include **ANY Business & Information Technology**, or courses in **Ethics, Communication** and **Management** as listed below. *Please Note: CIS and CSC coursework cannot be used to satisfy general education requirements in this program.*

Ethics

MAN 230	Corporate Ethics & Social Resp	3
PHI 205	Business Ethics	3
PHI 112	Ethics	3
		Subtotal: 3

Communication

COM 125	Interpersonal Communication	3
COM 220	Intercultural Communication	3
COM 209	Intrapersonal Communication	3
		Subtotal: 3

Management

MAN 216	Small Business Management	3
MAN 226	Principles of Management	3
MAN 241	Project Management in Organizations	3
		Subtotal: 3

Art

ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3
		Subtotal: 3

Required General Education Courses

Subtotal: 15-17

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

Computer Information Systems - Certificates

APPLICATIONS SPECIALIST

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_APSC

This certificate is designed to prepare students for entry-level employment positions in a business environment using most major types of business applications: word processing, spreadsheets, databases, and presentation graphics.

REQUIREMENTS

All certificate courses must be completed with a grade of “C” or better.

Required Courses

Students that can demonstrate course proficiency of CIS 118 Introduction to PC Applications are advised to meet with a CIS Program Director or Advisor to select an **ADVANCED** application course in Computer Information Systems, Business or Accounting that can substitute for CIS 118.

CIS 118	Introduction to PC Applications	3
	or	
	an advanced application course approved by the CIS department	

CIS 135	Complete PC Word Processing: Word	3
CIS 145	Complete PC Database: ACCESS	3
CIS 155	PC Spreadsheet Concepts: Excel	3

Total Credit Hours: 12

DATABASE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_CER_DBSE

This certificate is designed to prepare students for entry-level employment positions in a business environment requiring, an understanding of a Structured Query Language (SQL), database design skills, and database administrative tasks.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Certificate applicants must demonstrate course proficiency or course completion of CIS 118 Introduction to PC Applications.

Required Courses

CIS 145	Complete PC Database: ACCESS	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3

Subtotal: 9

Electives

Select one course (3-4 credits) from below:

CIS 246	Oracle Database Administration I	4
CIS 252	Implement & Maintain MS SQL Svr	3
CSC 252	Database Program/Visual Basic	3

Subtotal: 3-4

Total Credit Hours: 12-13

PROGRAMMING

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_CTPA

This certificate is designed to prepare students for the application of selected programming languages that include courses in a combination of computer information systems as well as computer science.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Certificate applicants must demonstrate course proficiency or course completion of CIS 118 Introduction to PC Applications.

Required Courses

CIS 145	Complete PC Database: ACCESS	3
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CSC 160	Computer Science I: (Language)	4
CSC 161	Computer Science II	4

Subtotal: 11

Electives

Select three courses (9 credits) from any CSC (p. 318) course.

Subtotal: 9

Total Credit Hours: 20

Learn more about gainful employment (p. 254)

See gainful employment information

WEB DEVELOPER

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_CER_CS WB

This certificate is designed to prepare students for entry-level employment in Web Development. Its primary focus is on the integration of all the components of a web page and includes some designing of web pages.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Certificate applicants must demonstrate course proficiency or course completion of CIS 118 Introduction to PC Applications.

Required Courses

CIS 145	Complete PC Database: ACCESS	3
CIS 243	Introduction to SQL	3
CSC 119	Introduction to Programming	3
CWB 110	Complete Web Authoring	3
CWB 205	Client-Side Scripting: (Software)	3
CWB 206	Server-Side Scripting: (Software)	3
	or	
CWB 208	Web Application Development: PHP	3
MGD 141	Web Design I	3
	or	
CWB 130	Web Editing Tools: (Editor)	3

Subtotal: 21

Electives

Select 3 credits from any combination of CWB (p. 321), MGD (p. 365), CIS (p. 312), CSC (p. 318), and/or CNG (p. 314) courses to fulfill remaining certificate requirements.

Subtotal: 3

Total Credit Hours: 24

Learn more about gainful employment (p. 254)

See gainful employment information

Computer Networking, Cybersecurity and Cloud Computing
This program is designed to prepare students for employment in fields of computer networking administration, cloud computing and virtualization, and cybersecurity. Although the courses are not intended for transfer, some courses may transfer. Course transferability should be confirmed with the receiving institution.

The computer networking, virtualization and cybersecurity program offers AAS degree pathways in multiple disciplines. Students will learn about network infrastructure, network administration, cloud computing and virtualization, and cybersecurity. Students will choose the degree track with the specialty they wish to pursue.

Students entering the degree and certificate programs should have adequate skills in mathematics, oral and written communications, and the ability to read at an appropriate technical level.

Please note that Institutional Challenge Examination and CLEP tests are available for a few required and elective courses. Please see a CNG/CIS Advisor to determine the availability of such exams.

All courses applied to AAS degrees and certificates must be completed with a grade of "C" or better.

Assessment testing is required for all students. Students who place into CCR 093 or above and MAT 055 or above, and currently enrolled in a math course may begin this program of study.

Networking Technologies, Cybersecurity and Cloud Computing - Associate of Applied Science Degrees

CYBERSECURITY AND CLOUD COMPUTING

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_CYCC

This AAS degree pathway is designed to introduce students to a comprehensive overview of network security, including general security concepts. Communication security is studied, including remote access, e-mail, the web, directory and file transfer, and wireless data. Common network attacks and Computer forensics are discussed. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity. Cloud and virtualization courses are designed to provide students with the technical skills required to install, configure and/or manage many facets of "cloud" infrastructure. Students completing this training will be prepared for multiple industry certifications including the CompTIA Security+, CompTIA Cloud+, and CompTIA Cloud Essentials.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

Application Course

Select one PC Application course (3 credits). Recommend courses are listed below:

CIS 118	Introduction to PC Applications	3
CIS 155	PC Spreadsheet Concepts: Excel	3
CIS 202	Automated Project Management: MS Project	3
CIS 218	Advanced PC Applications	3

Subtotal: 3

Core Requirements

CNG 120	A+ Certification Preparation	4
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CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 133	Firewalls/Network Security	3
CNG 142	Intro to Cloud Computing Concepts	3
CNG 201	Linux Configuration: (OS)	3
		Subtotal: 19

Note: Students who have completed CNG 121 & CNG 122 may apply credits earned toward the CNG 120 requirement. Additional credits earned will be applied as electives.

Cybersecurity & Cloud Computing Electives

Select a minimum of 12 credits from below. Credits over 12 will reduce the remaining electives below needed to fulfill degree requirements.

CNG 131	Principles of Information Assurance	3
CNG 136	Guide to IT Disaster Recovery	3
CNG 240	Virtual Environment Admin	3
CNG 241	Information Storage and Management	3
CNG 242	Cloud Computing	3
CNG 243	Cloud Security and Cyber Law	3
CNG 254	Data Encryption	3
CNG 256	Vulnerability Assessment I	3
CNG 257	Network Defense & Counter Measures	3
CNG 258	Digital Forensics	4
CNG 259	Enterprise Security	4
		Subtotal: 12-14

Electives

The remaining 11 credits may be taken from any combination of CIS (p. 312), CNG (p. 314), CSC (p. 318), and/or CWB (p. 321) courses to fulfill remaining degree requirements.

Subtotal: 11

General Education Courses

Written Communication

Select one course (3 credits) from below:

ENG 131	Technical Writing I	3
ENG 121	English Composition I	3
ENG 122	English Composition II	3
		Subtotal: 3

Mathematics

Select 3-5 credits of Mathematics (**MAT 121 or higher GT-MA1** (p. 362)). Recommended courses are below.

MAT 121	College Algebra	4
MAT 135	Introduction to Statistics	3
		Subtotal: 3-5

General Studies

Select three courses (9 credits) from the **Approved Elective List** (p. 247). **Recommended** categories and courses include **ANY Business & Information Technology**, or courses in **Ethics, Communication and Management** as listed below. *Please Note: CIS and CSC coursework cannot be used to satisfy general education requirements in this program.*

Ethics

MAN 230	Corporate Ethics & Social Resp	3
PHI 205	Business Ethics	3
PHI 112	Ethics	3

		Subtotal: 3
Communication		
COM 125	Interpersonal Communication	3
COM 220	Intercultural Communication	3
COM 209	Intrapersonal Communication	3
		Subtotal: 3

Management

MAN 216	Small Business Management	3
MAN 226	Principles of Management	3
MAN 241	Project Management in Organizations	3
		Subtotal: 3

Required General Education Courses

Subtotal: 15-17

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

NETWORK TECHNOLOGIES

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_AAS_NTWT

This AAS degree pathway is designed to prepare students for positions in network administration and infrastructure. This pathway introduces students to the concepts of installing, configuring, and managing multiple operating systems and provides students with the knowledge and skills to configure, administer and secure data, users, and services using multiple servers. Students will also be prepared for careers installing, configuring and troubleshooting networking hardware such as wireless equipment, switches and routers. Students will be exposed to equipment from multiple networking vendors and will be prepared for multiple industry certifications such as the core Microsoft Certified Professional examinations or the CompTIA A+, CompTIA Network+ or the CISCO CCNA certifications.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

Application Course

Select one PC Application course (3 credits). Recommend courses are listed below:

CIS 118	Introduction to PC Applications	3
CIS 155	PC Spreadsheet Concepts: Excel	3
CIS 202	Automated Project Management: MS Project	3
CIS 218	Advanced PC Applications	3
		Subtotal: 3

Core Requirements

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 133	Firewalls/Network Security	3
CNG 201	Linux Configuration: (OS)	3
CNG 212	Configuring Windows Server	4
		Subtotal: 20

Note: Students who have completed CNG 121 & CNG 122 may apply credits earned toward the CNG 120 requirement. Additional credits earned will be applied as electives.

Network Technologies Electives

Select a minimum of 12 credits from below. Credits over 12 will reduce the remaining electives needed to fulfill degree requirements.

CNG 125	Networking II: Network +	3
CNG 129	Wireless LAN Fundamentals	3
CNG 202	Unix/Linux Server Administration	3
CNG 203	Advanced Linux Server Administration	3
CNG 213	Administering Windows Server	4
CNG 214	Adv Windows Server Admin	4
CNG 215	Windows Automation	3
CNG 230	Fast Track CCNA 1 and 2	5
CNG 231	Fast Track CCNA 3 and 4	5
CNG 232	Managing LAN Switches	3
CNG 233	Routers and Routing Protocols	3

Subtotal: 12-14

Electives

The remaining 10 credits may be taken from any combination of CIS (p. 312), CNG (p. 314), CSC (p. 318), and/or CWB (p. 321) courses to fulfill remaining degree requirements. **CNG courses are recommended.**

Subtotal: 10

General Education Courses

Written Communication

Select one course (3 credits) from below:

ENG 131	Technical Writing I	3
ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 3

Mathematics

Select 3-5 credits of Mathematics (MAT 121 or higher GT-MA1 (p. 362)). Recommended courses are below.

MAT 121	College Algebra	4
MAT 135	Introduction to Statistics	3

Subtotal: 3-5

Note: Students desiring professional advancement in the field of Computer Programming should consider taking MAT 201: Calculus I or higher (5 credits) to satisfy general education requirements in mathematics.

General Studies

Select three courses (9 credits) from the **Approved Elective List** (p. 247). **Recommended** categories and courses include **ANY Business & Information Technology**, or courses in **Ethics, Communication and Management** as listed below. *Please Note: CIS and CSC coursework cannot be used to satisfy general education requirements in this program.*

Ethics

MAN 230	Corporate Ethics & Social Resp	3
PHI 205	Business Ethics	3
PHI 112	Ethics	3

Subtotal: 3

Communication

COM 125	Interpersonal Communication	3
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COM 220	Intercultural Communication	3
COM 209	Intrapersonal Communication	3

Subtotal: 3

Management

MAN 216	Small Business Management	3
MAN 226	Principles of Management	3
MAN 241	Project Management in Organizations	3

Subtotal: 3

Required General Education Courses

Subtotal: 15-17

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

Computer Networking, Cybersecurity and Cloud Computing - Certificates

CLOUD COMPUTING AND VIRTUALIZATION

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CLCO

This certificate is designed to prepare students for entry-level employment. It will offer students an opportunity to study technology that is being broadly adopted and implemented by many organizations of all types and sizes. The courses are designed to provide students with the technical skills required to install, configure and/or manage many facets of a "cloud" infrastructure.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

Linux/Windows Configuration Course

Select one course (3-4) credits of the following Linux/Windows Configuration courses listed below:

CNG 201	Linux Configuration: (OS)	3
CNG 212	Configuring Windows Server	4

Subtotal: 3-4

Core Requirements

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 142	Intro to Cloud Computing Concepts	3

Subtotal: 13

Electives

Select two courses (6 credits) from the following:

CNG 240	Virtual Environment Admin	3
CNG 241	Information Storage and Management	3
CNG 242	Cloud Computing	3
CNG 243	Cloud Security and Cyber Law	3

Subtotal: 6

Total Credit Hours: 22-23

Learn more about gainful employment (p. 254)

CYBERSECURITY

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CYB

This certificate is designed to prepare students for entry-level employment and to give working professionals advancement opportunities in the computer networking field. Successfully acquiring a FRCC Cybersecurity Certificate signifies that a student has had an overview of network security. Communication Security is studied, including remote access, email, the web, directory and file transfer, and wireless data. Common network attacks and Computer forensics are introduced. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

Linux/Windows Configuration Course

Select one course (3-4) credits of the following Linux/Windows Configuration courses listed below:

CNG 201	Linux Configuration: (OS)	3
CNG 212	Configuring Windows Server	4
		Subtotal: 3-4

Core Requirements

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 133	Firewalls/Network Security	3
		Subtotal: 13

Electives

Select two courses (6-8 credits) from below:

CNG 131	Principles of Information Assurance	3
CNG 136	Guide to IT Disaster Recovery	3
CNG 243	Cloud Security and Cyber Law	3
CNG 254	Data Encryption	3
CNG 256	Vulnerability Assessment I	3
CNG 257	Network Defense & Counter Measures	3
CNG 258	Digital Forensics	4
CNG 259	Enterprise Security	4
		Subtotal: 6-8

Total Credit Hours: 22-25

Learn more about gainful employment (p. 254)

**COMPUTER/NETWORK TECHNICIAN:
A+/NETWORK+**

Locations: Boulder County Campus

Field Code: F_CER_

This certificate program prepares you for a Computer and Network Support Technician job. You will learn a wide variety of issues ranging from networking and operating systems to mobile devices and security. You will be able to analyze, test and troubleshoot computer hardware and software problems. You will also be able to analyze, test, troubleshoot, and evaluate existing network systems, such as local area networks (LAN), wide area networks (WAN), and other data communications networks. You will be able to perform network maintenance to

ensure networks operate correctly with minimal interruption. Upon successful completion of this certificate, students are prepared to take the A+ and Network+ certification exams through the Computer Technology Industry Association (CompTIA).

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

CNG 121	Computer Technician I: A+	4
CNG 122	Computer Technician II: A+	4
CNG 124	Networking I: Network +	3
CNG 125	Networking II: Network +	3
		Subtotal: 14

Total Credit Hours: 14

LINUX SERVER ADMINISTRATION

Locations: Boulder County Campus, Larimer Campus

Field Code: F_CER_LINX

This certificate introduces students to the concepts of installing, configuring, and managing the Linux operating system and provides students with the knowledge and skills to configure, administer and secure data, users, and services in a Linux server.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

CNG 201	Linux Configuration: (OS)	3
CNG 202	Unix/Linux Server Administration	3
CSC 119	Introduction to Programming	3
		Subtotal: 9

Electives

Select one course (3 credits) from the following:

CNG 203	Advanced Linux Server Administration	3
CSC 217	Advanced Python Programming	3
		Subtotal: 3

Total Credit Hours: 12

NETWORKING BASICS

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CNB1

This certificate is designed to prepare students for entry-level employment. It will offer students an opportunity to study basic networking technology commonly found in network help-desk positions. Upon successful completion, the program graduate is qualified to take multiple industry certification exams including CompTIA A+ and CompTIA Networking+ certification exams.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3

Total Credit Hours: 10**NETWORK ADMINISTRATION: CCNA**

Locations: Westminster Campus

Field Code: F_CER_

This certificate uses a largely hands-on approach to teach students network concepts while preparing them for the current Cisco CCNA Certification Exam. In-depth lab work will enable students to learn to design, implement, configure, and troubleshoot networks comprised of Cisco switches and routers using real network equipment as well as network simulators.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Students must complete CNG 124 (p. 314) before enrolling in Network Infrastructure coursework below.

Required Courses

CNG 124	Networking I: Network +	3
CNG 230	Fast Track CCNA 1 and 2	5
CNG 231	Fast Track CCNA 3 and 4	5

Subtotal: 13**Total Credit Hours: 13****NETWORK INFRASTRUCTURE**

Locations: Larimer Campus

Field Code: F_CER_CNW2

This certificate is designed to prepare students for careers installing, configuring and troubleshooting networking hardware such as wireless equipment, switches and routers. Students will be exposed to equipment from multiple networking vendors. Upon successful completion, the program graduate is capable of taking the entry level CISCO Certifications.

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Requirements

CNG 124	Networking I: Network +	3
CNG 129	Wireless LAN Fundamentals	3
CNG 132	Network Security Fundamentals	3
CNG 133	Firewalls/Network Security	3
CNG 232	Managing LAN Switches	3
CNG 233	Routers and Routing Protocols	3

Subtotal: 18**Total Credit Hours: 18**

Learn more about gainful employment (p. 254)

NETWORK TECHNICIAN

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_CNWB

This certificate provides students the basic concepts and skills needed as a network technician. Some classes are generic to any network environment, other classes concentrate on a Microsoft System. Students completing this training will be prepared for the industry certifications, such as the Microsoft Technology Associate (MTA).

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 212	Configuring Windows Server	4

Subtotal: 14**Total Credit Hours: 14****MICROSOFT SERVER ADMINISTRATION**

Locations: Larimer Campus

Field Code: F_CER_MSSA

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review for a title change to "Windows Server Administration". Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of title change approval.

This certificate is designed to prepare students for positions in network administration. This pathway introduces students to the concepts of installing, configuring, and managing multiple operating systems and provides students with the knowledge and skills to configure, administer and secure data, users, and services using multiple servers. Students completing this training will be prepared for multiple industry certifications such as the core Microsoft Certified Professional examinations.

REQUIREMENTS

Students are strongly advised to meet with the Program Director before starting this degree pathway to obtain advisement and proper sequencing of courses.

Required Courses

CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 212	Configuring Windows Server	4
CSC 119	Introduction to Programming	3

Subtotal: 17**Electives**

Select two courses (7-8 credits) from the courses below:

CNG 213	Administering Windows Server	4
CNG 214	Adv Windows Server Admin	4
CNG 215	Windows Automation	3

Subtotal: 7-8

Total Credit Hours: 24-25

Learn more about gainful employment (p. 254)

Construction Trades

OSH 127	10-HR Construction Industry Standards	1
CON 111	Introduction to Construction, Part 2	4
CON 280	Internship or	2
CON 289	Capstone: Construction	2

Total Credit Hours: 11

CONSTRUCTION ESSENTIALS CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_CON3

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

REQUIREMENTS

Required Courses

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1

Total Credit Hours: 5

CONSTRUCTION FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_CON4

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

REQUIREMENTS

Required Courses

CON 110	Introduction to Construction, Part 1	4
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ELECTRICAL FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_ELC2

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

REQUIREMENTS

Required Courses

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1
EIC 110	Electrical Installations I	4
EIC 280	Internship or	2
EIC 289	Capstone	2

Total Credit Hours: 11

PLUMBING FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_PLU5

The Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program. Through exploration of the construction trades, a student will determine whether the trades are the career they wish to pursue as well as which trade to continue their training in. Certificate completion demonstrates to employers that job applicants are dedicated to their chosen trade, understand the process of construction, have been properly trained in OSHA safety standards, as well as the use of tools, and print reading. In addition to proficiency in essential entry-level skills, instruction in professionalism is embedded in all courses resulting in certificate completers with skills for learning, work ethic, and the attitudes that employers value most. Strong communication and support between industry partners, secondary partners, and

FRCC ensures that curriculum is up-to-date and provides an employment advantage to certificate holders.

REQUIREMENTS

Required Courses

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1
PLU 120	Residential Plumbing	4
PLU 282	Internship	2
	or	
PLU 289	Capstone: Plumbing	2

Total Credit Hours: 11

Criminal Justice & Public Safety
Criminal Justice & Law Enforcement

CRIMINAL JUSTICE - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus

Field Code: F_AAS_CRJ7

DEGREE REQUIREMENTS

Required Courses

CRJ 110	Intro to Criminal Justice	3
CRJ 209	Criminal Investigations I	3
LEA 101	Basic Police Academy I	6
LEA 102	Basic Police Academy II	12
LEA 105	Basic Law	8
LEA 106	Arrest Control Techniques	3
LEA 107	Law Enforcement Driving	3
LEA 108	Firearms	3
EMS 115	Emergency Medical Responder	3
PED 112	Fitness Center Activity III	1

Subtotal: 45

General Education Requirements

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 3

Communication

Select one course (3 credits) from below:

COM 115	Public Speaking	3
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Subtotal: 3

Arts & Humanities

PHI 112	Ethics	3
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Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Social and Behavioral Sciences

Select one course (3 credits) from below:

SOC 101	Introduction to Sociology I	3
PSY 101	General Psychology I	3
POS 111	American Government	3

Subtotal: 3

Required General Education Courses

Subtotal: 15

Learn more about gainful employment (p. 254)

Total Credit Hours: 60

PEACE OFFICERS STANDARDS AND TRAINING - CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_POS1

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S.

Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

REQUIREMENTS

Required Courses

LEA 101	Basic Police Academy I	6
LEA 102	Basic Police Academy II	12
LEA 103	Basic Law Enforcement Academy III	2
LEA 104	Basic Law Enforcement Academy IV	1
LEA 105	Basic Law	8
LEA 106	Arrest Control Techniques	3
LEA 107	Law Enforcement Driving	3
LEA 108	Firearms	3
PED 112	Fitness Center Activity III	1

Subtotal: 39

Total Credit Hours: 39

Learn more about gainful employment (p. 254)

See gainful employment information

Public Safety Dispatch - Certificates

Learn the basics of policing, psychology, stress management, and dealing with people in stressful times. Learn the unique skills required in emergency telecommunications. Acquire the core knowledge needed to communicate with someone until help arrives on the scene. Apply your skills in an internship.

FUNDAMENTALS OF PUBLIC SAFETY DISPATCH

Locations: Westminster Campus

Field Code: F_CER_EMRH

Initial and ongoing training is an essential component of a 911 dispatcher's career. And the most significant training often occurs within a 911 dispatcher certification program, either through the state, through a national association, or through a combination of the two.

While Colorado currently does not require certification to work as an emergency dispatcher, completing the Fundamentals of Public Safety Dispatch (PSD) certificate will assist students in understanding the foundations of the criminal justice system, policing, stress management, communication and various components of understanding human behavior.

REQUIREMENTS

Admission Requirements: Students must pass a general background check in order to be accepted in the program, be at least 18 years old prior completing the Fundamentals in Public Safety Dispatch (PSD) certificate, and have earned their high school diploma or GED.

Required Courses

CRJ 110	Intro to Criminal Justice	3
CRJ 125	Policing Systems	3
PSY 101	General Psychology I	3
PSY 116	Stress Management	3

Elective Courses

Select one course (3 credits) from below:

SOC 231	Sociology of Deviant Behavior	3
PSY 226	Social Psychology	3

Subtotal: 3

Total Credit Hours: 15

PUBLIC SAFETY DISPATCH

Locations: Westminster Campus

Field Code: F_CER_EMRF

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

Becoming a 911 operator involves preparing for employment by meeting minimum requirements, which usually involves being at least 18 years old and possessing a high school diploma or GED. Some agencies require candidates to also possess a valid driver’s license.

Many individuals who are interested in pursuing a career in emergency dispatch choose to complete a college program in a closely related field. Completing the Public Safety Dispatch (PSD) certificate can provide considerable knowledge of the criminal justice system, communications, emergency management, and public safety protocols – all of which are highly relevant to working as a 911 dispatcher.

As a dispatcher, strong listening skills, empathy, the ability to multi-task, leadership skills, problem-solving skills, typing skills, and proficiency in computer-aided dispatch software. The Public Safety Dispatch (PSD) certificate provides students hands-on training through internships in communication centers and through an Emergency Dispatch course (CRJ 201) where students will use the most recent and industry relevant curriculum developed and taught by industry experts.

In most cases, a high school diploma or the equivalent is enough for entry-level dispatcher positions, but some employers may not even require this level of education. In other cases, certain emergency response agencies may favor applicants who possess a college degree.

911 dispatchers need to possess a wide range of job-specific skills, so taking relevant electives outside of the major area of study can gain you experience. For example, a criminal justice major could benefit from computer courses, or a computer science major could benefit from liberal arts or communications

courses. These various areas of study are represented in the Fundamentals of Emergency Dispatch.

The Bureau of Labor Statistics (BLS) reports that candidates with a two- or four-year degree in criminal justice, communications or computer science may have an advantage when applying for jobs. An associate’s degree can help students gain valuable skills to help them excel after graduation.

For individuals with aspirations of advancing in the field of emergency communications, a college degree may better facilitate career advancement. In addition, many agencies accept a formal educational program as a substitution for experience, on a year-by-year basis, thereby allowing many individuals to advance at a faster pace into supervisory positions, or even qualify for entry-level jobs that stipulate experience requirements.

It is not always necessary to have a degree to work as a dispatcher, but an associate’s or bachelor’s degree may be preferred by employers. A degree in criminal justice, communications or computer science are some of the preferred degrees in this field. Certification may be required depending on the state.

Many individuals who are interested in pursuing a career in emergency dispatch choose to complete a college program in a closely related field. A degree program can provide considerable knowledge of the criminal justice system, communications, emergency management, and public safety protocols – all of which are highly relevant to working as a 911 dispatcher.

REQUIREMENTS

Prerequisite: Students must have successfully completed the Fundamentals of Public Safety Dispatch (PSD) certificate prior to admission into this program and have passed a background check.

Required Courses

CRJ 110	Intro to Criminal Justice	3
CRJ 125	Policing Systems	3
EMS 115	Emergency Medical Responder	3
PSY 101	General Psychology I	3
PSY 116	Stress Management	3
CRJ 280	Internship	1
CRJ 201	Emergency Dispatching	5

Subtotal: 21

Elective Course

Select one course (3 credits) from below:

PSY 249	Abnormal Psychology	3
CRJ 257	Victimology	3
COM 220	Intercultural Communication	3

Subtotal: 3

Psychology/Sociology Elective

Select one course (3 credits) from below:

SOC 231	Sociology of Deviant Behavior	3
PSY 226	Social Psychology	3

Subtotal: 3

Total Credit Hours: 27

Learn more about gainful employment (p. 254)

See gainful employment information

Dental Assisting

DENTAL ASSISTING - CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_DEA1

This certificate program offers a challenging career in the rapidly growing field of dental assisting. In addition to assisting dentists in all phases of dental treatment, dental assistants are valuable members of the dental team with skills in office management, clinical assisting, laboratory procedures, dental radiography, and infection control.

Infection Control is based on the concept of Standard Precautions. Standard Precautions refers to an approach to infection control that assumes all human blood and other potentially infectious materials (OPIM's) of all patients are potentially infected with HIV, HBV, HCV or other bloodborne pathogens. Standard Precautions are intended to prevent health care workers from parenteral, mucous membrane and non-intact skin exposure to bloodborne pathogens while carrying out the tasks associated with the dental assisting occupation.

The Front Range Dental Clinic, staffed by licensed dentists, provides a portion of the clinical experience, as well as an internship feature of the program. Each student must take three sequential clinical courses, without a semester break between the experiences. If for some reason the student must miss a semester of clinicals, the student will need to repeat the prior clinical experiences. These clinical hours exceed the required the 300 clock hours of the American Dental Association.

In order to graduate, a grade of "C" or better is required to all courses to receive a certificate. Completion of radiology courses qualifies students to take radiographs in the State of Colorado.

Students must submit to a criminal background check and drug screening prior to entering their Clinical Internship I. Students are responsible for the cost of these tests.

The Commission on Dental Accreditation of the American Dental Association accredits the program, a special accrediting body recognized by the Council on Postsecondary Accreditation and by the U.S. Department of Education. Graduates are eligible for the Dental Assisting National Board Examination. Students must have a high school diploma or GED.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

DEA 102	Principles of Clinical Practice	3
DEA 104	Specialties in Dentistry	2
DEA 111	Dental Office Management	2
DEA 120	Introduction to Dental Practices	1
DEA 121	Dental Science I	3

DEA 122	Dental Science II	3
DEA 123	Dental Materials I	3
DEA 124	Dental Materials II	3
DEA 125	Dental Radiography	3
DEA 126	Infection Control	3
DEA 131	Dental Radiography II	3
DEA 132	Medical Emergencies in the Dental office	2
DEA 134	Prevention and Nutrition in Dentistry	3
DEA 181	Clinical Internship I	1
DEA 182	Clinical Internship II	2
DEA 183	Dental Clinical Internship III	6

General Studies Elective

Select one course (3 credits) from the Approved Electives List. COM 115 (p. 316) is highly suggested.

COM 115	Public Speaking	3
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Subtotal: 3

Total Credit Hours: 46

Learn more about gainful employment (p. 254)

See gainful employment information

Early Childhood Education

EARLY CHILDHOOD EDUCATION - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_ECE

This program provides training for those who want to pursue a career involving the care and education of young children from birth through age eight. Courses in theory and internship are combined to provide a comprehensive base of growth and development. Early intervention, high-risk, gifted, and developmentally delayed issues are included. The program meets or exceeds all Colorado Department of Human Services Office of Early Childhood education requirements. Those working with very young children need to be in good health and able to lift and carry young children comfortably.

REQUIREMENTS

Students must earn a grade of "C" or better in all required courses applied to a certificate or degree.

Assessment testing is required for all students. Students who place into CCR 093 (p. 310) or above and MAT 050 (p. 363) or above may begin coursework for the Early Childhood Education AAS and AA degrees. Students who place into CCR 093 or above may begin coursework for the Early Childhood Education Certificates. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Students enrolling in ECE 102 (p. 324), ECE 112 (p. 324), ECE 188 (p. 325), and ECE 288 (p. 326) must pass a criminal background check before they are allowed to start their practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC – ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

Required Courses

ECE 101	Introduction to Early Childhood Education	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3
ECE 111	Infant and Toddler Theory and Practice	3
ECE 188	Practicum	4
ECE 205	ECE Nutrition, Health and Safety	3
ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 238	ECE Child Growth and Development	3
ECE 240	Administration of Early Childhood Care and Education Programs	3
ECE 241	Administration: Human Relations for Early Childhood Education	3
ECE 256	Working with Parents, Families, and Community Systems	3
ECE 260	The Exceptional Child	3
ECE 288	Practicum: Early Childhood Education	4
ECE 289	Capstone	1
	ECE Electives (3)	3

Subtotal: 45

General Education Courses

ENG 121	English Composition I or	3
ENG 122	English Composition II	3
MAT 107	Career Mathematics or higher	3
HIS 121	U.S. History to Reconstruction	3
LIT 255	Children's Literature	3
PSY 101	General Psychology I	3

Subtotal: 15

MAT 107 (p. 363) or higher, students also completing the AA for transfer should take MAT 120 (p. 363) for 4 credits.

Total Credit Hours: 60

Colorado Child Care Licensing Requirements

Many positions in Colorado early childhood programs require employees to meet, at minimum, the Colorado Department of Human Services Office of Early Childhood requirements for Early Childhood Teacher (ECT). ECT and Director qualified requirements include a combination of verifiable experience and post-secondary education. Please contact the Colorado Department of Human Services Office of Early Childhood at **303-866-4091** or email cdhs_oec_ectq@state.co.us to determine which requirements you need.

Contact an ECE Faculty Advisor for additional information concerning the course requirements.

Learn more about gainful employment (p. 254)

Early Childhood Education - Certificates

ASSISTANT EARLY CHILDHOOD TEACHER

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_

REQUIREMENTS

Required Courses

ECE 101	Introduction to Early Childhood Education	3
ECE 103	Guidance Strategies for Young Children	3

Total Credit Hours: 6

Many positions in Colorado early childhood programs require employees to meet, at minimum, the Colorado Department of Human Services Office of Early Childhood requirements for Early Childhood Teacher (ECT). ECT and Director qualified requirements include a combination of verifiable experience and post-secondary education. This certificate is designed for students who already have verifiable experience in early childhood education or a bachelor's degree in a non-education discipline. This certificate may be earned by students who do not meet the aforementioned criteria with the understanding that it might not qualify them to work in the field. Please contact the Colorado Department of Human Services Office of Early Childhood to determine which requirements you need. Students who place into CCR 093 or above may begin the coursework for this certificate. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

ECE programs

EARLY CHILDHOOD DIRECTOR

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_DIRE

REQUIREMENTS

Required Courses

ECE 101	Introduction to Early Childhood Education	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3
ECE 111	Infant and Toddler Theory and Practice	3
ECE 205	ECE Nutrition, Health and Safety	3
ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 238	ECE Child Growth and Development	3
ECE 240	Administration of Early Childhood Care and Education Programs	3
ECE 241	Administration: Human Relations for Early Childhood Education	3
ECE 260	The Exceptional Child	3

Total Credit Hours: 30

Students enrolling in ECE 102 (p. 324) must pass a criminal background check before they are allowed to start their practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC – ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

Note: Many positions in Colorado early childhood programs require employees to meet, at minimum, the Colorado

Department of Human Services Office of Early Childhood requirements for Early Childhood Teacher (ECT). ECT and Director qualified requirements include a combination of verifiable experience and post-secondary education. Please contact the Colorado Department of Human Services Office of Early Childhood to determine which requirements you need. Students who place into CCR 093 (p. 310) or above may begin the coursework for this certificate. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Learn more about gainful employment (p. 254)

See gainful employment information

EARLY CHILDHOOD EDUCATION FOR PARAEDUCATORS

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_LT

This certificate has been developed as a program for those currently employed or those seeking employment to work with developmentally delayed infants, toddlers, preschool, and school-age children in inclusive settings.

The coursework in this certificate provides students with the wide range of knowledge and skills including a solid foundation in the normal patterns of growth and development, various disabilities, giftedness, developmentally appropriate teaching techniques, and learning styles of children with developmental delays. These skills prepare paraprofessionals to be effective team members.

REQUIREMENTS

Required Courses

ECE 101	Introduction to Early Childhood Education	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3
ECE 157	Family Dynamics	1
ECE 161	The Team Process	1
ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 238	ECE Child Growth and Development	3
ECE 260	The Exceptional Child	3

Total Credit Hours: 20

Students enrolling in ECE 102 (p. 324) must pass a criminal background check before they are allowed to start their practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC – ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

Note: Students who place into CCR 093 (p. 310) or above may begin the coursework for this certificate. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Learn more about gainful employment (p. 254)

See gainful employment information

FOUNDATIONS OF EARLY CHILDHOOD EDUCATION

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_EC5

REQUIREMENTS

Required Courses

ECE 101	Introduction to Early Childhood Education	3
ECE 102	Introduction to Early Childhood Education Techniques	3
ECE 103	Guidance Strategies for Young Children	3
ECE 220	ECE Curriculum Development: Methods and Techniques	3
ECE 238	ECE Child Growth and Development	3
ECE 256	Working with Parents, Families, and Community Systems	3

Total Credit Hours: 18

Students enrolling in ECE 102 (p. 324) must pass a criminal background check before they are allowed to start their practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC – ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

Note: Many positions in Colorado early childhood programs require employees to meet, at minimum, the Colorado Department of Human Services Office of Early Childhood requirements for Early Childhood Teacher (ECT). ECT and Director qualified requirements include a combination of verifiable experience and post-secondary education. Please contact the Colorado Department of Human Services Office of Early Childhood to determine which requirements you need. Students who place into CCR 093 (p. 310) or above may begin the coursework for this certificate. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Learn more about gainful employment (p. 254)

See gainful employment information

EARLY CHILDHOOD EDUCATION TRANSFER

Locations:

Field Code:

FRCC provides a transfer pathway in Early Childhood Education to many Colorado state four-year colleges and universities. Students interested in transferring should view the [Associate Degrees with Designation- Early Childhood Education](#) (p. 142) section of this catalog.

Emergency Medical Services

These certificates prepare students to provide emergency medical services to the general public. Certificate programs include Emergency Medical Technician and Pre-Paramedic. A grade of "C" or better is required for all courses.

Liability insurance and background checks are required for participation in any clinical activity. Also note that immunization

requirements also exist for participation in any clinical activity. Contact the campus Emergency Medical Services Program Director for specific immunization requirements for that program/campus.

Assessment testing is required for all students, except those enrolling in some one-semester certificates. Students who place into CCR 093 (p. 310) or above may begin taking this program of study.

Emergency Medical Services - Certificates

EMERGENCY MEDICAL TECHNICIAN

Locations: Boulder County Campus, Larimer Campus, Prospect, Westminster Campus

Field Code: F_CER_EMTB

REQUIREMENTS

Required Courses

EMS 121	EMT Fundamentals	3
EMS 122	EMT Medical Emergencies	4
EMS 123	EMT Trauma Emergencies	2
EMS 124	EMT Special Considerations	2
EMS 170	EMT Clinical	1

Total Credit Hours: 12

CLINICAL EMT

Locations: Boulder County Campus, Larimer Campus, Prospect, Westminster Campus

Field Code:

This award has been approved by Higher Learning Commission. It has also been submitted to the U.S. Department of Education, but is currently under review and not eligible for financial aid at this time. Upon approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

This certificate is a two-semester program designed prepare students for entry-level work in a variety of healthcare or emergency medical service environments, such as fire departments, private ambulance or emergency room facilities. The Clinical EMT is an Emergency Medical Technician that has expanded their knowledge and skills through professional development to better care for patients under the supervision of a doctor or nurse. This certificate will concentrate on Emergency Medical Services for a total of 24 credits and is attainable in two semesters. This certificate is comprised of didactic and experiential teaching, as well as clinical placements in the healthcare or emergency medical services field.

By completing Human Anatomy and Physiology coursework as elective requirements, the Clinical EMT certificate will also suffice as a pathway for individuals applying for paramedic school. Paramedic school applicants are encouraged to contact the paramedic school in which they are applying to determine entry requirements before selecting and completing their elective courses.

REQUIREMENTS

Required Courses

EMS 121	EMT Fundamentals	3
EMS 122	EMT Medical Emergencies	4

EMS 123	EMT Trauma Emergencies	2
EMS 124	EMT Special Considerations	2
EMS 170	EMT Clinical	1
HPR 178	Medical Terminology	1
HPR 208	Medical Record Terminology	2
EMS 130	EMT Intravenous Therapy	2
HPR 190	Basic EKG Interpretation	2

Subtotal: 17-18

Electives

Select 6-7 credits of electives from below:

EMS 180	EMT Clinical Internship	2
	or	
EMS 138	Basic Simulation Lab	3
EMS 190	EMT Professional Development	2
HPR 200	Advanced ECG Interpretations	2
HPR 101	Customer Service in Healthcare	2
HPR 119	Computers in Health Care	2
BIO 106	Basic Anatomy and Physiology	4
BIO 201	Human Anatomy and Physiology I with Lab	4
BIO 202	Human Anatomy and Physiology II with Lab	4

Subtotal: 6-7

Additional certificate completion opportunities below:

- If HPR 208, HPR 101 and HPR 119 courses are completed as required and elective courses, students will also earn a Health Care Customer Service Basics (p. 228) certificate (6 credits).
- If HPR 200 is completed as an elective, students will also earn an Electrocardiogram (p. 228) certificate (6 credits).
- If BIO 106 is completed, it will transfer toward a Paramedic certificate at other CCCS colleges, but may not transfer toward a Paramedic AAS degree.
- If BIO 201 and BIO 202 are both completed, they will transfer toward a Paramedic AAS degree at other CCCS colleges. If both courses are taken at FRCC, this will extend completion time by one semester and may impact Financial Aid eligibility depending on remaining credit hours and course sequencing. See program contacts per campus location for more information.
- EMS 190 is currently being revised with our industry partners. Information in this catalog for this course reflects title and description as they are currently listed in CCNS prior to revisions and will be updated once course changes have been finalized.

Total Credit Hours: 24-25

Learn more about gainful employment (p. 254)

See gainful employment information

Forestry, Wildlife and Natural Resources
 Forestry, Wildlife and Natural Resources - Associate of
 Applied Science Degrees

NATURAL RESOURCES TECHNOLOGY

Locations: Larimer Campus

Field Code: F_AAS_FWN1

This program prepares students for a wide range of careers in natural resources. Students gain practical skills in forestry, wildlife, aquaculture, fisheries, wildland fire, and the computer analysis of natural resources. Students participate in community natural resources projects.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at the college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

All courses in both the degree and certificate programs must be completed with a "C" or better to graduate.

Required Courses

GIS 101	Introduction to Geographic Information Systems	3
NRE 100	Foundations of Forestry	3
NRE 204	Range Management and Restoration	4
NRE 205	Wildlife and Fisheries Management Principles	3

Subtotal: 13

Electives

Select 30-31 credits from the following:

AQT 102	Fish Biology and Ichthyology	5
AQT 245	Pond Management	4
BIO 105	Science of Biology with Lab	4
BIO 111	General College Biology I with Lab	5
BIO 112	General College Biology II with Lab	5
BIO 221	Botany with Lab	5
BIO 222	General College Ecology with Lab	4
CHE 101	Introduction to Chemistry I with Lab	5
ENV 101	Introduction to Environmental Science	4
FSW 100	S-190 Introduction to Wildland Fire	1
FSW 101	S-130 Firefighting Training	2
FSW 143	S-212 Wildfire Chain Saws	2
GEY 111	Physical Geology with Lab	4
GIS 210	Intermediate Geographic Information Systems	3
GIS 212	GIS Remote Sensing - Digital Image	4
HLT 101	Introduction to Horticulture	4
HLT 211	Arboriculture	3
HLT 240	Introductory Soil Science	4

NRE 110	Forestry Field Research	3
NRE 114	Colorado Wildlife	3
NRE 121	Introduction to Hydrology	3
NRE 200	Ecology: Field Study	3
NRE 215	Fire Ecology	3
NRE 220	Forest Harvesting	2
NRE 225	Environmental Education	3
NRE 230	Wildlife Law Enforcement	3
NRE 232	Backcountry Travel for Natural Resource Professionals	2
NRE 245	Avian Conservation/Ornithology	3
NRE 265	Wilderness Education	3
NRE 278	Seminar	1-3
NRE 280	Internship	3*
NRE 285	Independent Study	1-6
REC 210	Principles of Outdoor Recreation	3
OUT 156	Survival Plants in Summer I	2
OUT 157	Survival Plants in the Fall	2
OUT 158	Survival Plants in Spring I	2

Subtotal: 30-31

*NRE 280 can be taken for 1-6 credits. To fulfill Forestry and Wildlife AAS degree pathway requirements, students must complete a minimum of 3 credits. In addition, students may not apply more than 6 credits in Internship or Independent Study programs to any AAS degree pathway in Forestry, Wildlife and Natural Resources.

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Transfer students should complete MAT 121.

Natural and Physical Sciences

Select one Biology course (4-5 credits) from below:

BIO 105	Science of Biology with Lab	4
BIO 111	General College Biology I with Lab	5
BIO 221	Botany with Lab	5

Subtotal: 4-5

General Studies

Select two courses (6 credits) from the Approved Electives List.

Subtotal: 6

Transfer students should complete ECO 202, ENG 122 or a GT course from GT-AH1 (p. 248), GT-AH2 (p. 248), GT-AH3 (p. 248) or GT-AH4 (p. 248).

Required General Education Courses

Subtotal: 16-17

Total Credit Hours: 60-61

Learn more about gainful employment (p. 254)

WILDLIFE TECHNOLOGY

Locations: Larimer Campus

Field Code: F_AAS_WITC

This program prepares students for a career as a wildlife technician. Students gain practical skills in wildlife, aquaculture, fisheries, natural resource management and the computer analysis of natural resources. Students participate in community natural resources projects. This degree is accredited by the North American Wildlife Technology Association.

REQUIREMENTS

Required Courses

AQT 102	Fish Biology and Ichthyology	5
GIS 101	Introduction to Geographic Information Systems	3
NRE 100	Foundations of Forestry	3
NRE 114	Colorado Wildlife	3
NRE 204	Range Management and Restoration	4
NRE 205	Wildlife and Fisheries Management Principles	3
NRE 230	Wildlife Law Enforcement	3
NRE 245	Avian Conservation/Ornithology	3
NRE 280	Internship	3*
Subtotal: 26		

*NRE 280 can be taken for 1-6 credits. To fulfill Forestry and Wildlife AAS degree pathway requirements, students must complete a minimum of 3 credits. In addition, students may not apply more than 6 credits in Internship or Independent Study programs to any AAS degree pathway in Forestry, Wildlife and Natural Resources.

Electives

Select 12 credits from the following:

BIO 221	Botany with Lab	5
BIO 222	General College Ecology with Lab	4
CHE 101	Introduction to Chemistry I with Lab	5
CHE 111	General College Chemistry I with Lab	5
ENV 101	Introduction to Environmental Science	4
GIS 210	Intermediate Geographic Information Systems	3
GIS 212	GIS Remote Sensing - Digital Image	4
HLT 240	Introductory Soil Science	4
NRE 110	Forestry Field Research	3
NRE 114	Colorado Wildlife	3
NRE 121	Introduction to Hydrology	3
NRE 200	Ecology: Field Study	3
NRE 204	Range Management and Restoration	4
NRE 215	Fire Ecology	3
NRE 225	Environmental Education	3
NRE 232	Backcountry Travel for Natural Resource Professionals	2
NRE 265	Wilderness Education	3
NRE 278	Seminar	1-3
NRE 280	Internship	3*
NRE 285	Independent Study	1-6
REC 210	Principles of Outdoor Recreation	3
Subtotal: 12		

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
Subtotal: 3		

Mathematics

MAT 107	Career Mathematics or higher	3
Subtotal: 3		

Transfer students should take MAT 121.

Natural and Physical Sciences

BIO 111	General College Biology I with Lab	5
BIO 112	General College Biology II with Lab	5
Subtotal: 10		

General Studies

Select two courses (6 credits) from the Approved Electives List.

Subtotal: 6

Transfer students should complete ECO 202, ENG 122 or a GT course from GT-AH1 (p. 248), GT-AH2 (p. 248), GT-AH3 (p. 248) or GT-AH4 (p. 248).

Required General Education Courses

Subtotal: 22

Total Credit Hours: 60

Learn more about gainful employment (p. 254)

FORESTRY TECHNOLOGY

Locations: Larimer Campus

Field Code: F_AAS_FRTC

This program prepares students for a career as a forestry technician. Students gain practical skills in forestry, wildland fire, natural resource management and the computer analysis of natural resources. Students participate in community natural resources projects. This degree is accredited by the Society of American Foresters.

REQUIREMENTS

Required Courses

GIS 101	Introduction to Geographic Information Systems	3
GIS 212	GIS Remote Sensing - Digital Image	4
HLT 211	Arboriculture	3
HLT 240	Introductory Soil Science	4
NRE 100	Foundations of Forestry	3
NRE 110	Forestry Field Research	3
NRE 121	Introduction to Hydrology	3
NRE 205	Wildlife and Fisheries Management Principles	3
NRE 215	Fire Ecology	3
NRE 220	Forest Harvesting	2
NRE 280	Internship	3*
Subtotal: 34		

*NRE 280 can be taken for 1-6 credits. To fulfill Forestry and Wildlife AAS degree pathway requirements, students must complete a minimum of 3 credits. In addition, students may not apply more than 6 credits in Internship or Independent Study

programs to any AAS degree pathway in Forestry, Wildlife and Natural Resources.

Electives

Select 9 credits from the following:

BIO 111	General College Biology I with Lab	5
BIO 112	General College Biology II with Lab	5
BIO 222	General College Ecology with Lab	4
CHE 101	Introduction to Chemistry I with Lab	5
ENV 101	Introduction to Environmental Science	4
FSW 100	S-190 Introduction to Wildland Fire	1
FSW 101	S-130 Firefighting Training	2
FSW 143	S-212 Wildfire Chain Saws	2
GIS 210	Intermediate Geographic Information Systems	3
NRE 200	Ecology: Field Study	3
NRE 204	Range Management and Restoration	4
NRE 232	Backcountry Travel for Natural Resource Professionals	2
NRE 265	Wilderness Education	3
NRE 278	Seminar	1-3
NRE 280	Internship	3*
NRE 285	Independent Study	1-6
REC 210	Principles of Outdoor Recreation	3
OUT 156	Survival Plants in Summer I	2
OUT 157	Survival Plants in the Fall	2
OUT 158	Survival Plants in Spring I	2

Subtotal: 9

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Natural and Physical Sciences

BIO 221	Botany with Lab	5
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Subtotal: 5

General Studies

Select two courses (6 credits) from the Approved Electives List.

Subtotal: 6

Transfer students should complete ECO 202, ENG 122 or a GT course from GT-AH1 (p. 248), GT-AH2 (p. 248), GT-AH3 (p. 248) or GT-AH4 (p. 248).

Required General Education Courses

Subtotal: 17

Total Credit Hours: 60

Learn more about gainful employment (p. 254)

Forestry, Wildlife and Natural Resources - Certificates

The certificate programs are designed for individuals who are seeking a career in natural resources and possess a degree or are seeking job-entry level skills.

NATURAL RESOURCES

Locations: Larimer Campus

Field Code: F_CER_NRT3

REQUIREMENTS

Required Courses

GIS 101	Introduction to Geographic Information Systems	3
NRE 100	Foundations of Forestry	3
NRE 204	Range Management and Restoration	4
NRE 205	Wildlife and Fisheries Management Principles	3

Electives

Select 3 credits of electives that satisfy the Natural Resources AAS degree requirements. This includes NRE 280 Internship* and NRE 285 Independent Study courses.

Subtotal: 3

*NRE 280 can be taken for 1-6 credits. In addition, students may not apply more than 3 credits in Internship and/or Independent Study coursework to any Certificate pathway in Forestry, Wildlife and Natural Resources.

Total Credit Hours: 16

Learn more about gainful employment (p. 254)

See gainful employment information

FORESTRY

Locations: Larimer Campus

Field Code: F_CER_FWNI

REQUIREMENTS

Required Courses

NRE 100	Foundations of Forestry	3
NRE 110	Forestry Field Research	3

Electives

Select 3 credits from below:

FSW 100	S-190 Introduction to Wildland Fire	1
FSW 101	S-130 Firefighting Training	2
NRE 121	Introduction to Hydrology	3
NRE 205	Wildlife and Fisheries Management Principles	3
NRE 215	Fire Ecology	3
NRE 220	Forest Harvesting	2
NRE 280	Internship	3*
NRE 285	Independent Study	1-6

Subtotal: 3

*NRE 280 can be taken for 1-6 credits. In addition, students may not apply more than 3 credits in Internship and/or Independent Study coursework to any Certificate pathway in Forestry, Wildlife and Natural Resources.

Total Credit Hours: 9

WILDLIFE

Locations: Larimer Campus

Field Code: F_CER_FWNI

REQUIREMENTS

Required Courses

NRE 205	Wildlife and Fisheries Management Principles	3
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NRE 230	Wildlife Law Enforcement	3
	or	
NRE 114	Colorado Wildlife	3

Subtotal: 6

Electives

Select 3 credits from below:

AQT 102	Fish Biology and Ichthyology	5
NRE 100	Foundations of Forestry	3
NRE 114	Colorado Wildlife	3
NRE 204	Range Management and Restoration	4
NRE 230	Wildlife Law Enforcement	3
NRE 245	Avian Conservation/Ornithology	3
NRE 280	Internship	3*
NRE 285	Independent Study	1-6

Subtotal: 3

*NRE 280 can be taken for 1-6 credits. In addition, students may not apply more than 3 credits in Internship and/or Independent Study coursework to any Certificate pathway in Forestry, Wildlife and Natural Resources.

Total Credit Hours: 9

WILDLAND FIRE

Locations: Larimer Campus

Field Code: F_CER_FWNW

REQUIREMENTS

Required Courses

FSW 100	S-190 Introduction to Wildland Fire	1
FSW 101	S-130 Firefighting Training	2
NRE 215	Fire Ecology	3

Electives

Select 3 credits from below:

NRE 100	Foundations of Forestry	3
NRE 110	Forestry Field Research	3
NRE 220	Forest Harvesting	2
FSW 143	S-212 Wildfire Chain Saws	2
NRE 232	Backcountry Travel for Natural Resource Professionals	2
NRE 280	Internship	3*
NRE 285	Independent Study	1-6

Subtotal: 3

*NRE 280 can be taken for 1-6 credits. In addition, students may not apply more than 3 credits in Internship and/or Independent Study coursework to any Certificate pathway in Forestry, Wildlife and Natural Resources.

Total Credit Hours: 9

NATURAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS

Locations: Larimer Campus

Field Code: F_CER_FWNG

REQUIREMENTS

Required Courses

GIS 101	Introduction to Geographic Information Systems	3
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GIS 210	Intermediate Geographic Information Systems	3
	or	
GIS 212	GIS Remote Sensing - Digital Image	4

Electives

Select 2-3 credits of NRE electives that satisfy any of the AAS degree requirements in Natural Resources, Forestry or Wildlife. This includes NRE 280 Internship* and NRE 285 Independent Study.

Subtotal: 2-3

*NRE 280 can be taken for 1-6 credits. In addition, students may not apply more than 3 credits in Internship and/or Independent Study coursework to any Certificate pathway in Forestry, Wildlife and Natural Resources.

Total Credit Hours: 8-10

ENVIRONMENTAL EDUCATION

Locations: Larimer Campus

Field Code: F_CER_EED1

REQUIREMENTS

Required Courses

NRE 225	Environmental Education	3
NRE 100	Foundations of Forestry	3
	or	
NRE 205	Wildlife and Fisheries Management Principles	3

Electives

Select 3 credits of electives that satisfy any of the AAS degree requirements in Natural Resources, Forestry or Wildlife. This includes NRE 280 Internship* and NRE 285 Independent Study courses.

Subtotal: 3

*NRE 280 can be taken for 1-6 credits. In addition, students may not apply more than 3 credits in Internship and/or Independent Study coursework to any Certificate pathway in Forestry, Wildlife and Natural Resources.

Total Credit Hours: 9

NATURAL RESOURCES RECREATION

Locations: Larimer Campus

Field Code: F_CER_NRR

REQUIREMENTS

Required Courses

REC 210	Principles of Outdoor Recreation	3
NRE 265	Wilderness Education	3

Electives

Select 3 credits from below or any OUT (p. 379) courses.

AQT 102	Fish Biology and Ichthyology	5
NRE 200	Ecology: Field Study	3
NRE 230	Wildlife Law Enforcement	3
NRE 232	Backcountry Travel for Natural Resource Professionals	2
NRE 245	Avian Conservation/Ornithology	3
NRE 280	Internship	3*
NRE 285	Independent Study	1-6

Subtotal: 3

*NRE 280 can be taken for 1-6 credits. In addition, students may not apply more than 3 credits in Internship and/or Independent Study coursework to any Certificate pathway in Forestry, Wildlife and Natural Resources.

Total Credit Hours: 9

Geographic Information Systems and Geospatial Science
Geospatial Science - Associate of Applied Science Degree

GEOSPATIAL SCIENCE

Locations: Boulder County Campus

Field Code: F_AAS_GEO3

According to the U.S. Bureau of Labor Statistics, jobs for individuals with geospatial technology skills are expected to grow 10 to 20 percent over the next decade. It is a high-technology field with the significant job growth occurring in both the public and private sectors. Career areas include photogrammetry, cartography, geographical information systems, global positioning systems, and satellite remote sensing.

Upon completion of an Associate of Applied Science degree in Geospatial Science, a graduate will be able to:

- Acquire geospatial information from a variety of sources.
- Use, combine, and manage geospatial data for a given purpose.
- Interpret and analyze geospatial information.
- Use geographic information system software for storage, manipulation, and analysis of geospatial data.

REQUIREMENTS**Required Courses**

GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
GIS 131	Global Positioning Systems for Global Information Systems	3
GIS 150	Relational Database Management Systems for GIS	3
GIS 165	Project Management	3
GIS 205	Applications	3
GIS 211	Spatial Data Modeling and Analysis	4
GIS 210	Intermediate Geographic Information Systems	3
GIS 212	GIS Remote Sensing - Digital Image	4
GIS 260	GIS Survey I	3
GIS 261	GIS Survey II	3
GIS 280	Internship	3
	or	
GIS 289	Capstone	3
BUS 217	Business Communication and Report Writing	3
	or	
MAR 216	Principles of Marketing	3
BUS 102	Entrepreneurial Operations	3
	or	
MAN 216	Small Business Management	3

Subtotal: 44**General Education Courses****Communication & Finance**

COM 220	Intercultural Communication	3
MAN 225	Managerial Finance	3

Subtotal: 6**English**

Select one course (3 credits) from the English courses below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3**Mathematics**

Select one Mathematics course (minimum of 3 credits)

MAT 108	Technical Mathematics	4
	or	
MAT 122	College Trigonometry or higher	3

Subtotal: 3-4

*Students contemplating transfer should take a GT-MA1 (p. 248) course approved by their intended transfer institution, preferably one with trigonometry competencies.

Natural and Physical Sciences

or

GEY 135	Environmental Geology with Lab	4
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Subtotal: 4**Required General Education Courses****Subtotal: 16-17****Total Credit Hours: 60-61**

Learn more about gainful employment (p. 254)

Geographic Information Systems - Certificates

The below certificates listed in this section are available at the Boulder County Campus and provide education in geospatial science. Students will train in software programming, data acquisition, business practice and geographic information systems.

In addition to the awards below, a Natural Resources Geographic Information Systems Certificate (p. 193) is also available at the Larimer Campus. Studies in this field included Forestry, Wildlife and Natural Resources.

FOUNDATIONS OF GEOGRAPHIC INFORMATION SYSTEMS

Locations: Boulder County Campus

Field Code: F_CER_GEO5

The Foundations of GIS certificate provides an introduction to the field of Geographic Information Systems and Geospatial Science. It is a stackable certificate that can be completed while working toward the completion of the GIS certificate (p. 195). Students looking at careers in GIS, should continue their education completing the GIS certificate (p. 195) and/or the Geospatial AAS Degree (p. 194). Students should possess mathematical, analytical, and spatial reasoning skills and should be comfortable using technology before starting the GIS program. Students who do not have fundamental mathematics skills may need to complete college preparatory mathematics courses.

REQUIREMENTS

Required Courses

GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
GIS 131	Global Positioning Systems for Global Information Systems	3
GIS 150	Relational Database Management Systems for GIS	3

Subtotal: 12

Total Credit Hours: 12

GEOGRAPHIC INFORMATION SYSTEMS

Locations: Boulder County Campus

Field Code: F_CER_GEO6

This certificate provides career opportunities in the expanding field of geographic information systems. Students receive both the necessary theoretical background and practical experience.

REQUIREMENTS

Assessment testing is required for all students. Students who place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
GIS 131	Global Positioning Systems for Global Information Systems	3
GIS 150	Relational Database Management Systems for GIS	3
GIS 165	Project Management	3
GIS 210	Intermediate Geographic Information Systems	3
GIS 212	GIS Remote Sensing - Digital Image	4

Subtotal: 22

Electives

Select any two courses (6 credits) that satisfy the requirements of the AAS degree in Geospatial Science (p. 194). Both GIS 205 and GIS 211 are highly recommended.

Subtotal: 6-7

Total Credit Hours: 28-29

Learn more about gainful employment (p. 254)

See gainful employment information

Health Information Technology

HEALTH INFORMATION TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Westminster Campus

Field Code: F_AAS_HIT1

This two-year program leads to an Associate of Applied Science (AAS) degree in Health Information Technology designed to develop the technical skills necessary for managing health information within the healthcare delivery system. The FRCC HIT

program is a CAHIIM accredited program and upon completion of the program, students can test for the national RHIT certification from AHIMA. Students may also transfer to a Bachelor's program in Health Information Management at Regis University.

For those students considering a bachelor's degree, they should take the HPR208 2 credit Medical Terminology and the MAT135 Intro to Statistics for their math requirement.

Any student interested in the HIT program is welcome to attend an HIT Information Session held on the second Wednesday of each month from 6:00 to 7:00 pm at the Westminster Campus. Please call 303-404-5151 for more information. *Note: Not all courses are offered every semester so new HIT students should meet with the Program Director to establish their degree plan.*

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

HIT 101	Health Information Management Science	3
HIT 105	Principles of Healthcare Reimbursement	3
HIT 111	Health Data Management & Information Systems	3
HIT 112	Legal Aspects for Health Records	2
HIT 122	Workflow Fundamentals of Healthcare	3
HIT 188	Health Information Practicum I	2
HIT 220	ICD Coding I	3
HIT 221	ICD Coding II	2
HIT 222	Quality Management	3
HIT 225	Health Information Management	3
HIT 231	ICD Coding III	5
HIT 241	CPT Coding Basic Principles	3
HIT 289	HIT Capstone Course	3
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 178	Medical Terminology or	1
HPR 208	Medical Record Terminology	2

Subtotal: 48-49

General Education Courses

Computer Technology

CIS 118	Introduction to PC Applications	3
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Subtotal: 3

Communication

Select one course (3 credits) from below:

COM 125	Interpersonal Communication	3
COM 115	Public Speaking	3

Subtotal: 3

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3

ENG 131	Technical Writing I	3
		Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
		Subtotal: 3

Note: Students desiring professional advancement in this field should consider taking MAT 135 (3 credits) to satisfy general education requirements in mathematics.

Social & Behavioral Sciences

PSY 101	General Psychology I or higher	3
		Subtotal: 3

Required General Education Courses

Subtotal: 15

Total Credit Hours: 63-64

Learn more about gainful employment (p. 254)

Health Information Technology - Certificates

MEDICAL CODING

Locations: Westminster Campus

Field Code: F_CER_MCOD

The Medical Coding Certificate will provide students with medical coding competencies for hospitals, long term care facilities and physician practices. These occupations work in the Health Information Management departments. Coders are responsible for abstracting diagnoses and procedures from patient health records and then assigning codes using the ICD-10 classification system to ensure accurate billing and reimbursement.

REQUIREMENTS

Required Courses

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HIT 105	Principles of Healthcare Reimbursement	3
HIT 220	ICD Coding I	3
HIT 221	ICD Coding II	2
HIT 231	ICD Coding III	5
HIT 241	CPT Coding Basic Principles	3
HPR 178	Medical Terminology or	1
HPR 208	Medical Record Terminology	2
		Subtotal: 26-27

Total Credit Hours: 26-27

Learn more about gainful employment (p. 254)

See gainful employment information

Heating, Ventilation, Air Conditioning and Refrigeration

HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Loveland

Field Code: F_AAS_HVA

This program provides training in basic through advanced heating, ventilation, air conditioning, and refrigeration. Other topics in the program include: basic electricity and electrical components for HVACR, refrigerant tubing, fabrication, soldering, brazing, and trouble shooting, plus residential and commercial heating, hot water heating, industrial controls, advanced troubleshooting, customer service, teamwork, and communication.

REQUIREMENTS

All courses applied to the degree or certificate must be completed with a grade of "C" or better.

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study. Students must complete the Industry Competency Exams (ICE) Residential Air Conditioning and Heating, Light Commercial Air Conditioning and Heating, and Commercial Refrigeration as a requirement for this AAS degree. Contact the HVAC/R department for current pricing and to schedule/pay for the ICE Exam.

Required Courses

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
HVA 122	Commercial Refrigeration	4
HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4
HVA 200	International Residential Codes - Mechanical and Fuel Gas	2
HVA 201	Heating for Commercial Applications	3
HVA 202	Troubleshooting and Customer Service	3
HVA 203	Industrial Controls	3
HVA 247	Hot Water Heating Systems	4
HVA 280	Internship or	2
HVA 289	Capstone	2

Subtotal: 44

General Education Courses

Communication

Select one course (3 credits) from the listed courses below:

MTE 110	Applied Communication & Teamwork in Industry	3
COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3

Subtotal: 3

English

Select one course (3 credits) from the English courses below:

ENG 131	Technical Writing I	3
ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Natural and Physical Science

PHY 105	Conceptual Physics with Lab or higher	4
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Subtotal: 4

General Studies Elective

Select one course (3 credits) from the Approved Elective List.

Subtotal: 3

Required General Education Courses

Subtotal: 16

Total Credit Hours: 60

Learn more about gainful employment (p. 254)

Heating, Ventilation, Air Conditioning and Refrigeration - Certificates

RESIDENTIAL AIR CONDITIONING AND HEATING

Locations: Loveland

Field Code: F_CER_HVAA

This certificate provides training in the design, diagnosis, service and repair of residential HVAC systems and Hot-Water heating systems. In addition, it provides training in the application of the International Residential Code with attention to the sizing requirements of parts V and VI of the code. Students must complete the Industry Competency Exam (ICE) Residential Air Conditioning and Heating as a requirement of this certificate. Contact the HVAC/R department for current pricing and to schedule/pay for the ICE Exam.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this certificate of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4
HVA 200	International Residential Codes - Mechanical and Fuel Gas	2
HVA 202	Troubleshooting and Customer Service	3
HVA 247	Hot Water Heating Systems	4
MTE 110	Applied Communication & Teamwork in Industry or	3
COM 115	Public Speaking or	3
COM 125	Interpersonal Communication	3

Total Credit Hours: 35

Learn more about gainful employment (p. 254)

See gainful employment information

LIGHT COMMERCIAL AIR CONDITIONING AND HEATING

Locations: Loveland

Field Code: F_CER_HACH

This certificate provides training in the design, diagnosis, service and repair of residential and light commercial HVAC systems including commercial building controls. In addition, it provides training on the application of the International Residential Code with attention to the sizing requirements of parts V and VI of the code. Students must complete the Industry Competency Exam (ICE) Light Commercial Air Conditioning and Heating as a requirement of this certificate. Contact the HVAC/R department for current pricing and to schedule/pay for the ICE Exam.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this certificate of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4
HVA 200	International Residential Codes - Mechanical and Fuel Gas	2
HVA 201	Heating for Commercial Applications	3
HVA 202	Troubleshooting and Customer Service	3
HVA 203	Industrial Controls	3
MTE 110	Applied Communication & Teamwork in Industry or	3
COM 115	Public Speaking or	3
COM 125	Interpersonal Communication	3

Total Credit Hours: 37

Learn more about gainful employment (p. 254)

See gainful employment information

COMMERCIAL REFRIGERATION

Locations: Loveland

Field Code: F_CER_HVAM

This certificate provides training in the diagnosis, service and repair of commercial icemakers, walk-in coolers and freezers, and self-contained refrigeration units. Students must complete the Industry Competency Exam (ICE) Commercial Refrigeration

as a requirement of this certificate. Contact the HVAC/R department for current pricing and to schedule/pay for the ICE Exam.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this certificate of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this certificate of study.

Required Courses

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
HVA 122	Commercial Refrigeration	4
HVA 202	Troubleshooting and Customer Service	3
HVA 203	Industrial Controls	3
MTE 110	Applied Communication & Teamwork in Industry or	3
COM 115	Public Speaking or	3
COM 125	Interpersonal Communication	3

Total Credit Hours: 28

Learn more about gainful employment (p. 254)

See gainful employment information

HVAC/R FUNDAMENTALS

Locations: Loveland

Field Code: F_CER_HVCR

This certificate provides basic fundamental skills in HVAC/R including brazing/soldering, copper tubing fabrication, EPA certification and basic electrical skills. Students are advised to pursue additional financial aid eligible awards available in the HVAC/R program to become industry certified by passing the corresponding Industry Competency Exam (ICE). Industry Certification Exams are available in the following areas Residential Air Conditioning and Heating (p. 197); Light Commercial Air Conditioning and Heating (p. 197); and Commercial Refrigeration (p. 197) which can be achieved in just two additional semesters as well as the AAS degree in HVAC/R that can be completed in just three additional semesters.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college level and place into CCR 093 or above and MAT 050 or above may begin this certificate of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

HVA 101	Introduction to Air Conditioning and Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3

HVA 104	Electrical Components for Air Conditioning and Refrigeration	4
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Total Credit Hours: 15

Horticulture and Landscape Technologies

This program prepares students for a wide range of careers in landscape contracting, ornamental horticulture and urban farming. Specialty certificates provide entry-level career preparation or allow individuals already working in the horticulture industry to upgrade or expand their skill sets.

Before enrolling in coursework, students planning to complete either a baccalaureate degree in Horticulture Business Management or in Environmental Horticulture - Landscape Business at Colorado State University are encouraged to enroll in the programs of study outlined above and/or seek advice from a HLT Program Director and/or CSU Transfer Advisor. To view the articulation agreements that govern these Degrees with Designation, visit:

- http://higher.ed.colorado.gov/Academics/Transfers/Agreement/s/STAA_HORT_BUS_MGMT_Final.pdf

- http://higher.ed.colorado.gov/Academics/Transfers/Agreement/s/STAA_ENVIRON_HORTICULTURE_Landscape_Business_Final.pdf

HORTICULTURE AND LANDSCAPE TECHNOLOGIES - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_HLT

Students contemplating the Associate of Applied Science (AAS) degree are encouraged (but not required) to complete the HLT General Education Requirements before starting coursework with an HLT prefix. Those who have completed the General Education Requirements or who wish to begin taking courses with an HLT prefix are encouraged to select a certificate program that interests them and complete its required coursework first as this allows the student to enter the workforce before completing the AAS degree.

To earn the **Associate of Applied Science degree** students complete:

1. The 22 credit HLT AAS General Education Core, and
2. The 18-credit Floral Design (p. 200) or Horticulture (p. 200) certificate, and
3. 20-credits of Approved Electives, 10 of which must have an HLT or an FLD prefix (see Certificate and Elective Credits section of AAS Requirements).

While completing these 20 credits of electives we recommend the student consider pursuing one of the following 18-credit Specialty Certificates as a concentration:

- Irrigation Contracting and Management (p. 200)
- Landscape Contracting (p. 201)
- Landscape Design (p. 201)
- Landscape Maintenance (p. 201)
- Nursery Greenhouse and Garden Center Management (p. 202)
- Turfgrass Management (p. 202)
- Urban Agriculture Management (p. 202)

This program also offers a 6-credit **Irrigation Technician Certificate** (p. 201) that prepares student for entry level employment doing sprinkler repair. This certificate is not financially aid eligible.

REQUIREMENTS

To graduate from this program the student must complete all degree coursework with a "C" or better. Assessment testing is required of all students. Students placing into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below these levels should consult with a Program Director before registering for courses in this program of study.

General Education Requirements

Arts and Humanities

SPA 101	Conversational Spanish I or higher	3
		Subtotal: 3

Communication

Select one course from the following:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
ENG 132	Technical Writing II	3
COM 115	Public Speaking or	3
COM 125	Interpersonal Communication	3
		Subtotal: 3

Mathematics

Students must complete 3 credits of math by completing the math coursework specified for the Horticulture Certificate (p. 200), Floral Design Certificate (p. 200), Horticulture Business A.S., or Landscape Business A.S. If you are unsure of which course is appropriate for your goals, see an Advisor or Program Director.

Subtotal: 3

Natural and Physical Sciences

AAS students complete one course, but students considering transfer to CSU should take BIO 221 (p. 307) or CHE 101 (p. 311).

BIO 105	Science of Biology with Lab	4
BIO 111	General College Biology I with Lab	5
BIO 221	Botany with Lab or	5
CHE 101	Introduction to Chemistry I with Lab or higher	5
		Subtotal: 4

Social and Behavioral Sciences

ECO 201	Principles of Macroeconomics or	3
ECO 202	Principles of Microeconomics	3
		Subtotal: 3

Business Management

BUS 102	Entrepreneurial Operations or	3
MAN 216	Small Business Management	3
		Subtotal: 3

Computer Technology

Complete two of the following courses:

CAD 101	Computer-Aided Drafting/2D I	3
CAD 102	Computer-Aided Drafting/2D II	3
CAD 115	Sketchup	3
CAD 202	Computer-Aided Drafting/3D	3
CAD 216	Advanced Sketchup	3
CIS 118	Introduction to PC Applications	3
CIS 128	Operating System: Using Microsoft Windows	3
CIS 135	Complete PC Word Processing: Word	3
CIS 145	Complete PC Database: ACCESS	3
CIS 155	PC Spreadsheet Concepts: Excel	3
CWB 110	Complete Web Authoring	3
GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Introduction to Cartography	3
MGD 111	Adobe Photoshop I or	3
MGD 112	Adobe Illustrator I	3

Subtotal: 6

Certificate AND Elective Courses

Complete the Horticulture (p. 200) (18 credits) OR Floral Design (p. 200) (18 credits) Certificate AND 20 credits of approved electives.

- 10 or more of these elective credits **MUST HAVE** an HLT or FLD prefix and may include the completion of an additional 17 or 18 credit HLT Specialized Certificate (p. 200).

- Up to 10 credits of elective coursework **MAY COME** from the following list of courses. These courses must be in addition to courses the student has taken to fulfill their Arts and Humanities, Communications, Natural and Physical Sciences, Social and Behavioral Sciences, Business Management or Computer Technology requirements.

BIO 221	Botany with Lab	5
BUS 226	Business Statistics or	3
MAT 135	Introduction to Statistics	3
CHE 101	Introduction to Chemistry I with Lab	5
CHE 111	General College Chemistry I with Lab	5
CHE 205	Introductory Organic Chemistry with Lab	5
COM 115	Public Speaking	3
ECO 201	Principles of Macroeconomics or	3
ECO 202	Principles of Microeconomics	3
GEY 111	Physical Geology with Lab	4
MAT 121	College Algebra	4
MAT 166	Pre-Calculus	5
PHY 111	Physics: Algebra-Based I with Lab	5
PHY 112	Physics: Algebra-Based II with Lab	5
PSY 101	General Psychology I	3
SPA 111	Spanish Language I or	5
SPA 112	Spanish Language II	5

Subtotal: 38

Total Credit Hours: 60

Learn more about gainful employment (p. 254)

Horticulture and Landscape Technologies - Certificates
Certificates provide job entry skills in horticulture or allow individuals already working in horticulture to upgrade or expand their skill sets.

Students contemplating the Associate of Applied Science degree are encouraged to begin their program of study by selecting a certificate program that interests them. This allows those individuals to enter the workforce before completing the AAS degree. Certificate credits are then applied as a block of classes that work towards completion of the AAS degree.

FLORAL DESIGN

Locations: Larimer Campus

Field Code: F_CER_HL1A

This certificate prepares students to work in or own a flower shop or floral service.

- Students contemplating transfer to Colorado State University should be aware that MAT 121 is required in the Horticulture Business Management AS degree program and MAT 166 is required in the Environmental Horticulture - Landscape Business Management AS degree program.

REQUIREMENTS**Required Courses**

FLD 100	Introductory Floral Design	3
FLD 200	Advanced Floral Design	3
FLD 289	Capstone	4
HLT 223	Annuals, Bulbs, and Grasses or	2
HLT 226	Interior Plants	2
HLT 280	Internship or	3
HLT 287	Cooperative Education	3
MAT 107	Career Mathematics or	3
MAT 108	Technical Mathematics or	4
MAT 121	College Algebra or higher	4

Total Credit Hours: 18-19

Learn more about gainful employment (p. 254)

See gainful employment information

HORTICULTURE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HRTC

This certificate provides students with a fundamental understanding of horticulture science. It also allows students with unique career goals to "design their own degree" with faculty guidance.

- Students contemplating transfer to Colorado State University should be aware that MAT 121 is required in the Horticulture

Business Management AS degree program and MAT 166 is required in the Environmental Horticulture - Landscape Business Management AS degree program.

- Elective courses may be applicable to several certificates but credits count only once towards the AAS degree. If you are completing this and another certificate as part of an AAS program, you must complete at least 38 certificate and elective credits. These credits must include HLT 101, HLT 240 and MAT 107, MAT 108, or MAT 121 (or higher). (See a HLT Program Director for guidance).

REQUIREMENTS**Required Courses**

HLT 101	Introduction to Horticulture	4
HLT 240	Introductory Soil Science	4
MAT 107	Career Mathematics or	3
MAT 108	Technical Mathematics or	4
MAT 121	College Algebra or higher	4

Electives

Select 7 credits from additional HLT (p. 347) or FLD (p. 335) courses

Subtotal: 7

Total Credit Hours: 18-19

Learn more about gainful employment (p. 254)

See gainful employment information

IRRIGATION CONTRACTING AND MANAGEMENT

Locations: Larimer Campus

Field Code: F_CER_HL2A

Water management is a critical and growing part of the horticulture industry with great job prospects for interested students. This certificate offers students who wish to work for, or own, an irrigation contracting company an enhanced skillset.

HLT Program Directors recommend that students enrolled in this certificate:

- Begin their studies with HLT 150 Irrigation I and HLT 151 Irrigation II as this allows the student the opportunity to complete the 6 credit Irrigation Technician certificate and enter the workplace while finishing this certificate.

- Complete the Horticulture certificate and/or HLT AAS degree

- Take HLT 237 Landscape Bidding and Estimating as an elective while completing a Horticulture certificate or HLT AAS degree.

REQUIREMENTS**Required Courses**

HLT 132	Sustainable Landscaping	3
HLT 150	Irrigation I	3
HLT 151	Irrigation II	3
HLT 210	Landscape Management	4
HLT 250	Irrigation III: Design	2
HLT 280	Internship	3

	or		
HLT 287	Cooperative Education	3	
Total Credit Hours: 18			

Learn more about gainful employment (p. 254)

See gainful employment information

IRRIGATION TECHNICIAN

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HL2B

This certificate provides basic instruction in landscape irrigation installation and maintenance so that students can gain entry level employment as quickly as possible. Credits from this certificate may be applied to the Irrigation Contracting and Management certificate, Landscape Maintenance Technician certificate, or Turfgrass Management certificate.

REQUIREMENTS

Required Courses

HLT 150	Irrigation I	3
HLT 151	Irrigation II	3

Total Credit Hours: 6

NOTE: Student can complete this certificate in one semester. Classes are offered only in the Fall and are available at both the Westminster and Larimer campuses. This certificate is not financial aid eligible, but may be earned as part of other financial-aid-eligible certificates.

LANDSCAPE CONTRACTING TECHNICIAN

Locations: Larimer Campus

Field Code: F_CER_HLCT

This certificate prepares students to work in landscape construction or to start their own landscape construction company.

HLT Program Directors recommend that students enrolled in this certificate also complete:

- HLT 224 Herbaceous Perennials
- The Horticulture certificate and/or HLT AAS degree

Completing this certificate and the following courses allows the student to earn other specialty certificates:

- HLT 151 Irrigation II (to earn the Irrigation Technician certificate)
- HLT 210 Landscape Management and HLT 223 Annuals, Bulbs and Grasses (to earn the Landscape Maintenance Technician certificate)
- HLT 132 Sustainable Landscaping, HLT 151 Irrigation II, and HLT 210 Landscape Management (to earn the Irrigation Contracting and Management certificate)

REQUIREMENTS

Required Courses

HLT 150	Irrigation I	3
HLT 221	Woody Plants: Trees and Conifers	3
HLT 222	Woody Plants: Shrubs and Vines	3
HLT 236	Landscape Construction	4
HLT 237	Landscape Bidding and Estimating	2

HLT 280	Internship	3
	or	
HLT 287	Cooperative Education	3

Total Credit Hours: 18

Learn more about gainful employment (p. 254)

See gainful employment information

LANDSCAPE DESIGN

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_LSPD

This certificate prepares students to work as landscape design assistants or designers for landscape design firms or to start their own garden design business. **The focus of the program is on residential and small scale design.**

HLT Program Directors recommend that students enrolled in this certificate:

- Complete the Horticulture certificate and/or HLT AAS degree.
- Take HLT 221 Woody Plants: Trees and Conifers, HLT 222 Woody Plants: Shrubs and Vines, HLT 223 Annuals, Bulbs and Grasses, HLT 224 Herbaceous Perennials, HLT 236 Landscape Construction, and HLT 237 Landscape Bidding and Estimating as electives when completing their Horticulture certificate or HLT AAS degree.

REQUIREMENTS

Required Courses

CAD 101	Computer-Aided Drafting/2D I	3
HLT 130	Landscape Design I	3
HLT 132	Sustainable Landscaping	3
HLT 230	Landscape Design II	3
HLT 232	Landscape Design III	3
HLT 280	Internship	3
	or	
HLT 287	Cooperative Education	3

Total Credit Hours: 18

Learn more about gainful employment (p. 254)

See gainful employment information

LANDSCAPE MAINTENANCE TECHNICIAN

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HLT3

This program prepares students to work for landscape maintenance companies including tree care and plant health care companies.

HLT Program Directors recommend that students enrolled in this certificate:

- Begin their studies with HLT 150 Irrigation I and HLT 151 Irrigation II as this allows them to complete the 6 credit Irrigation Technician certificate, then enter the workplace before finishing this certificate.
- Complete the Horticulture certificate and/or HLT AAS degree.
- Take HLT 132 Sustainable Landscaping as part of their Horticulture certificate or HLT AAS degree.

REQUIREMENTS**Required Courses**

HLT 150	Irrigation I and	3
HLT 151	Irrigation II or	3
HLT 202	Plant Health Care and	4
HLT 208	Pesticide Safety and Use	2
HLT 210	Landscape Management	4
HLT 211	Arboriculture or	3
HLT 221	Woody Plants: Trees and Conifers or	3
HLT 222	Woody Plants: Shrubs and Vines	3
HLT 223	Annuals, Bulbs, and Grasses	2
HLT 280	Internship or	3
HLT 287	Cooperative Education	3

Total Credit Hours: 18

Learn more about gainful employment (p. 254)

See gainful employment information

NURSERY, GREENHOUSE, AND GARDEN CENTER MANAGEMENT

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_HNGG

This program prepares students to work in, or own, a retail garden center or a wholesale or retail nursery or greenhouse.

HLT Program Directors recommend that students enrolled in this certificate:

- Complete the Horticulture or Floral Design certificate and/or HLT AAS degree.

- Take any remaining courses in this certificate as electives when completing a Horticulture certificate, Floral Design certificate or HLT AAS degree.

REQUIREMENTS**Required Courses**

HLT 160	Greenhouse Management or	4
HLT 165	Nursery and Garden Center Management	4
HLT 202	Plant Health Care or	4
HLT 260	Plant Propagation	4
HLT 280	Internship or	3
HLT 287	Cooperative Education	3

Subtotal: 11**Electives**

Complete 6 credits from the following list:

HLT 221	Woody Plants: Trees and Conifers	3
HLT 222	Woody Plants: Shrubs and Vines	3
HLT 223	Annuals, Bulbs, and Grasses	2
HLT 224	Herbaceous Perennials	4
HLT 226	Interior Plants	2

Subtotal: 6**Total Credit Hours: 17**

Learn more about gainful employment (p. 254)

See gainful employment information

TURFGRASS MANAGEMENT

Locations: Larimer Campus

Field Code: F_CER_HLTG

This program prepares students to work in commercial or residential lawn care or in the specialized fields of golf course turf management or sports turf management.

HLT Program Directors recommend that students enrolled in this certificate:

- Begin their studies by completing the Irrigation Technician certificate (by completing HLT 150 and HLT 151) as this allows the student the opportunity to enter the workplace while finishing this certificate.

- Complete the Horticulture certificate and/or HLT AAS degree.

- Take the following courses as electives while completing a Horticulture certificate or HLT AAS degree: HLT 150 Irrigation I, HLT 151 Irrigation II, HLT 202 Plant Health Care, HLT 208 Pesticide Safety and Use, HLT 240 Introductory Soil Science.

REQUIREMENTS**Required Courses**

HLT 150	Irrigation I and	3
HLT 151	Irrigation II or	3
HLT 202	Plant Health Care and	4
HLT 208	Pesticide Safety and Use	2
HLT 210	Landscape Management	4
HLT 242	Turfgrass Management	4
HLT 280	Internship or	3
HLT 287	Cooperative Education	3

Total Credit Hours: 17

Learn more about gainful employment (p. 254)

See gainful employment information

URBAN AGRICULTURE MANAGEMENT

Locations: Larimer Campus

Field Code: F_CER_UAGM

This program prepares students to manage or work in an urban agriculture operation (the production of high value fruit and vegetable crops in an urban setting).

HLT Program Directors recommend that students enrolled in this certificate:

- Complete the Horticulture certificate and/or HLT AAS degree.
- Take the following courses as electives while completing a Horticulture certificate or HLT AAS degree: HLT 150 Irrigation I and HLT 160 Greenhouse Management.

REQUIREMENTS

Required Courses

HLT 202	Plant Health Care	4
HLT 208	Pesticide Safety and Use	2
HLT 240	Introductory Soil Science	4
HLT 262	Urban Farm Management	4
HLT 280	Internship or	3
HLT 287	Cooperative Education	3

Total Credit Hours: 17

Learn more about gainful employment (p. 254)

See gainful employment information

Hospitality and Culinary Arts Management
Hospitality and Culinary Arts Management - Associate of Applied Science Degrees

CULINARIAN AND RESTAURANT MANAGEMENT

Locations: Larimer Campus

Field Code: F_AAS_CURM

This degree offers courses that provide entry level training in the Culinary Arts and Restaurant Management industries. The degree is designed to prepare students with the necessary skills and knowledge for careers that include entry level management positions in catering and restaurants. Students will participate in four culinary laboratory courses, as well as one internship.

During these courses, students receive applied experiences in both the food service and operations of the hospitality industry. Students take a nationally recognized test from the Education Foundation of the National Restaurant Association, if passed with a score of 75% or more students receive the ServSafe® Certification. Students must earn a "C" or better in all required courses applied to the degree program.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Students must consult with CUA/HOS Program Director before registering for CUA 281.

Required Courses

CUA 101	Food Safety and Sanitation	2
CUA 120	Wines and Spirits	2
CUA 125	Introduction to Foods	4
CUA 129	Center of the Plate	4
CUA 145	Introduction to Baking	4
CUA 210	Adv Cuisine and Garde Manger	4
CUA 261	Cost Controls	3
CUA 262	Purchasing for the Hospitality Industry	3
CUA 281	Internship	3

HOS 110	Introduction to Hospitality	3
HOS 120	Service Management	3
HOS 215	Training and Development	3
HOS 255	Hospitality HR Management	3
MAN 225	Managerial Finance	3

Subtotal: 44

General Education Courses

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Business Information Technology

ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
CIS 118	Introduction to PC Applications	3

Subtotal: 10

Required General Education Courses

Subtotal: 16

Total Credit Hours: 60

Learn more about gainful employment (p. 254)

HOTEL AND EVENT MANAGEMENT

Locations: Larimer Campus

Field Code: F_AAS_HTEM

This degree offers courses that provide entry level management skills in the Hotel and Event Management industries. The degree is designed to prepare students with the necessary skills and knowledge for careers in the various classifications of Hotels, Meetings, Conventions, Expositions, and Special Events. Students will participate in one industry related internship. During these courses, students receive applied experiences in both service and operational areas of the Hotel and Event Management industries. Students take a nationally recognized test from the Education Foundation of the National Restaurant Association, if passed with a score of 75% or more students receive the ServSafe® Certification. Students must earn a "C" or better in all required courses applied to the degree program.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Students must consult with CUA/HOS Program Director before registering for HOS 280.

Required Courses

CUA 101	Food Safety and Sanitation	2
CUA 120	Wines and Spirits	2
CUA 261	Cost Controls	3
HOS 110	Introduction to Hospitality	3
HOS 120	Service Management	3
HOS 131	Planning for Special Events	3

HOS 141	Convention Management	3
HOS 210	Event Finances	3
HOS 215	Training and Development	3
HOS 242	Hotel Sales and Marketing	3
HOS 251	Hotel Operations	3
HOS 255	Hospitality HR Management	3
HOS 280	Internship	4
MAN 225	Managerial Finance	3
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MAR 111	Principles of Sales	3
	or	
MAN 230	Corporate Ethics & Social Resp	3
		Subtotal: 44

General Education Courses**English**

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
		Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
		Subtotal: 3

Business Information Technology

ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
CIS 118	Introduction to PC Applications	3
		Subtotal: 10

Required General Education Courses**Subtotal: 16****Total Credit Hours: 60-62**

Learn more about gainful employment (p. 254)

Hospitality and Culinary Arts Management - Certificates

CULINARIAN

Locations: Larimer Campus

Field Code: F_CER_HO1A

REQUIREMENTS**Required Courses**

CUA 101	Food Safety and Sanitation	2
CUA 125	Introduction to Foods	4
CUA 129	Center of the Plate	4
CUA 145	Introduction to Baking	4
CUA 210	Adv Cuisine and Garde Manger	4
CUA 261	Cost Controls	3
CUA 262	Purchasing for the Hospitality Industry	3
		Subtotal: 24

Total Credit Hours: 24

Learn more about gainful employment (p. 254)

See gainful employment information

EVENT PLANNING

Locations: Larimer Campus

Field Code: F_CER_HO4A

REQUIREMENTS**Required Courses**

CIS 118	Introduction to PC Applications	3
CUA 120	Wines and Spirits	2
HOS 131	Planning for Special Events	3
HOS 141	Convention Management	3
HOS 210	Event Finances	3
HOS 255	Hospitality HR Management	3
MAN 225	Managerial Finance	3
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MAR 111	Principles of Sales	3
	or	
MAN 230	Corporate Ethics & Social Resp	3

Total Credit Hours: 23

Learn more about gainful employment (p. 254)

See gainful employment information

HOTEL MANAGEMENT

Locations: Larimer Campus

Field Code: F_CER_HO2A

REQUIREMENTS**Required Courses**

CIS 118	Introduction to PC Applications	3
CUA 261	Cost Controls	3
HOS 131	Planning for Special Events	3
HOS 141	Convention Management	3
HOS 242	Hotel Sales and Marketing	3
HOS 251	Hotel Operations	3
HOS 255	Hospitality HR Management	3
MAN 225	Managerial Finance	3

Total Credit Hours: 24

Learn more about gainful employment (p. 254)

See gainful employment information

RESTAURANT MANAGEMENT

Locations: Larimer Campus

Field Code: F_CER_HO3A

REQUIREMENTS**Required Courses**

CUA 101	Food Safety and Sanitation	2
CUA 120	Wines and Spirits	2
CUA 125	Introduction to Foods	4
CUA 261	Cost Controls	3
CUA 262	Purchasing for the Hospitality Industry	3
HOS 255	Hospitality HR Management	3
MAN 225	Managerial Finance	3

Total Credit Hours: 20

Learn more about gainful employment (p. 254)

See gainful employment information

Integrative Health Professions Associate of Applied
Science Degree

INTEGRATIVE HEALTH PROFESSIONS ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus, Loveland

Field Code: F_AAS_IHPA

This two year program is designed to prepare students to begin practice in an area of Holistic Integrative Health, including practitioners in aromatherapy, yoga teaching, massage, reflexology, Reiki, wellness coaching, etc. Graduates will be aligned to set up their own practices in a stand-alone facility, or work alongside other practitioners in the holistic and medical fields, including holistic centers, wellness facilities, integrative clinics, and hospitals. Graduates are qualified for employment in various levels of entrepreneurship or within corporate wellness as well as health care offices or organizations. Completion of this program prepares students to take state licensure and national certification exams and/or join highly-rated state and nationally accredited professional membership affiliations.

Graduates of this degree may also transfer to advanced educational institutions for other integrated health-related degrees. Currently, this degree program is transferable to Metropolitan State University of Denver to be applied towards the Bachelor of Science in Integrative Therapies/Healthcare and Southern New Hampshire University for a Bachelor of Science in Health Sciences. Other transfers to other university programs and specialty medical training schools are also available or in development, so please check with the Program Director for more details and updates.

Assessment testing is required of all students. Students who place into CCR 093 (p. 310) (or above), MAT 050 (p. 363) (or above) may begin this program of study. Students scoring below this level should consult with the Program Director before registering for courses in this program of study. Upon doing so, students are strongly encouraged to begin with Introduction to Integrative Health (HHP 120 (p. 339)) during their first semester to gain success skills and garner knowledge for academic and career planning within this emerging health-related field.

Note: National trends and professionals in the field highly suggest that students complete a significant portion of hands-on coursework and do not try to complete this program exclusively online, in order to garner greater potential for increased employment opportunities and successful transfer status in this person-oriented professional healthcare field.

All courses in this degree must be completed with a "C" or better to be counted towards graduation.

REQUIREMENTS

Assessment testing is required of all students. Students who place into CCR 093 (or above), MAT 050 (or above) may begin this program of study. Students scoring below this level should consult with the Program Director before registering for courses in this program of study. Upon doing so, students are strongly encouraged to begin with HHP 120 (p. 339) (Introduction to Integrative Health) during their first semester for enhanced success in the Holistic Health program and this emerging field.

Required Courses

HHP 120	Introduction to Integrative Health	2
HHP 252	Holistic Health Keystone	3
HHP 261	Ethics in Holistic Therapies	2

HHP 263	Creating a Holistic Business Practice	2
HHP 289	Capstone	2

Subtotal: 11

General Education Requirements

English

Select one course (3 credits) from the following:

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 3

Note: Students desiring professional advancement in this field through transfer should consider taking ENG 122 in addition to ENG 121 to satisfy the general education requirements in English at MSU-D and other transfer institutions.

Communication

Select one course (3 credits) from the following: COM 115, COM 125, COM 209, COM 220.

Subtotal: 3

Mathematics

Select one course (3-5 credits) from any GT-MA1 course. Recommended courses are listed below:

MAT 120	Mathematics for the Liberal Arts	4
MAT 121	College Algebra	4
MAT 135	Introduction to Statistics	3

Subtotal: 3-5

Liberal Arts

Select one course (3 credits) from the Approved Electives List (p. 247) in the Liberal Arts section. These areas of study include: Arts & Expression, Literature & Humanities, Ways of Thinking, and World Languages. Recommended courses include gtPathways AH courses: GT-AH1, GT-AH2, GT-AH3, or GT-AH4.

Subtotal: 3

History

Select one course (3 credits) from the gtPathways list (GT-HI1).

Subtotal: 3

Social and Behavioral Sciences

Anthropology

Select one course (3 credits) from the following: ANT 101, ANT 215, ANT 221, ANT 225, ANT 250

Subtotal: 3

Psychology

Select one course (3 credits) from the following: PSY 101, PSY 102, PSY 205, PSY 227, PSY 235, PSY 238, PSY 265.

Subtotal: 3

Human Anatomy and Physiology

Students must take BIO 201 and BIO 202. In addition, students may select any of the below general science courses to fulfill the 12+ credits of Natural and Physical Science coursework required for the AAS degree.

BIO 201	Human Anatomy and Physiology I with Lab	4
BIO 202	Human Anatomy and Physiology II with Lab	4

Subtotal: 8

Natural and Physical Sciences

Select one course (4-5 credits) from the following courses: AST 101, BIO 105, BIO 111, BIO 204, BIO 221, CHE 101, CHE 111, HLT 101, GEY 111, and GEY 135.

Subtotal: 4-5

Students must take BIO 201 (p. 306) and BIO 202 (p. 306). In addition, students may select any of the above general science courses to fulfill the 12+ credits of Natural and Physical Science coursework required for the AAS degree.

Nutrition Courses

Select one course (3 credits) from the following:

HWE 100	Human Nutrition	3
HHP 240	Holistic Nutrition: Digestive Healing	3

Subtotal: 3**Electives**

Select 10-13* credits of electives from HHP (p. 339) and MST (p. 370). Courses other than HHP and MST categories may only be substituted with a substitution waiver approved and submitted by the Program Director and approved by the Dean of Instruction and Chief Academic Officer. Students are strongly advised to consult with the HHP Program Director prior to selecting elective courses.

*The number of credits vary depending on the Math and Science courses selected.

Subtotal: 10-13**Total Credit Hours: 60**

Learn more about gainful employment (p. 254)

Integrative Health Certificates

AROMATHERAPY

Locations: Online Learning

Field Code: F_CER_HHAR

The Aromatherapy certificate program teaches students how to safely use and apply essential oils for therapeutic benefits. Aromatherapy has been defined as the art and science of utilizing naturally extracted aromatic essences from plants to balance, harmonize and promote the health of body, mind and spirit. As a holistic practice, Aromatherapy is both a preventative approach as well as a complementary method to combat stress, illness or disease. This certificate is accredited by the National Association of Holistic Aromatherapy (NAHA) and can be utilized in conjunction with training in other holistic or health-related modalities and careers for enhanced employability and well-being.

All courses in this degree must be completed with a "C" or better to graduate.

REQUIREMENTS**Required Courses**

MST 106	A & P for Massage Therapy	4
HHP 204	Applied Aromatherapy	3
HHP 263	Creating a Holistic Business Practice	2
HHP 264	Advanced Aromatherapy for Certificate	4
HHP 288	Practicum (Aromatherapy)	2

Students may also use BIO 201 & BIO 202 to fulfill the MST 106 requirement.

NOTE: AAS degree seeking students and transfer students must complete BIO 201 & BIO 202 and thus, do not need to duplicate coursework by also taking MST 106 or BIO 106.

Total Credit Hours: 15

Currently, this certificate is available exclusively online; however pending program redesign and national trends; it may also become available in a traditional/hybrid format on the Larimer and Loveland campuses. Check with the Program Director for updates.

INTEGRATIVE HEALTH AND WELLNESS COACHING

Locations: Larimer Campus, Loveland

Field Code: F_CER_IHWC

This certificate trains individuals in the core competencies of the health coaching profession, including skills in relationship-building, active listening, powerful questioning, goal-setting, positive psychology, and motivational interviewing. Enhanced knowledge in the areas of nutrition, fitness and mindfulness practices are also an integral part of the curriculum so that individuals are prepared to work in a variety of professional settings, including as an entrepreneur, in corporate wellness, or other clinical health/medical settings within the emergent field of Health and Wellness Coaching. This exciting new profession focuses on empowering clients to make healthy lifestyle choices and lasting behavioral changes in order to optimize their health and well-being. This program has been accepted into the Transitional Approval Phase from the International Consortium for Health & Wellness Coaching (ICHWC) at www.ichwc.org.

All courses in this certificate must be completed with a "C" or better to graduate.

Cohort begins each Fall. This certificate cannot be completed exclusively online.

REQUIREMENTS**Required Courses**

HHP 107	Managing Life's Stresses	1
HHP 217	Mindfulness Practices Impact on Health & Wellness	2
HHP 229	Wellness Coaching	1
HHP 231	Advanced Health & Wellness Coaching	3
HHP 232	Integrative Coaching Skills for Fitness Achievement	2
HHP 240	Holistic Nutrition: Digestive Healing	3
HHP 249	Journaling the Healing Journey	1
HHP 252	Holistic Health Keystone	3
HHP 261	Ethics in Holistic Therapies	2
HHP 263	Creating a Holistic Business Practice	2
HWE 100	Human Nutrition	3

Subtotal: 23**Psychology / Psychoneuroimmunology**

Select one course (3 credits) from the following: HHP 262, PSY 101, PSY 102, PSY 205, PSY 227, PSY 235, PSY 238, PSY 265.

Subtotal: 3**Electives**

Select 4 additional HHP (p. 339)/MST (p. 370) credit hours in consultation with the Program Director or Faculty Advisor in the Integrative Health Program.

Subtotal: 4

Clinical Coaching Experience

Students may select optional clinical experience in HHP 270 (p. 343) or HHP 271 in order to obtain live coaching practice sessions in either an on-campus or in a community-based experience which can be counted toward NCCHWC requirements. The remaining electives can be selected from any HHP/MST courses for the remainder of their required electives.

NOTE: Clinical experience is *NOT* required to complete the Coaching certificate and if the student is *NOT* seeking NCCHWC credentialing. The practice coaching sessions may also be completed in other ways. Please work with the HHP Program Director or the HHP coaching faculty prior to selecting electives.

HHP 270	Clinical	1
	or	
HHP 271	Clinical	2

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

See gainful employment information

INTEGRATIVE HEALTH PROFESSIONS

Locations: Larimer Campus, Loveland

Field Code: F_CER_IHPC

This short-term overview certificate program is designed to supplement an existing health professional's practice with knowledge of emerging integrative therapies and the overall concepts of holism and health prevention. Therefore, nurses, physical/occupational therapists, massage therapists and others with existing medical, integrative health or wellness-promotion backgrounds are invited to complete this certificate for professional development and/or continuing education credits. Those hoping to enter the field of Holistic/Integrative Health are encouraged to instead look into one or more of the FRCC specific modality certificates and/or to complete the full Integrative Health Professions Associate of Applied Science degree. Please seek academic advising guidance from the Program Director prior to enrolling. This certificate may now be completed on-campus, online, or in a combination of both platforms.

All courses in this certificate must be completed with a "C" or better to graduate.

REQUIREMENTS

Assessment testing is required for all students. Students who place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

HHP 240	Holistic Nutrition: Digestive Healing	3
HHP 252	Holistic Health Keystone	3
HHP 262	Psychoneuroimmunology (PNI): Exploring the Mind-Body Connection	3
HHP 263	Creating a Holistic Business Practice	2
HHP 269	Healing Presence	1

Subtotal: 12

Electives

Select additional HHP (p. 339)/MST (p. 370) courses in consultation with the Integrative Health Professions Program Director.

Subtotal: 3

Total Credit Hours: 15

REFLEXOLOGY

Locations: Larimer Campus, Loveland

Field Code: F_CER_HH3A

This certificate program introduces students to reflexology, which is a non-invasive form of acupressure on the feet, hand and ears that holistically facilitates opening the channels for healing energy to circulate to all parts of the body. In accordance with national credentialing and membership standards, this certificate has increased its contact hours to well over 300 and successful graduates are eligible to take the national certification exam from the American Reflexology Certification Board (ARCB) and receive professional membership status with Reflexology Association of America (RAA); *though it has been stipulated that 60%+ of the coursework for contact hours must be hands-on and <40% may be taken online. Please contact the Program Director for clarification of the contact hour calculation.*

All courses in this certificate must be completed with a "C" or better to graduate.

This cohort starts only in the Fall term.

REQUIREMENTS

Required Courses

MST 106	A & P for Massage Therapy	4
HHP 166	Introduction to Reflexology	1
HHP 168	Reflexology of the Hands and Feet	3
HHP 188	Practicum (Reflexology)	2
HHP 260	Advanced Reflexology	2
HHP 261	Ethics in Holistic Therapies	2
HHP 263	Creating a Holistic Business Practice	2

Subtotal: 16

Students may also use BIO 201 & BIO 202 to fulfill the MST 106 requirement.

NOTE: AAS degree seeking students and transfer students must complete BIO 201 & BIO 202 and thus, do not need to duplicate coursework by also taking MST 106 or BIO 106.

Electives

Choose 4 credits of HHP or MST Electives pending career interests; consult with the Program Director or Instructor.

Subtotal: 14

Total Credit Hours: 20

Learn more about gainful employment (p. 254)

See gainful employment information

YOGA TEACHER

Locations: Larimer Campus, Loveland

Field Code: F_CER_HH5

This certificate program prepares students to be a professional Hatha Yoga Teacher in studios, health clubs, private practice or other health-promotion arenas. Students will develop skills to teach yoga to diverse populations who can benefit physically, mentally and spiritually from learning this ancient art of stretching, body postures and relaxation techniques. This certificate is certified by Yoga Alliance and successful program

graduates are eligible for their RYT200 level certification. All courses must be passed with a grade of "C" or better. This cohort has Fall and Spring starts and completions.

REQUIREMENTS

Required Courses

HHP 250	Teacher Training Institute for Yoga	10
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Electives

Select two credits of HHP coursework in consultation with a Faculty Advisor in the Holistic Health Program. Strongly recommend courses are listed below for consideration, though others are allowable based upon students' interests. Thus, students are advised to consult with the HHP Program Director and/or yoga instructors prior to selecting their elective courses.

HHP 120	Introduction to Integrative Health	2
HHP 217	Mindfulness Practices Impact on Health & Wellness	2
HHP 261	Ethics in Holistic Therapies	2
HHP 263	Creating a Holistic Business Practice	2

Subtotal: 2

Total Credit Hours: 12

Interior Design

INTERIOR DESIGN - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus

Field Code: F_AAS_IND

This program provides the student with an in-depth study of architecture, CAD, and interior design skills necessary for a career as an Interior Designer and/or Kitchen and Bath Designer, through the exploration of design concepts. Students enrolled in the program learn to develop creative abilities through the study of visual elements and principles of design. Students will learn to prepare design graphics through sketching, manual drafting, and computer-generated presentation drawings.

Successful completion of the AAS degree in Interior Design at FRCC will articulate up to 90 semester credits for the Interior Design Bachelor degree program at The Art Institute of Colorado. If a student plans to transfer, specific General Education Courses must be taken at FRCC. Please contact Nowell Vincent for more information.

Successful completion of the AAS degree in Interior Design and the Kitchen and Bath certificate at FRCC facilitates the educational requirements to become an eligible candidate to sit for the NCIDQ (National Council for Interior Design Qualification) examination to become an NCIDQ certified designer.

Successful completion of the Kitchen and Bath Certificate, accredited by the NKBA (National Kitchen and Bath Association) facilitates the minimum credits required for eligibility to sit for the AKBD (Associate in Kitchen and Bath Design) exam. Visit <https://nkba.org/info/certification> for more information.

For more information on these educational routes, please contact Nowell Vincent at 970.204.8170.

REQUIREMENTS

Students are recommended to meet with an advisor prior to registration as course sequence is crucial for successful completion within 2 years. The Larimer Campus Advisor for

Interior Design and Kitchen and Bath is Nowell Vincent, nowell.vincent@frontrange.edu (970-204-8170). Students who do not meet with an advisor prior to registration should take the following courses the first semester: AEC 101, IND 105, IND 107 and IND 112.

Required Courses

AEC 101	Basic Architectural Drafting	4
AEC 121	Construction Materials and Systems	3
CAD 105	AutoCAD for Interiors	4
CAD 224	Revit Architecture	3
IND 105	Introduction to Interior Design	3
IND 107	History of Interior Design	3
IND 112	Graphic Communication	4
IND 114	Space Planning	3
IND 116	Estimating Interior Materials	3
IND 120	Interior Design II - Space Planning and Human Factors	3
IND 200	Kitchen and Bath Design	4
IND 206	Communication in Design	1
IND 213	Portfolio Presentations	3
IND 220	Interior Design III - Materials, Details, Codes, & Specs	3
IND 225	Lighting Design	3
IND 231	Sustainable Design	3

Subtotal: 50

Students successfully completing **BOTH** CAD 101 and CAD 102 may use these earned credits (6 credits) in replace of the CAD 105 (4 credit) requirement.

General Education Courses

English

Select one course (3 credits) from the following:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Note: Students desiring professional advancement in this field through transfer should consider taking MAT 121 (4 credits) and MAT 122 (3 credits) or MAT 166 (5 credits) or higher to satisfy general education requirements in mathematics.

General Studies

Select three courses (9 credits) from the Approved Elective List. Please Note: AEC, CAD, and IND coursework cannot be used to satisfy general education requirements in this program. Recommended courses include ART 132, ART 139, ART 240 and any Communication course (p. 316).

Subtotal: 9

Required General Education Courses

Subtotal: 15

Total Credit Hours: 65

Learn more about gainful employment (p. 254)

Interior Design - Certificates

FUNDAMENTALS IN INTERIOR DESIGN, DRAFTING AND COMMUNICATION

Locations: Larimer Campus

Field Code: F_CER_IDDC

This certificate prepares students with fundamental skills in interior design, drafting & graphic communication. Students are advised to pursue additional financial aid eligible awards available in the IND program to become an NCIDQ certified designer. Qualifications to sit for the NCIDQ (National Council for Interior Design Qualification) examination require successful completion of **both** the AAS degree in Interior Design and the Kitchen and Bath certificate. This can be done in 3-4 additional semesters. In addition, students may also complete the Kitchen and Bath Design certificate which is accredited by the NKBA (National Kitchen and Bath Association) in 1-2 additional semesters which meets the minimum credits to become an Associate Kitchen and Bath Designer (AKBD).

REQUIREMENTS

Required Courses

AEC 101	Basic Architectural Drafting	4
CAD 105	AutoCAD for Interiors	4
IND 105	Introduction to Interior Design	3
IND 112	Graphic Communication	4

Students successfully completing **BOTH** CAD 101 and CAD 102 may use these earned credits (6 credits) in replace of the CAD 105 (4 credit) requirement.

Total Credit Hours: 15

KITCHEN AND BATH DESIGN

Locations: Larimer Campus

Field Code: F_CER_INDE

Successful completion of the Kitchen and Bath certificate, accredited by the NKBA (National Kitchen and Bath Association) facilitates the minimum credits required for eligibility to sit for the AKBD (Associate in Kitchen and Bath Design) exam. Visit <https://nkba.org/info/certification> for more information.

Note: To enroll in IND 280 Internship, the student must have a GPA of 3.0 or approval from Nowell Vincent.

REQUIREMENTS

Required Courses

AEC 101	Basic Architectural Drafting	4
AEC 121	Construction Materials and Systems	3
CAD 105	AutoCAD for Interiors	4
IND 105	Introduction to Interior Design	3
IND 112	Graphic Communication	4
IND 114	Space Planning	3
IND 200	Kitchen and Bath Design	4
IND 205	Professional Practice for Interior Designers	2
IND 261	Advanced Kitchen and Bath Design	4
IND 280	Internship	4

Students successfully completing **BOTH** CAD 101 and CAD 102 may use these earned credits (6 credits) in replace of the CAD 105 (4 credit) requirement.

Total Credit Hours: 35

Learn more about gainful employment (p. 254)

See gainful employment information

Interpreter Preparation

INTERPRETER PREPARATION - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Westminster Campus

Field Code: F_AAS_IPP

This program prepares students for entry-level employment as sign language interpreters. Sign language interpretation involves bridging the communication gap between deaf and hearing consumers effectively, accurately, and impartially.

Students must apply for this program through the Interpreter Preparation Program office. In order to be accepted into the program, students must demonstrate proficiency in ASL and English by:

- Receiving a grade of "B" or better for both ASL 121 and ASL 122, or by passing the ASL 121 and ASL 122 proficiency tests at 80%, and

- Receiving a grade of "B" or better for ENG 121 or ENG 122

In addition, program requirements include demonstrated mastery of program skills. Therefore, students must receive a "B" or better in all ASL and IPP courses and at least a "C" in all other general education coursework.

Students who have received a grade of "C" in any of these ASL or IPP courses may repeat the courses to earn the grade of "B" or better, but may only repeat these courses once. Students who are unable to achieve a "B" by the second attempt in a class will be asked to withdraw from the program.

Only one re-admission to the program may be permitted after twice receiving a grade of "C" or lower in any ASL or IPP course.

Students who have discontinued the IPP program for two or more years may be required to re-take some courses that have been successfully completed due to curriculum changes.

By attending classes on a full-time basis, students may complete the IPP program in two years. Educational standards for national certification requires a BA degree. FRCC has several articulation and transfer agreements that allow students to transfer the full AAS degree to earn a Bachelor's degree. Students may transfer to Gallaudet University to complete a BAI (Bachelor of Arts in Interpreting), or to Regis University or Siena Heights University to complete a BAS (Bachelor of Applied Science) degree. Contact the Interpreter Preparation Program office for further information.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin working on the prerequisites defined in items 1 and 2 above. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Required Courses

ASL 123	American Sign Language III	5
ASL 125	Fingerspelling	3
ASL 221	American Sign Language IV	3
ASL 222	American Sign Language V	3

ASL 244	Linguistics	3
IPP 115	Introduction to Language and Communication	3
IPP 121	Aspects of Interpreting I	3
IPP 122	Aspects of Interpreting II	3
IPP 135	Introduction to Interpreting	3
IPP 145	Deaf People in Society	2
IPP 147	Survey of Deaf Culture	3
IPP 205	Educational Interpreting	4
IPP 225	English to ASL Interpreting	3
IPP 227	ASL to English Interpreting	3
IPP 235	Advanced Interpreting	4
IPP 278	Interpreter Seminar	2
IPP 282	Internship	6

Subtotal: 56**General Education Courses****Social and Behavioral Sciences**

ANT 101	Cultural Anthropology	3
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Subtotal: 3**Communication**

COM 115	Public Speaking	3
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Subtotal: 3**English**

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 3

ENG 121 and ENG 122 grade of "B" or better is required

Mathematics

Select one gtPathways Mathematics course (GT-MA1 (p. 248))

Subtotal: 3**General Studies**

Select one course (3 credits) from the Approved Electives List.

Subtotal: 3**Required General Education Courses****Subtotal: 15****Total Credit Hours: 71-75**

Learn more about gainful employment (p. 254)

Machining Technology

This program provides entry-level as well as upgrading skills for students seeking a career in machining technology.

This program is comprised of three certificate options.

Certificates are earned sequentially after the completion of each semester, beginning with the Manual Machining (p. 210) certificate and followed by the CNC Machining (p. 211) certificate. Upon completion of all three semesters, students are awarded a Precision Machining Technology (p. 210) certificate.

Students are required to register for the full course sequence each semester as part of the certificate track. Part-time enrollment in the program is not available.

Assessment testing is required of all students. Students who are reading at the college level, and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

Note: Completion of MAC 100 Machine Shop Safety is required for all certificates, and must be completed before all lab use.**MAT 108 or equivalent competency is required for all MAC courses and may be taken concurrently.**

Machining Technology - Certificates

PRECISION MACHINING TECHNOLOGY

Locations: Boulder County Campus

Field Code: F_CER_PNMT

REQUIREMENTS**Required Courses**

MAC 100	Machine Shop Safety	1
MAC 101	Introduction to Machine Shop	3
MAC 102	Print Reading for Machinists	3
MAC 110	Introduction to Engine Lathe	3
MAC 120	Introduction to Milling Machine	3
MAC 201	Intro to CNC Turning Operations	3
MAC 202	CNC Turning Operations II	3
MAC 205	Intro to CNC Milling Operations	3
MAC 206	CNC Milling Operations II	3
MAC 240	CAD/CAM 2D	3
MTE 130	Metrology	3

Subtotal: 31**Required General Education Courses**

Select one course from below:

MAT 108	Technical Mathematics	4
MAT 122	College Trigonometry	3
MAT 166	Pre-Calculus	5
MAT 201	Calculus I: MA1 or higher	5

Subtotal: 3-5**Total Credit Hours: 34-36**

Learn more about gainful employment (p. 254)

See gainful employment information

MANUAL MACHINING

Locations: Boulder County Campus

Field Code: F_CER_MNMC

REQUIREMENTS**Required Courses**

MAC 100	Machine Shop Safety	1
MAC 101	Introduction to Machine Shop	3
MAC 102	Print Reading for Machinists	3
MAC 110	Introduction to Engine Lathe	3
MAC 120	Introduction to Milling Machine	3

Subtotal: 13**Required General Education Courses**

Select one course from below:

MAT 108	Technical Mathematics	4
MAT 122	College Trigonometry	3
MAT 166	Pre-Calculus	5
MAT 201	Calculus I: MA1 or higher	5

Subtotal: 3-5**Total Credit Hours: 16-18**

Learn more about gainful employment (p. 254)

See gainful employment information

CNC MACHINING

Locations: Boulder County Campus

Field Code: F_CER_CNCF

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

REQUIREMENTS

Required Courses

MAC 201	Intro to CNC Turning Operations	3
MAC 202	CNC Turning Operations II	3
MAC 205	Intro to CNC Milling Operations	3
MAC 206	CNC Milling Operations II	3
MAC 240	CAD/CAM 2D	3
MTE 130	Metrology	3

Total Credit Hours: 18

Learn more about gainful employment (p. 254)

See gainful employment information

Manufacturing and Energy Technology

MANUFACTURING AND ENERGY TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus

Field Code: F_AAS_ELMC

The focus of this program is to prepare individuals for entry-level work in the growing clean energy industry, as well as careers in manufacturing and conventional energy. The program includes a one-year certificate that forms the basis for a two-year Associate of Applied Science degree. The first year will focus on developing a fundamental set of skills that apply to the broad range of industries in the region. Skills include Energy and Manufacturing Fundamentals, Safety, Engineering Materials, Industrial print reading, AC/DC Electrical Fundamentals, Metrology, and Teamwork and Communications. Year two will provide students with the opportunity to broaden and apply these fundamental skills in a hands-on laboratory setting using industry-standard equipment and techniques.

Assessment testing is required for all students, although in some cases, recent transcripts or ACT/SAT test scores take the place of assessment testing. Students who place into CCR 093 or above and MAT 050 or above may apply to begin this program of study. Students scoring below this level should consult with FRCC Advising before applying for this program of study. The above course prerequisites must be successfully completed before a student can apply for entry into this program.

The Manufacturing and Energy program website listed below has detailed information regarding applying for acceptance into the program.

All courses applied to the degree must be completed with a grade of "C" or better.

For more information, or to apply for the program, visit the Manufacturing and Energy Technology program website

at www.frontrange.edu/energy or email cleanenergyinfo@frontrange.edu.

REQUIREMENTS

Required Core Courses

MTE 105	Safety for Manufacturing Environments	1
MTE 106	Print Reading for Manufacturing	3
MTE 130	Metrology	3
ELT 106	Fundamentals of DC/AC	4
ENY 161	Energy Industry Fundamentals	4
EGT 201	Engineering Materials	3
MTE 135	Lean Six Sigma	4
ELT 107	Fundamentals of Industrial Electronics	3
ELT 147	Digital Devices I	4
ENY 122	Wind Energy and Photovoltaics	3
PPT 105	Basic Plant Operation	2
PPT 116	Instrumentation and Control	3
ELT 205	Electronic Troubleshooting I	3
ELT 258	Programmable Logic Controllers	3
MTE 238	Fluid Power Control	3
MTE 280	Internship: Manufacturing or	1
MTE 289	Manufacturing Capstone	1

Subtotal: 47

General Education Courses

Communication

Select one course (3 credits) from below:

COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3
MTE 110	Applied Communication & Teamwork in Industry	3

Subtotal: 3

English

Select one course (3 credits) from below:

ENG 115	Technical English and Communication	3
ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 108	Technical Mathematics or higher	4
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Subtotal: 3-4

Note: The statement above reading *MAT 108 or higher* (ONLY includes MAT 108; MAT 121; MAT 122; MAT 125 or MAT 166 or higher (p. **Error! Bookmark not defined.**)).

Natural and Physical Sciences

PHY 105	Conceptual Physics with Lab or higher	4
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Subtotal: 4

General Studies

Select one course (3 credits) from the approved elective list.

Highly Recommended Ethics courses are included below.

Ethics

MAN 230	Corporate Ethics & Social Resp	3
PHI 205	Business Ethics	3

PHI 112	Ethics	3
		Subtotal: 3

Required General Education Courses**Subtotal: 16-17****Total Credit Hours: 64-67**

Learn more about gainful employment (p. 254)

MANUFACTURING AND ENERGY TECHNOLOGY - CERTIFICATE

Locations: Larimer Campus

Field Code: F_CER_CLET

REQUIREMENTS**Required Program Courses**

ELT 106	Fundamentals of DC/AC	4
MTE 105	Safety for Manufacturing Environments	1
MTE 106	Print Reading for Manufacturing	3
MTE 130	Metrology	3
ENY 161	Energy Industry Fundamentals	4
EGT 201	Engineering Materials	3
		Subtotal: 18

General Education Courses**Communication**

Select one course (3 credits) from below:

COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3
MTE 110	Applied Communication & Teamwork in Industry	3
		Subtotal: 3

English

Select one course (3 credits) from below:

ENG 115	Technical English and Communication	3
ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
		Subtotal: 3

Mathematics

MAT 108	Technical Mathematics or higher	4
		Subtotal: 3

Note: MAT 108 or higher (includes ONLY MAT 108; MAT 121; MAT 122; MAT 125 or MAT 166 or higher (p. **Error! Bookmark not defined.**))

Natural and Physical Sciences

PHY 105	Conceptual Physics with Lab or higher	4
		Subtotal: 4

Required General Education Courses**Subtotal: 13****Total Credit Hours: 31**

Learn more about gainful employment (p. 254)

See gainful employment information

Massage Therapy
Holistic Health Section (p. 206)

MASSAGE THERAPY

Locations: Loveland

Field Code: F_CER_MSG2

This certificate program prepares students to practice as a Licensed Massage Therapist in the State of Colorado. Students are trained in state of the art professional massage practices and therapeutic techniques, including coursework in Advanced Neuromuscular Anatomy, Kinesiology and Pathology and will complete two clinical rotations allowing them to earn contact hours towards licensure. Upon successful completion, students will be prepared to take the national certification exam (MBLEx) through the Federation of State Massage Therapy Boards (FSMTB). They may also become professional members of the American Massage Therapy Association (AMTA) and Associated Bodywork & Massage Professionals (ABMP) affiliate associations.

All courses in this certificate must be completed with a "C" or better to graduate.

This is a competitive entry program. Students must successfully complete the HHP 116 in order to be eligible to submit an application and then interview for admission into the next starting cohort. Speak to the Program Director for more details.

REQUIREMENTS

Assessment testing is required for all students. Students who place into ENG 121 (p. 331) or above and MAT 050 (p. 363) or above may begin this program of study. Students scoring below this level should consult with the Program Director before registering for courses in this program of study and take any necessary preparation coursework in order to read, write and understand college-level materials. Students will be required to complete an application and interview process for selection into a cohort and then to develop a plan of study with the Program Director prior to starting this program. HHP 116 (p. 339) must be taken prior to submitting an application for admission in a Massage Therapy cohort. Please arrange to speak with the HHP Program Director or HHP instructors for guidance on the application process. You should consult with the HHP Program Director regarding your proficiency and/or educational experience in Anatomy and Physiology prior to applying to the Massage Therapy program.

Prerequisite Courses

HHP 116	Introduction to Massage Techniques I	1
		Subtotal: 1

MST 106 (p. 370) Anatomy and Physiology for Massage Therapy is recommended but not required for completion of this certificate. Please consult with the HHP Program Director regarding your proficiency and/or educational experience in Anatomy and Physiology prior to applying to the Massage Therapy program.

Required Courses

MST 111	Basic Massage Therapy	4
MST 113	Professional Massages	3
MST 184	Clinical Massage I	2
MST 216	Pathology for Massage Therapy	3
MST 284	Clinical Massage II	2

HHP 208	Advanced Musculoskeletal Anatomy	2
HPR 117	Anatomical Kinesiology	3
Subtotal: 19		

Total Credit Hours: 20

Learn more about gainful employment (p. 254)

See gainful employment information

Medical Assisting

This area of study is designed to prepare individuals to work in ambulatory health care facilities in both the administrative and clinical areas. Administrative skills are developed in the areas of medical office procedures, written communications, financial management, insurance billing, *International Classification of Diseases - 10th (ICD-10) Edition*, and *Physicians Current Procedural Terminology (CPT) coding*. Clinical skills include assisting with patient intake, physical examinations, diagnostic tests, and treatment procedures including administration of medications and first aid.

The Medical Assistant Program at Front Range Community College (FRCC) working with all communities of interest, will provide quality outcomes based education and training in a secure environment conducive to learning in the cognitive (knowledge), affective (behavior), and psychomotor (skills) learning domains. Instruction more specifically includes basic anatomy and physiology; medical terminology; medical law and ethics; medical office procedures; and clinical diagnostic, examination, testing, and treatment procedures.

All students must:

- Complete assessment testing. Students who place into ENG 121 (or above) and MAT 107 (or above) may begin taking this program of study.
- Complete online background check as directed by Program Director. See <http://cccs.castlebranch.com>
- Possess the ability to sufficiently speak and understand English and to comprehend verbal communication of English speaking clients.
- Complete all courses for the degree or certificate with a grade of "C" or better.
- Complete a health summary with documented immunization records. The health summary needs to be completed during the final semester. The health summary is provided by the Program Director.
- Possess a current CPR/First Aid certification or complete the American Heart Health Care Provider course and receive a 2-year recommended renewal date. The recommended renewal date must not expire prior to completion of the internship semester.
- Show evidence of high school graduation or GED in order to take National Certification exams for Medical Assisting students.

The FRCC Boulder County Campus Medical Assisting program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of Medical Assisting Education Review Board (MAERB). Accreditation is pending for new programs located on Larimer and Westminster campuses.

Commission on Accreditation of Allied Health Education Programs
25400 US Hwy 19 North, Suite 158

Clearwater, FL 33756
727-210-2350
www.caahep.org

To view the most recent FRCC Annual Report (MAERB), please click here.

MEDICAL ASSISTING - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Boulder County Campus

Field Code: F_AAS_MA3

This area of study is designed to prepare individuals to work in ambulatory health care facilities in both the administrative and clinical areas. Administrative skills are developed in the areas of medical office procedures, written communications, financial management, insurance billing, *International Classification of Diseases - 10th (ICD-10) Edition*, and *Physicians Current Procedural Terminology (CPT) coding*. Clinical skills include assisting with patient intake, physical examinations, diagnostic tests, and treatment procedures including administration of medications and first aid.

The Medical Assistant Program at Front Range Community College working with all communities of interest, will provide quality outcomes based on education and training in a secure environment conducive to learning in the cognitive (knowledge), affective (behavior), and psychomotor (skills) learning domains. Instruction more specifically includes basic anatomy and physiology, medical terminology, medical law and ethics, medical office procedures, and clinical diagnostic, examination, testing, and treatment procedures.

- Complete assessment testing. Students who place into ENG 121 (or above) and MAT 107 (or above) may begin taking this program of study.
- Complete online background check and drug test as directed by Program Director. See <http://cccs.castlebranch.com>
- Possess the ability to sufficiently speak and understand English and to comprehend verbal communication of English speaking clients.
- Complete all courses for the degree or certificate with a grade of "C" or better.
- Complete a health summary with documented immunization records. The health summary needs to be completed during the final semester. The health summary is provided by the Program Director.
- Possess a current CPR/First Aid certification or complete the American Heart Health Care Provider course and receive a 2-year recommended renewal date. The recommended renewal date must not expire prior to completion of the internship semester.
- Show evidence of high school graduation or GED in order to take National Certification exams for Medical Assisting students.

REQUIREMENTS

Required Courses

HPR 106	Law and Ethics for Health Professions	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4

MAP 120	Medical Office Financial Management	4
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
MAP 138	Medical Assisting Laboratory	4
MAP 140	Medical Assisting Clinical Skills	4
MAP 150	Pharmacology for Medical Assistants	3
MAP 183	Medical Assistant Internship	4
MAP 189	Review for Medical Assistant National Exam	1
		Subtotal: 39

Electives

Select 6-8 credits from below:

ACC 101	Fundamentals of Accounting	3
ACC 245	Computerized Accounting with a Professional Package	3
BUS 115	Introduction to Business	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
BUS 226	Business Statistics	3
HIT 105	Principles of Healthcare Reimbursement	3
HPR 101	Customer Service in Healthcare	2
		Subtotal: 6-8

General Education Requirements**English**

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
		Subtotal: 3

Communication

Select one course (3 credits) from below:

COM 125	Interpersonal Communication	3
SPA 101	Conversational Spanish I or higher	3
		Subtotal: 3

Computer Technology

CIS 118	Introduction to PC Applications	3
		Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
		Subtotal: 3

Social and Behavioral Sciences

PSY 101	General Psychology I or higher	3
		Subtotal: 3

Required General Education Courses**Subtotal: 15****Total Credit Hours: 60-62**

Learn more about gainful employment (p. 254)

MEDICAL ASSISTING - CERTIFICATE

Locations: Boulder County Campus, Prospect, Westminster Campus

Field Code: F_CER_MA4F

This certificate is designed to prepare individuals to work in ambulatory health care facilities in both the administrative and clinical areas. Administrative skills are developed in the areas of medical office procedures, written communications, financial management, insurance billing, International Classification of Diseases - 10th (ICD-10) Edition, and Physicians Current Procedural Terminology (CPT) coding. Clinical skills include assisting with patient intake, physical examinations, diagnostic tests, and treatment procedures including administration of medications and first aid.

REQUIREMENTS**Required Courses**

HPR 106	Law and Ethics for Health Professions	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
MAP 138	Medical Assisting Laboratory	4
MAP 140	Medical Assisting Clinical Skills	4
MAP 150	Pharmacology for Medical Assistants	3
MAP 183	Medical Assistant Internship	4
MAP 189	Review for Medical Assistant National Exam	1
		Subtotal: 39

Total Credit Hours: 39

Learn more about gainful employment (p. 254)

See gainful employment information

Medical Office Technology

This program is designed to prepare individuals for a career in the medical office and billing functions of the health care system. All students become familiar with the law and ethics of the health care system and medical terminology. The program requires an internship at a health care facility. Students interested in pursuing work in ambulatory health care facilities pursuing clinical areas study should view the Medical Assisting program (p. 213) for more information.

Students must:

- Complete assessment testing. ACT English of 18 or higher or SAT verbal score 440 or higher. Students who place into ENG 121 (or above) and MAT 107 (or above) may begin taking this program of study.
- Complete all degree and/or certificate courses with a grade of "C" or better.
- Complete online background check at Certified Background as directed by Program Director. See <http://cccs.castlebranch.com>
- Possess the ability to sufficiently speak and understand English and to comprehend verbal communication of English speaking clients.
- Meet the same health and safety requirements as the participating clinical facilities require of their own staff. Additional screening may be required for some clinical agencies.

The expenses of these requirements are additional costs to the student.

MEDICAL OFFICE AND BILLING SPECIALIST - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Boulder County Campus

Field Code: F_AAS_MOBS

This degree pathway prepares individuals to work in a medical office/billing specialist role in a health care facility. Students learn basic human anatomy, physiology, and disease conditions. Skills are developed in medical account management, computer applications, written communication, medical office procedures, financial management, insurance billing, *International Classification of Diseases - 10th (ICD-10) Edition*, and *Physicians Current Procedural Terminology (CPT) coding*, and transcribing medical reports.

REQUIREMENTS

Required Courses

HPR 106	Law and Ethics for Health Professions	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
MOT 280	Internship	4
MOT 289	Capstone	1

Subtotal: 28

Electives

17-18 credits of electives must be selected from **ONE** of the following areas listed below either Accounting/Business **OR** Customer Service/Coding:

Accounting, Business & more...

Select a minimum of 17 credits from below:

ACC 101	Fundamentals of Accounting	3
ACC 245	Computerized Accounting with a Professional Package	3
BUS 115	Introduction to Business	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
BUS 226	Business Statistics	3
HPR 101	Customer Service in Healthcare	2
MOT 136	Introduction to Clinical Skills	2

Subtotal: 17-18

Customer Service, Medical Coding & more...

Select a minimum of 18 credits from below:

HIT 105	Principles of Healthcare Reimbursement	3
HIT 220	ICD Coding I	3
HIT 221	ICD Coding II	2
HIT 231	ICD Coding III	5
HIT 241	CPT Coding Basic Principles	3
HPR 101	Customer Service in Healthcare or	2

MOT 136	Introduction to Clinical Skills	2
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Subtotal: 18

General Education Requirements

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Communication

Select one course (3 credits) from below:

COM 125	Interpersonal Communication or	3
SPA 101	Conversational Spanish I or higher	3

Subtotal: 3

Computer Technology

CIS 118	Introduction to PC Applications	3
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Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Social and Behavioral Sciences

PSY 101	General Psychology I or higher	3
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Subtotal: 3

Required General Education Courses

Subtotal: 15

Total Credit Hours: 60-61

Learn more about gainful employment (p. 254)

Medical Office Technology - Certificates

MEDICAL BILLING SPECIALIST

Locations: Boulder County Campus

Field Code: F_CER_MEDB

This certificate prepares individuals to work as a medical insurance billing specialists. Skills are developed in medical account management and in health care coding and billing for reimbursement.

REQUIREMENTS

Required Courses

ACC 101	Fundamentals of Accounting	3
CIS 118	Introduction to PC Applications	3
HPR 106	Law and Ethics for Health Professions	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
MAP 120	Medical Office Financial Management	4
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
MOT 184	Billing Specialist Internship	3
MOT 289	Capstone	1

Subtotal: 29

Total Credit Hours: 29

Learn more about gainful employment (p. 254)

See gainful employment information

MEDICAL OFFICE SPECIALIST

Locations: Boulder County Campus

Field Code: F_CER_MOSS

This certificate prepares individuals to work in an administrative assistant/office support role in a health care facility. Students learn basic human anatomy, physiology and disease conditions. Skills are developed in computer applications, written communication, medical office procedures, financial management, insurance billing, *International Classification of Diseases 10th (ICD-10) Edition*, and *Physicians Current Procedural Terminology (CPT) coding*, and transcribing medical reports.

REQUIREMENTS

Required Courses

CIS 118	Introduction to PC Applications	3
HPR 106	Law and Ethics for Health Professions	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4
MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
MOT 136	Introduction to Clinical Skills	2
MOT 181	Administrative Internship	2
MOT 289	Capstone	1

Subtotal: 31

Total Credit Hours: 31

Learn more about gainful employment (p. 254)

See gainful employment information

Multimedia Technology Multimedia Technology - Associate of Applied Science Degrees

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study. A grade of "C" or better must be earned for each course required for the degree.

DIGITAL ANIMATION

Locations: Westminster Campus

Field Code: F_AAS_MTA

This degree prepares students for entry-level positions dealing with the production of interactive presentations, medical illustration, gaming, web animation and cartooning. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core classes focus on helping students learn industry standard software in illustration, photo manipulation, web graphics,

animation and 3D modeling, and digital video production. Electives allow students to focus on desired design skills to gain an understanding of the application of web design, digital video production, and specific drawing skills. Students work independently and in collaborative groups in the design and implementation of mixed media presentations and applications.

This degree requires the use of a computer for prolonged periods of time during class and lab, analytical and creative abilities, and basic computer skills to begin the program.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at the college level and place into CCR 093 or above and MAT 050 or above may begin this program of study.

Required Courses

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 143	Motion Graphic Design I (Software) or After Effects I	3
MGD 142	Digital Animatics	3
MGD 153	3D Animation I	3
MGD 167	Game Design I	3
MGD 211	Adobe Photoshop II	3
MGD 253	3D Animation II	3
MGD 268	Business for Creatives	3

Subtotal: 30

Electives

Select 15 credits from any MGD coursework. The following courses are recommended:

MGD 143	Motion Graphic Design I (Software)	3
MGD 165	After Effects I	3
MGD 133	Graphic Design I	3
MGD 267	Game Design II	3
MGD 116	Typography I	3
MGD 141	Web Design I	3
MGD 164	Digital Video Editing I	3
MGD 212	Adobe Illustrator II	3
MGD 243	Web Motion Graphic Design II	3

Subtotal: 15

General Education Courses

Arts and Humanities

ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3

Subtotal: 6

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

General Studies

Select one course (3 credits) from the Approved Electives List (p. 247). Some recommended courses are listed below:

ART 127	Landscape Drawing I	3
ART 128	Figure Drawing I	3
ART 221	Drawing II	3
COM 115	Public Speaking	3

Subtotal: 3

Required General Education Courses

Subtotal: 15

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

GRAPHIC DESIGN

Locations: Boulder County Campus, Westminster Campus

Field Code: F_AAS_MMP

This degree prepares students for entry-level positions dealing with the production of interactive CDs, medical illustration, gaming, web animation, cartooning, and fashion illustration. Students develop a high level of technical proficiency through the use of multiple software programs for creating, composing, and displaying animation designs for various media. They also develop solid design skills through training in traditional graphic design concepts and the integration of design principles throughout the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, page layout, and pre-press skills needed for print. Program electives allow students to focus on specific design and software skills.

Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

REQUIREMENTS

This degree requires the extensive use of a computer for prolonged periods of time during class and lab, analytical and creative abilities, and basic computer skills to begin the program.

Assessment testing is required for all students. Students who are reading at the college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. A grade of "C" or better must be earned for each course required for the degree.

Required Courses

MGD 103	Production Design	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 114	Adobe InDesign	3
MGD 116	Typography I	3
MGD 117	Introduction to Visual Communications	3
MGD 133	Graphic Design I	3
MGD 202	Point of Purchase Package Design	3
MGD 211	Adobe Photoshop II or	3
MGD 212	Adobe Illustrator II	3

Subtotal: 27

MGD Production Course

Select 3 credits of MGD production coursework from below:

MGD 203	Design and Concept	3
MGD 233	Graphic Design II	3
MGD 256	Graphic Design Production	3
MGD 268	Business for Creatives	3
MGD 288	Practicum	3

Subtotal: 3

Electives

Select 15 credits from any MGD coursework. The following courses are recommended:

MGD 211	Adobe Photoshop II	3
MGD 212	Adobe Illustrator II	3
MGD 203	Design and Concept	3
MGD 233	Graphic Design II	3
MGD 256	Graphic Design Production	3
MGD 268	Business for Creatives	3
MGD 141	Web Design I	3
MGD 143	Motion Graphic Design I (Software)	3
MGD 164	Digital Video Editing I	3
MGD 165	After Effects I	3

Subtotal: 15

General Education Courses

Arts and Humanities

ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3

Subtotal: 6

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

General Studies

Select one course (3 credits) from the Approved Electives List (p. 247). Some recommended courses are listed below:

ART 111	Art History Ancient to Medieval	3
ART 112	Art History Renaissance to Modern	3
ART 138	Film Photography I	3
ART 139	Digital Photography I	3
ART 145	Digital Darkroom	3
ART 207	Art History - 1900 to Present	3
ART 245	Digital Photo Studio	3
COM 115	Public Speaking	3
JOU 221	Newspaper Design I	3
MAR 216	Principles of Marketing	3
MAR 220	Principles of Advertising	3

Subtotal: 3

Required General Education Courses

Subtotal: 15

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

VIDEO PRODUCTION AND EDITING

Locations: Boulder County Campus, Westminster Campus

Field Code: F_AAS_MGDV

This degree prepares students for entry-level positions as videographer, video editor, web designers, and motion graphic artists. In addition to developing a high level of technical proficiency through the use of multiple software programs, students also develop traditional video and animation concepts and skills within the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, web graphics, animation, sound, special effects, and digital video production. Electives allow students to focus on more specific design and software skills.

Students work independently as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

REQUIREMENTS

This degree requires the extensive use of a computer for prolonged periods of time during class and lab, analytical and creative abilities, and basic computer skills to begin the program.

Assessment testing is required for all students. Students who are reading at the college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. A grade of "C" or better must be earned for each course required for the degree.

Required Courses

MGD 104	Videography	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 116	Typography I	3
MGD 117	Introduction to Visual Communications	3
MGD 163	Sound Design I	3
MGD 164	Digital Video Editing I	3
MGD 165	After Effects I	3
MGD 204	Videography II	3
MGD 264	Digital Video Editing II	3
		Subtotal: 30

Electives

Select 15 credits from any MGD coursework. The following courses are recommended:

MGD 143	Motion Graphic Design I (Software)	3
MGD 244	Integrated Multimedia Development 1	3
MGD 245	Integrated Multimedia Development 2	3
MGD 243	Web Motion Graphic Design II	3
MGD 268	Business for Creatives	3
MGD 211	Adobe Photoshop II	3
MGD 212	Adobe Illustrator II	3
		Subtotal: 15

General Education Courses

Arts and Humanities

ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3
		Subtotal: 6

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

General Studies

Select one course (3 credits) from the Approved Electives List (p. 247). Some recommended courses are listed below.

ART 111	Art History Ancient to Medieval	3
ART 139	Digital Photography I	3
MAR 216	Principles of Marketing	3
MAR 220	Principles of Advertising	3

Subtotal: 3

Required General Education Courses

Subtotal: 15

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

WEB DESIGN

Locations: Boulder County Campus, Westminster Campus

Field Code: F_AAS_MTW

This degree prepares students for entry-level positions as web designers, digital artists, motion graphic artists, and graphic designers. In addition to developing a high level of technical proficiency through the use of multiple software programs, students also develop traditional graphic design concepts and skills within the curriculum.

Core courses focus on assisting students in learning industry standard software in illustration, photo manipulation, web graphics, animation and 3D modeling, and digital video production. Electives allow students to focus on more specific design and software skills.

Students work independently as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

REQUIREMENTS

This degree requires the extensive use of a computer for prolonged periods of time during class and lab, analytical and creative abilities, and basic computer skills to begin the program.

Assessment testing is required for all students. Students who are reading at the college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. A grade of "C" or better must be earned for each course required for the degree.

Required Courses

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 116	Typography I or	3
MGD 133	Graphic Design I	3
MGD 117	Introduction to Visual Communications	3

MGD 141	Web Design I	3
MGD 143	Motion Graphic Design I (Software)	3
MGD 164	Digital Video Editing I	3
MGD 241	Web Design II	3
MGD 243	Web Motion Graphic Design II	3
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MGD 258	Web Design Production	3
	or	
MGD 268	Business for Creatives	3
		Subtotal: 30

Electives

Select 15 credits from any MGD coursework and/or the following recommended courses:

MGD 116	Typography I	3
MGD 133	Graphic Design I	3
MGD 211	Adobe Photoshop II	3
MGD 242	Web Architecture: Open Source	3
MGD 258	Web Design Production	3
MGD 268	Business for Creatives	3
MGD 212	Adobe Illustrator II	3
MGD 114	Adobe InDesign	3
CIS 145	Complete PC Database: ACCESS	3
CSC 119	Introduction to Programming	3
CWB 110	Complete Web Authoring	3
CIS 243	Introduction to SQL	3
CSC 233	Object-oriented Programming (Lang)	3
CSC 240	Java Programming	3
CWB 205	Client-Side Scripting: (Software)	3
CWB 208	Web Application Development: PHP	3
		Subtotal: 15

General Education Courses**Arts and Humanities**

ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3
		Subtotal: 6

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3
		Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
		Subtotal: 3

General Studies

Select one course (3 credits) from the Approved Electives List (p. 247). Some recommended courses are listed below.

ART 112	Art History Renaissance to Modern	3
COM 115	Public Speaking	3
CIS 145	Complete PC Database: ACCESS	3
MAR 216	Principles of Marketing	3
MAR 220	Principles of Advertising	3
		Subtotal: 3

Required General Education Courses

Subtotal: 15

Total Credit Hours: 60-62

Learn more about gainful employment (p. 254)

Multimedia Technology - Certificates

Students may earn certificates in animation, digital imaging, graphic design, multimedia general, multimedia print/presentation, and multimedia web. While software use and design principles are included in the certificate, entry-level positions may require additional design training.

These certificates require the extensive use of a computer for prolonged periods of time during class and lab, analytical and creative abilities, and basic computer skills to begin the program.

Assessment testing is required for all students. Students who are reading at the college level and place into CCR 093 or above and MAT 050 or above may begin this program of study. A grade of "C" or better must be earned for each course required for the degree.

DIGITAL ANIMATION

Locations: Westminster Campus

Field Code: F_CER_MMA

REQUIREMENTS**Required Courses**

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 142	Digital Animatics	3
MGD 153	3D Animation I	3
MGD 211	Adobe Photoshop II	3
MGD 268	Business for Creatives	3
		Subtotal: 21

Required Electives

Select 9 credits from the following coursework:

MGD 143	Motion Graphic Design I (Software)	3
MGD 165	After Effects I	3
MGD 167	Game Design I	3
MGD 253	3D Animation II	3
		Subtotal: 9

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

See gainful employment information

DIGITAL IMAGING

Locations: Larimer Campus

Field Code: F_CER_MMDI

This certificate is designed for entry-level positions in digital photo labs, newspaper photo departments, and graphic design production.

REQUIREMENTS**Required Courses**

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 211	Adobe Photoshop II	3
MGD 268	Business for Creatives	3
ART 139	Digital Photography I	3
ART 239	Digital Photography II	3

			Subtotal: 21
Electives			
Select three courses (9 credits) from below:			
ART 113	History of Photography	3	
ART 140	Color Photography I	3	
ART 144	Portrait Photography	3	
ART 150	Digital Art Foundations I	3	
MGD 104	Videography	3	
MGD 133	Graphic Design I	3	
MGD 233	Graphic Design II	3	
JOU 121	Photojournalism	3	
			Subtotal: 9

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

See gainful employment information

FUNDAMENTALS IN MULTIMEDIA TECHNOLOGY

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

Field Code: F_CER_FMMT

This certificate prepares students with fundamental skills in Multimedia Technology fields. Students are advised to pursue additional financial aid eligible awards available in the MGD program to enhance skills and industry preparedness. Certificates and/or AAS degrees can be completed in Digital Animation, Graphic Design, Video Production and Editing, and Web Design and can be achieved in just 2-3 additional semesters.

REQUIREMENTS**Required Courses**

MGD 111	Adobe Photoshop I	3	
MGD 112	Adobe Illustrator I	3	
MGD 117	Introduction to Visual Communications	3	
			Subtotal: 9

Electives

Select two courses (6 credits) from the electives listed in **ONE** of the following areas of study: Graphic Design, Web Design, Digital Animation, Video Editing & Production and Multimedia to complete the Fundamentals in Multimedia Technology certificate requirements.

Select two courses (6 credits) from below. Both courses must be from the same area of study:

Digital Animation

MGD 142	Digital Animatics	3	
MGD 153	3D Animation I	3	
			Subtotal: 6

Graphic Design

MGD 114	Adobe InDesign	3	
MGD 116	Typography I	3	
MGD 133	Graphic Design I	3	
			Subtotal: 6

Web Design

MGD 141	Web Design I	3	
MGD 143	Motion Graphic Design I (Software)	3	
			Subtotal: 6

Video Editing & Production

MGD 164	Digital Video Editing I	3	
MGD 165	After Effects I	3	
			Subtotal: 6

Multimedia

MGD 103	Production Design	3	
MGD 114	Adobe InDesign	3	
			Subtotal: 6

Digital Imaging

ART 139	Digital Photography I	3	
ART 239	Digital Photography II	3	
			Subtotal: 6

Total Credit Hours: 15

GRAPHIC DESIGN

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_MMMP

REQUIREMENTS**Required Courses**

MGD 103	Production Design	3	
MGD 111	Adobe Photoshop I	3	
MGD 112	Adobe Illustrator I	3	
MGD 114	Adobe InDesign	3	
MGD 116	Typography I	3	
MGD 117	Introduction to Visual Communications	3	
MGD 133	Graphic Design I	3	
MGD 202	Point of Purchase Package Design	3	
MGD 211	Adobe Photoshop II	3	
	or		
MGD 212	Adobe Illustrator II	3	
			Subtotal: 27

MGD Production Course

Select 3 credits of MGD production coursework from below:

MGD 203	Design and Concept	3	
MGD 233	Graphic Design II	3	
MGD 256	Graphic Design Production	3	
MGD 268	Business for Creatives	3	
MGD 288	Practicum	3	
			Subtotal: 3

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

See gainful employment information

GRAPHIC DESIGN TECHNICIAN

Locations: Larimer Campus

Field Code: F_CER_GRD1

This certificate is designed for entry-level positions in digital photo labs, newspaper photo departments, and graphic design production.

REQUIREMENTS**Required Courses**

MGD 111	Adobe Photoshop I	3	
MGD 112	Adobe Illustrator I	3	
MGD 116	Typography I	3	

MGD 117	Introduction to Visual Communications	3
MGD 133	Graphic Design I	3
MGD 233	Graphic Design II	3
MGD 268	Business for Creatives	3
Subtotal: 21		

Electives

Select 9 credits from below:

MGD 202	Point of Purchase Package Design	3
MGD 211	Adobe Photoshop II	3
MGD 212	Adobe Illustrator II	3
ART 139	Digital Photography I	3
MGD 203	Design and Concept	3
Subtotal: 9		

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

MULTIMEDIA

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_MMTG

REQUIREMENTS

Required Courses

MGD 103	Production Design	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 114	Adobe InDesign	3
MGD 117	Introduction to Visual Communications	3
MGD 141	Web Design I	3
MGD 211	Adobe Photoshop II	3
MGD 212	Adobe Illustrator II	3
MGD 143	Motion Graphic Design I (Software) or	3
MGD 153	3D Animation I	3
MGD 256	Graphic Design Production or	3
MGD 268	Business for Creatives	3

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

See gainful employment information

VIDEO PRODUCTION AND EDITING

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_VDO

REQUIREMENTS

Required Courses

MGD 104	Videography	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 116	Typography I	3
MGD 117	Introduction to Visual Communications	3
MGD 163	Sound Design I	3
MGD 164	Digital Video Editing I	3
MGD 165	After Effects I	3

MGD 204	Videography II	3
MGD 264	Digital Video Editing II	3

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

See gainful employment information

WEB DESIGN

Locations: Boulder County Campus, Westminster Campus

Field Code: F_CER_MMMW

REQUIREMENTS

Required Courses

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 116	Typography I or	3
MGD 133	Graphic Design I	3
MGD 117	Introduction to Visual Communications	3
MGD 141	Web Design I	3
MGD 143	Motion Graphic Design I (Software)	3
MGD 164	Digital Video Editing I	3
MGD 241	Web Design II	3
MGD 243	Web Motion Graphic Design II	3
MGD 258	Web Design Production or	3
MGD 268	Business for Creatives	3

Total Credit Hours: 30

Learn more about gainful employment (p. 254)

See gainful employment information

NURSE AIDE

Locations: Loveland, Westminster Campus

Field Code: F_CER_NR3

This certificate program provides students with entry-level skills required for employment as a Nurse's Aide in a variety of settings, which may include long-term care, acute care, hospice or home health care. Not all of the patients a Nurse Aide cares for are elderly, but the special needs of the geriatric population are an emphasis of the Nurse Aide training program at FRCC. A grade of "C" or better is required to be successful in all certificate courses. This certificate qualifies students to take the State Certification Examination to become a Certified Nurse Aide (C.N.A.).

All students are required to submit and pass a specific criminal background check to attend the clinical (NUA 170), prior to the clinical dates. Disqualifying Offenses that may fail a background check include, but are not limited to: physical abuse or domestic violence, theft, illegal use of weapons, or illegal use or possession of controlled substances. Students will be required to have immunizations to meet O.S.H.A. guidelines including current negative TB test and a current seasonal flu shot during fall and spring semesters. Some clinical facilities may require additional immunizations. Contact the Nurse Aide Office on each individual campus for information on beginning the background

check or information on disqualifying offenses, or for specific campus requirements for the NUA classes.

The Larimer/Loveland campus has a paperwork packet that is available to students once class begins on D2L. Contact Michelle at the main Nurse Aide office at 970-613-7580 for more information.

The Westminster campus has a campus-specific Nurse Aide Information Packet, which is due two weeks prior to the start of class. This packet is distributed at a required Nurse Aide Information meeting. Please contact Rebecca, at the Westminster Campus, for meeting times and locations. 303-404-5208

REQUIREMENTS

Required Courses

NUA 101	Nurse Aide Health Care Skills	4
NUA 170	Nurse Aide Clinical Experience	1

Total Credit Hours: 5

Nursing

Colorado Board of Nursing

The Front Range Community College Nursing Programs have Continuing Full Approval from the Colorado Board of Nursing.

Accreditation Commission for Education in Nursing, Inc.

3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326
www.acenursing.org 404-975-5000

The Larimer Campus and Westminster Campus Nursing Programs are accredited by the Accreditation Commission for Education in Nursing (ACEN).

NURSING - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_NR1

This program prepares students for entry-level professional nursing practice as a registered nurse. The nursing program is a two-year curriculum. Registered nurses function in a variety of roles: provider of care and manager of care in various health care settings including acute care hospitals, long term care settings, and community settings such as clinics, home health and health maintenance organizations. As a member of this discipline of nursing, registered nurses practice within the scope of practice as outlined in the Colorado Nurse Practice Act. Beginning in the second semester of the AAS program at the Larimer Campus, students must be dually enrolled with an approved baccalaureate nursing program. Dual enrollment may be required at the Westminster Campus. Contact an Advisor for further information.

Upon successful completion of the nursing program, the student is awarded an AAS degree in Nursing. Graduates are eligible to submit an application to complete the NCLEX® exam for licensure as a registered nurse. The Front Range Community College Associate of Applied Science degree is approved by the Colorado Board of Nursing and accredited by the ACEN.

The program offers a PN "exit option" course at the completion of the first year. This is for students who would like to complete the requirements to be eligible to apply for the PN NCLEX®.

Students completing NUR 169 (p. 377) and the first year of the nursing program may apply for the NCLEX® exam for practical nursing licensure.

Assessment testing is required of all students. Students who are reading at college-level and place into CCR 093 (p. 310) or above and MAT 050 (p. 363) or above may begin this program of study. Students scoring below this level should consult with a Faculty Member or Academic Advisor before registering for courses in this program of study.

Currently licensed LPNs and those wishing to transfer into the AAS program in nursing should contact wcnursing@frontrange.edu at Westminster Campus regarding admission.

Minimum Requirements for Nursing Program Application:

1. Completion of all admission prerequisite course work.

Prerequisites may be taken at any FRCC campus.

If a student is transferring prerequisite courses from another college, the courses must be evaluated by the Registrar's Office at the FRCC campus the student plans to attend.

- ENG 121 (p. 331) English Composition I
- PSY 235 (p. 388) Human Growth and Development
- BIO 201 (p. 306)* Human Anatomy and Physiology I
- HPR 108 (p. 350) Dietary Nutrition or HWE 100 Human Nutrition
- BIO 204 (p. 307)* Microbiology

**Must be completed within seven years prior to entry into the Nursing Program*

Students must receive a grade of "C" or better and a cumulative GPA of 2.75 or higher on prerequisite courses listed above.

Larimer Campus excludes nutrition in the GPA calculation.

Students must have an **overall** cumulative GPA of 2.0 or higher for previous courses completed at FRCC.

MAT 103 (p. 363) must be taken concurrently with NUR 109 (p. 376). Students must have satisfied the prerequisite for MAT 103 (p. 363) before starting the program.

2. Ability to sufficiently speak and understand English and to comprehend verbal communication of English speaking clients and healthcare team members.

3. Ability to meet physical and cognitive technical standards described in nursing program policies.

Note: To maintain a position in the program after starting nursing courses, students must be continually enrolled and complete all required courses in sequence with a grade of "C" or better. Only one re-entry to an FRCC nursing program is allowed after a student receives a "D," "F," or "W" grade in a nursing course or withdraws with a "D," "F" or "W" from a nursing course.

Upon successful completion of the nursing program, students receive an Associate of Applied Science degree and are eligible to apply to the Board of Nursing for permission to take the NCLEX exam for licensure as a registered nurse.

REQUIREMENTS

Required Nursing Courses

NUR 106	Medical Surgical Nursing Concepts	7
NUR 109	Fundamentals of Nursing	6
NUR 112	Basic Concepts of Pharmacology	2
NUR 150	Maternal Child Nursing	6
NUR 206	Advanced Concepts of M/S Nursing I	6.5
NUR 211	Psychiatric-Mental Health Nursing	4
NUR 212	Pharmacology	2
NUR 216	Advanced Concepts of M/S Nursing II	5
NUR 230	Transition to Professional Nursing Practice	4

Subtotal: 42.5

Additional Health Related Courses

HPR 108	Dietary Nutrition or	1
HWE 100	Human Nutrition	3

Subtotal: 1-3

General Education Requirements

English

ENG 121	English Composition I or	3
ENG 122	English Composition II	3

Subtotal: 3

Mathematics

MAT 103	Math for Clinical Calculations	3
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Subtotal: 3

Social and Behavioral Sciences

PSY 235	Human Growth and Development	3
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Subtotal: 3

Natural and Physical Sciences

BIO 201	Human Anatomy and Physiology I with Lab	4
BIO 202	Human Anatomy and Physiology II with Lab	4
BIO 204	Microbiology with Lab	4
BIO 216	Pathophysiology	4

Subtotal: 16

Elective

Select one course (3 credits) from Arts & Humanities (GT-AH1 (p. 248), GT-AH2 (p. 248), GT-AH3 (p. 248), or GT-AH4 (p. 248)), Social & Behavioral Science (GT-SS1 (p. 248), GT-SS2 (p. 248), or GT-SS3 (p. 248)) or History (GT-HI1 (p. 248)).

Subtotal: 3

Required General Education Courses

Subtotal: 28

Total Credit Hours: 71.5-73.5

Application Process for AAS Degree

Please contact a Nursing Department Representative at the campus of your choice for information on the nursing program application process prior to submitting a program application.

Applications are accepted one semester prior to admission. Larimer Campus requires the HESI A-2 nurse entrance exam with a minimum cumulative score of 75%. Subject areas are Reading Comprehension, Math, Biology, Chemistry and Critical Thinking. Westminster Campus requires the HESI A-2 nurse entrance exam with a minimum cumulative score of 70%. Subject areas are English Language - all sections, Math. The Learner Profile is also required but is used only for advising purposes. Students may

obtain up-to-date information on the admission process at a nursing information session. Westminster sessions are held on the second Wednesday of each month (except no meetings in July or December) at 6:00 pm in room B0353 or contact by e-mail at wcnursing@frontrange.edu. Larimer sessions are held the second Monday of each month at 5:00 pm in room BP126 or contact by e-mail at lccnursing@frontrange.edu.

Students accepted into the nursing program will be required to complete and pass the following requirements:

1. Online background check and drug screening. See <http://cccs.castlebranch.com> (under FRCC) for a list of criminal offenses appearing on a criminal background check that will disqualify an applicant for admission to a CCCS nursing program.
2. Meet the same health and safety requirements as the participating clinical facilities require of their own staff. Additional screening may be required for some clinical agencies. The expenses of these requirements are additional costs to the student.
3. Health summary with documented immunization records.
4. Current CPR Certification - Completion of the American Heart Association Health Care Provider course and receive a two-year recommended renewal date. The recommended renewal date must remain current throughout the nursing program.

Learn more about gainful employment (p. 254)

NURSING ADVANCED PLACEMENT-BRIDGE PROGRAM LPN TO ADN

Locations: Westminster Campus

Field Code: F_AAS_NR5

The nursing program offers an advanced placement option. This program is for students who are licensed as a practical nurse in Colorado. Advanced placement through transfer, the Colorado Nursing Articulation Model, is available to licensed practical nurses and students from other schools.

Currently licensed LPNs and those wishing to transfer into the AAS program in nursing should contact wcnursing@frontrange.edu at Westminster Campus for information regarding admission.

REQUIREMENTS

Required Nursing Courses

NUR 189	Transition from Licensed Practical Nurse to Associate Degree Nursing Student	4
NUR 206	Advanced Concepts of M/S Nursing I	6.5
NUR 211	Psychiatric-Mental Health Nursing	4
NUR 212	Pharmacology	2
NUR 216	Advanced Concepts of M/S Nursing II	5
NUR 230	Transition to Professional Nursing Practice	4

Subtotal: 25.5

Additional Health Related Courses

HPR 108	Dietary Nutrition or	1
HWE 100	Human Nutrition	3

Subtotal: 1-3

General Education Requirements

English

ENG 121	English Composition I	3
	or	
ENG 122	English Composition II	3
		Subtotal: 3

Mathematics

MAT 103 or any GT Math course		
MAT 103	Math for Clinical Calculations	3
		Subtotal: 3

Social and Behavioral Sciences

PSY 235	Human Growth and Development	3
		Subtotal: 3

Natural and Physical Sciences

BIO 201	Human Anatomy and Physiology I with Lab	4
BIO 202	Human Anatomy and Physiology II with Lab	4
BIO 204	Microbiology with Lab	4
BIO 216	Pathophysiology	4
		Subtotal: 16

Elective

Select one course (3 credits) from Arts & Humanities (GT-AH1 (p. 248), GT-AH2 (p. 248), GT-AH3 (p. 248), or GT-AH4 (p. 248)), Social & Behavioral Science (GT-SS1 (p. 248), GT-SS2 (p. 248), or GT-SS3 (p. 248)) or History (GT-HI1 (p. 248)).

Subtotal: 3

Required General Education Courses

Subtotal: 28

This AAS degree requires the completion of 25.5 credits of nursing coursework and 28 credits of general education coursework for a total of 54.5 credits. This is in addition to the nursing credits transferred in from previous LPN program completion. Transferring LPN credits will equate to a 21 credit block equivalent to FRCC first-year nursing coursework: NUR 106; NUR 109; NUR 112; NUR 150.

Total Credit Hours: 54.5-56.5

Requirements for LPN to ADN Bridge Program Admission:

Entry into the LPN-to-ADN Bridge Program is based on a competitive admission process.

The following are requirements for admission to the Bridge Program:

1. A current Colorado LPN license in good standing.
2. If transferring classes to FRCC, completion of a "Transfer Credit Evaluation Form" (Registrar's Office) and official transcripts sent directly to FRCC from the issuing institution. All credit must be posted on the FRCC transcript prior to application.
3. Admission testing is required. Contact wcnursing@frontrange.edu for requirements.
4. Proof of completion of the following prerequisites with a grade of "C" or better on each course and a cumulative GPA of 2.75 for these courses.

- ENG 121 English Composition I
- BIO 201* Human Anatomy and Physiology I
- BIO 202* Human Anatomy and Physiology II

- BIO 204* Microbiology
- BIO 216* Pathophysiology
- PSY 235 Human Growth and Development
- HPR 108 Dietary Nutrition or HWE 100 Human Nutrition
- MAT 103 Math for Clinical Calculations
- Select one course (3 credits) from Arts & Humanities (GT-AH1 (p. 248), GT-AH2 (p. 248), GT-AH3 (p. 248), or GT-AH4 (p. 248)), Social & Behavioral Science (GT-SS1 (p. 248), GT-SS2 (p. 248), or GT-SS3 (p. 248)) or History (GT-HI1 (p. 248)).

**Science courses must have been completed within seven years of entry into the second year of the nursing program to be eligible for transfer approval.*

1. LPNs who have earned their certificate more than 10 years prior to entry into the second year of the nursing program may be required to complete additional testing. Contact wcnursing@frontrange.edu for requirements
2. Students must complete an online background check as directed by a nursing representative within 90 days prior to admission. See <http://cccs.castlebranch.com> (under FRCC) for a list of criminal offenses appearing on a criminal background check that will disqualify an applicant for admission to a CCCS nursing program.
3. Complete a health summary with documented records for required immunizations or titers (as directed by the program just prior to entrance into the nursing program).
4. Complete the American Heart Association Health Care Provider course and receive a two-year recommended renewal date. The recommended renewal date must not expire prior to completion of the semester and must remain current throughout the nursing program.
5. Ability to speak, read, write and understand English to communicate sufficiently with patients and health-care team.
6. Students accepted into the nursing program must meet the same health and safety requirements as the participating clinical facilities require of their own staff. Additional screening may be required for some clinical agencies. The expenses of these requirements are additional cost to students.
7. Other requirements and expectations are contained within the FRCC Nursing Handbook found on the nursing program website. (including the REQUIRED STANDARDS POLICY).

Note: Upon successful completion of the nursing program, students receive an Associate of Applied Science degree and are eligible to apply to take the NCLEX® RN exam for licensure as a registered nurse.

To maintain a position in the program after starting nursing courses, students must be continually enrolled and complete all core nursing courses in sequence, as well as maintain a grade of "C" or better in all courses.

Learn more about gainful employment (p. 254)

PRACTICAL NURSING - EXIT OPTION - CERTIFICATE

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_PN1

REQUIREMENTS

The Practical Nursing - Exit Option certificate is designed for students who would like to complete the requirements to be eligible to apply for the PN NCLEX®. Students completing NUR 169 and the first year of the nursing program may apply for the NCLEX® exam for practical nursing licensure. This program is approved by the Colorado Board of Nursing. It is not accredited by the ACEN.

Required Nursing Courses

NUR 106	Medical Surgical Nursing Concepts	7
NUR 109	Fundamentals of Nursing	6
NUR 112	Basic Concepts of Pharmacology	2
NUR 150	Maternal Child Nursing	6
NUR 169	Transition into Practical Nursing	4
		Subtotal: 25.0

Additional Health Related Courses

HPR 108	Dietary Nutrition	1
	or	
HWE 100	Human Nutrition	3
		Subtotal: 1-3

General Education Requirements

English

ENG 121	English Composition I	3
	or	
ENG 122	English Composition II	3
		Subtotal: 3

Mathematics

MAT 103	Math for Clinical Calculations	3
		Subtotal: 3

Social and Behavioral Sciences

PSY 235	Human Growth and Development	3
		Subtotal: 3

Natural and Physical Sciences

BIO 201	Human Anatomy and Physiology I with Lab	4
BIO 202	Human Anatomy and Physiology II with Lab	4
BIO 204	Microbiology with Lab	4
		Subtotal: 12

Required General Education Courses

Subtotal: 21

Total Credit Hours: 47.0

Learn more about gainful employment (p. 254)

See gainful employment information

PRACTICAL NURSING - CERTIFICATE

Locations: Prospect

Field Code: F_CER_NR4

The licensed practical nurse certificate program is designed for students whose primary goal is practical nursing. The program prepares students for careers in long term care facilities, clinics, home care, physicians' offices, and some hospitals. The program focuses on preparing individuals to assist in providing general nursing care under the direction of a registered nurse, physician, or dentist. Graduates of the program receive a certificate in practical nursing and are eligible to apply to take the National Council Licensure Examination for Practical Nurses (PN NCLEX®).

The practical nursing program is a one year program; semester one is for pre-requisites, semesters two and three are full-time practical nursing courses.

The program's competitive admission process utilizes scores from a preadmission assessment examination. Students must have completed requirements for Practical Nursing Program admission. (However, students may be currently enrolled in some prerequisite courses if they will be satisfactorily completed prior to program start.)

Front Range Community College Larimer Campus' Practical Nursing program has interim approval by the Colorado Board of Nursing and is eligible for the candidacy process with the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326 www.acenursing.org. The Front Range Community College Larimer Campus Practical Nursing Program is NOT accredited by a National Nursing Accreditation agency. Attendance at a non-accredited nursing school may make you ineligible to attend an accredited nursing school in pursuit of additional education.

Admission Process for Practical Nursing Certificate

Students should consult with a Health Science Pathways Advisor before applying to the program.

Applications are accepted spring semester for admission to the following fall semester. Check with the nursing department for the specific date of the application period. The Larimer Campus Practical Nursing program requires the HESI A-2 nurse entrance exam with a minimum cumulative score of 60%. Subject areas are Reading Comprehension, Math, Biology, and Chemistry. Students may obtain up-to-date information on the admission process at a nursing information session. Larimer sessions are held the second Monday of each month at 5:00 pm in room BP126 or contact by e-mail at lccnursing@frontrange.edu. Students accepted into the Practical Nursing program will be required to complete and pass the following requirements:

1. Online background check and drug screening within 90 days prior to program admission. See <http://cccs.castlebranch.com> (under FRCC) for a list of criminal offenses appearing on a criminal background check that will disqualify an applicant for admission to a CCCS nursing program.
2. Meet the same health and safety requirements as the participating clinical facilities require of their own staff. Additional screening may be required for some clinical agencies. The expenses of these requirements are additional costs to the student.
3. Health summary with documented immunization records.
4. Current CPR Certification - Completion of the American Heart Association Health Care Provider course and receive a two-year recommended renewal date. The recommended renewal date must remain current throughout the nursing program.
5. Ability to sufficiently speak and understand English and to comprehend verbal communication of English speaking clients and healthcare team members.
6. Ability to meet physical and cognitive technical standards described in nursing program policies.

Prerequisite courses must be completed with a Grade of "C" or better prior to the student being placed in the practical nursing

courses.

- BIO 106 (p. 306)* Basic Anatomy and Physiology (or students may choose both BIO 201 (p. 306)* Human Anatomy and Physiology I and BIO 202 (p. 306)* Human Anatomy and Physiology II). Note: *Must be completed within seven years prior to entry into the nursing program.
- ENG 121 (p. 331) English Composition I

Prerequisites may be taken at any FRCC campus. If a student is transferring prerequisite courses from another college, the courses must be evaluated by the Registrar's Office at the FRCC campus the student plans to attend.

Only one re-entry to the Practical Nursing program is provided after receiving a "D," "F," "U" or "W" grade in a required NUR course. In order to graduate from this program, students must earn a grade of "C" or above in all courses required for the certificate.

REQUIREMENTS

Required Practical Nursing Courses

NUR 101	Pharmacology Calculations	1
NUR 102	Alterations in Adult Health I	4
NUR 103	Basic Health Assessment for the Practical Nurse	1
NUR 104	Alterations in Adult Health II	5
NUR 105	Practical Nursing Arts and Skills	6
NUR 110	Pharmacology for Practical Nursing	3
NUR 111	Advancement into Practical Nursing	1
NUR 113	Basic Concepts of Maternal-Newborn Nursing	2
NUR 114	Basic Concepts of Pediatric Nursing	2
NUR 115	Basic Concepts of Mental Health Nursing	1
NUR 116	Basic Concepts of Geriatric Nursing	1
NUR 170	Clinical I	3
NUR 171	Clinical II	2
NUR 172	Clinical III	1
NUR 173	Clinical IV	3
		Subtotal: 36

Required General Education Courses

BIO 106	Basic Anatomy and Physiology	4
	or	
BIO 201	Human Anatomy and Physiology I with Lab	4
	and	
BIO 202	Human Anatomy and Physiology II with Lab	4
ENG 121	English Composition I	3
		Subtotal: 7

Total Credit Hours: 43

Learn more about gainful employment (p. 254)

Optics Technology

OPTICS TECHNOLOGY - CERTIFICATE

Locations: Boulder County Campus

Field Code: F_CER_OPTF

This award has been approved by CCCS and the Higher Learning Commission. It has also been submitted to the U.S. Department of Education (ED), but is currently under review and not eligible for financial aid at this time. Upon ED approval, this statement will be removed and a note placed in our Catalog Addendum noting the date of financial aid approval.

This certificate prepares students for entry-level positions dealing with the production of precision optics for use in cameras, projectors, eye wear, microscopes, telescopes, domestic appliances and binoculars. Students will learn the necessary techniques to produce precision spherical and plane optics to specifications, correct lens/prism surfaces, and fabricate optics for multiple uses, from 3D-projector technology, to national defense applications.

REQUIREMENTS

Required Courses

OTE 100	Fundamentals of Lights & Lasers	4
OTE 101	Quality Assurance of Precision Optics	3
OTE 102	Intro to Manufacturing Technology (GDT/SPC/Print Reading/Lean)	3
OTE 103	Laboratory Operations	3
OTE 104	Optics: Electronic Instrumentation	3
OTE 105	Fabrication Methods for Precision Optics	4
OTE 130	Metrology of Optical Systems	3
OTE 160	Advanced Topics in Optics & Photonics	3
		Subtotal: 26

Mathematics

Select one course from below:

MAT 108	Technical Mathematics	4
MAT 122	College Trigonometry	3
MAT 166	Pre-Calculus	5
MAT 201	Calculus I: MA1 or higher	5
		Subtotal: 3-5

Total Credit Hours: 29-31

Learn more about gainful employment (p. 254)

See gainful employment information

Paralegal Studies

PARALEGAL/LEGAL ASSISTANT - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AAS_PAR2

This degree is designed for individuals who are seeking a career in the legal profession as a legal assistant/paralegal. Paralegals work under the supervision of an attorney and their work includes preparing legal documents, researching and compiling information, and communicating with clients. Paralegals are not authorized to practice law under any circumstances. Excellent written and oral communication skills, as well as computer literacy skills, are important to the paralegal. This program allows for technical training in the paralegal field and to work effectively with computers and legal research.

Courses in this program are offered online and in the classroom. Classroom courses are offered at both the Westminster and Larimer campuses. Classes are offered Fall, Spring and Summer semesters. Students must be computer literate and knowledgeable about the internet.

In addition, the program provides the opportunity for students and current paralegals who wish to upgrade existing job skills or those who are seeking a career change.

REQUIREMENTS

Assessment testing is required for all students. Students who place into ENG 121 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

All courses in the degree and certificates must be completed with a "C" or better to graduate.

Required Courses

PAR 115	Introduction to Law	3
PAR 116	Torts	3
PAR 118	Contracts	3
PAR 125	Property Law	3
PAR 127	Legal Ethics	3
PAR 201	Civil Litigation	3
PAR 206	Business Organizations	3
PAR 211	Legal Research	3
PAR 212	Legal Writing	3
PAR 219	E-Discovery and Litigation Technology	3
PAR 289	Capstone or	3
PAR 280	Internship or	3
PAR 287	Cooperative Education	3

Subtotal: 33

Electives

Select any three PAR courses (p. 380) (9 credits) not listed above and found in this catalog. Available courses are listed below:

PAR 117	Family Law	3
PAR 126	Administrative Law	3
PAR 202	Evidence	3
PAR 205	Criminal Law	3
PAR 208	Probate and Estates	3
PAR 209	Constitutional Law	3
PAR 215	Alternative Dispute Resolution	3
PAR 216	Employment Law	3
PAR 217	Environmental Law	3
PAR 218	Bankruptcy Law	3
PAR 227	Immigration Law	3
PAR 228	Intellectual Property	3

Subtotal: 9

General Education Courses

Communication

Select one course (3 credits) from below:

COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3
COM 220	Intercultural Communication	3

Subtotal: 3

English

Select two courses (6 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 6

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Note: MAT 107 students desiring professional advancement in this field through transfer should consider taking a gtPathway Mathematics course (MA-1 (p. 248)) to satisfy general education requirements in mathematics for intended transferring institutions.

Social and Behavioral Sciences

POS 111	American Government	3
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Subtotal: 3

gtPathway Elective

Select one course (3 credits) of gtPathway coursework (p. 248).

Subtotal: 3

Note: Students desiring professional advancement in this field through transfer should consider taking gtPathway coursework in the following areas: Arts & Humanities (GT-AH (p. 248)); Social & Behavioral Sciences (GT-SS2 (p. 248) or GT-SS3 (p. 248)); History (GT-HI1 (p. 248)) or Natural & Physical Sciences (GT-SC1 (p. 248) or GT-SC2 (p. 248)).

Required General Education Courses

Subtotal: 18

Total Credit Hours: 60-61

Learn more about gainful employment (p. 254)

PARALEGAL/LEGAL ASSISTANT - CERTIFICATE

Locations: Larimer Campus, Westminster Campus, Online Learning

Field Code: F_CER_LGA4

This certificate is designed for individuals who are seeking a career in the legal profession as a legal assistant/paralegal. This certificate allows for technical training in the paralegal field and to work effectively with computers and legal research. Courses in this program are offered online and in the classroom. Courses in this program are offered Fall, Spring and Summer semesters. All students enrolled in the program must be computer literate and knowledgeable about the Internet.

REQUIREMENTS

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a faculty member before registering for courses in this program of study.

Required Courses

PAR 115	Introduction to Law	3
PAR 127	Legal Ethics	3
PAR 201	Civil Litigation	3
PAR 211	Legal Research	3
PAR 212	Legal Writing	3

PAR 219	E-Discovery and Litigation Technology	3
PAR 289	Capstone or	3
PAR 280	Internship or	3
PAR 287	Cooperative Education	3
		Subtotal: 21

Electives

Select any two PAR courses (p. 380)(6 credits) not listed above and found in this catalog. The courses listed below also satisfy AAS degree requirements:

PAR 116	Torts	3
PAR 118	Contracts	3
PAR 125	Property Law	3
PAR 206	Business Organizations	3
		Subtotal: 6

General Education Courses**English**

Select one course (3 credits) from below:

Subtotal: 3**Total Credit Hours: 30**

Learn more about gainful employment (p. 254)

See gainful employment information

Patient Care Technician

PATIENT CARE TECHNICIAN - CERTIFICATE

Locations: Loveland, Westminster Campus

Field Code: F_CER_PCT1

The Patient Care Technician (PCT) certificate is a two semester program designed to prepare students for entry-level work in a variety of healthcare environments, such as clinics, hospitals, nursing homes or long term care facilities. Patient Care Technicians care for patients under the supervision of a doctor or nurse. This program offers students stackable certificates in Nurse Aide, Phlebotomy, Electrocardiogram, and Healthcare Customer Services Basics that can be completed while working toward completion of the Patient Care Technician certificate for a total of 25 credits and two semesters in length. This certificate is comprised of lectures, labs and clinical internship experiences in the health care field. Once students complete the requirements of the Patient Care Technician program, they are eligible to take the National Certified Patient Care Technician (NCPCT) exam through the National Health Association.

REQUIREMENTS**Required Courses**

HPR 101	Customer Service in Healthcare	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2
NUA 101	Nurse Aide Health Care Skills	4
NUA 170	Nurse Aide Clinical Experience	1
HPR 112	Phlebotomy	4
HPR 179	Seminar: Phlebotomy	1
HPR 180	Internship: Phlebotomy	2
HPR 190	Basic EKG Interpretation	2
HPR 200	Advanced ECG Interpretations	2

		Subtotal: 22
Electives		
Select three (3) credits from below:		
HWE 100	Human Nutrition	3
		or
HPR 108	Dietary Nutrition	1
NUA 171	Advanced Nurse Aide Clinical	1
NUA 174	Acute Care Nurse Aide Skills	1
		Subtotal: 3

Total Credit Hours: 25

(p. 254)

Learn more about gainful employment (p. 254)

See gainful employment information

(p. 254)

ELECTROCARDIOGRAM - CERTIFICATE

Locations: Larimer Campus, Loveland, Westminster Campus

Field Code: F_CER_ECRD

This certificate will provide students the entry level knowledge and practice of administering and reading EKG's in the healthcare setting. Students may be eligible to sit for the Certified EKG Technician Exam.

REQUIREMENTS**Required Courses**

HPR 190	Basic EKG Interpretation	2
HPR 200	Advanced ECG Interpretations	2

Subtotal: 6**Electives**

Select two (2) credits of EMS, HPR or NUA coursework.

Recommend coursework includes EMS 130, HPR 108, NUA 171, NUA 174, HWE 100 and/or any HPR or NUA course included in the Patient Care certificate (p. 228).

Total Credit Hours: 6**HEALTH CARE CUSTOMER SERVICE BASICS - CERTIFICATE**

Locations: Brighton Center, Larimer Campus, Loveland, Westminster Campus, Online Learning

Field Code: F_CER_HCSB

Health Care Administrative Assistants are trained on the Electronic Health Record (EHR), assisting in managing the day to day operations of a medical facility, checking patients in, verifying patient insurance, and providing quality customer service to patients. This certificate will focus on computers in healthcare including the EHR, customer service in health care, and medical terminology. Students will receive the basics for an entry level position in health care administrative assistance.

REQUIREMENTS**Required Courses**

HPR 101	Customer Service in Healthcare	2
HPR 119	Computers in Health Care	2
HPR 208	Medical Record Terminology	2

Subtotal: 6

Total Credit Hours: 6
Pharmacy Technician

PHT 171	Pharmacy Clinical: Community	4
PHT 235	Pharmaceutical Calculations & Compounding Techniques	4

Total Credit Hours: 29
Learn more about gainful employment (p. 254)

See gainful employment information

Phlebotomy

PHARMACY TECHNICIAN - CERTIFICATE

Locations: Westminster Campus

Field Code: F_CER_PHT2

Assessment testing is required for all students. Students who place into CCR 092 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

This certificate prepares students to assist pharmacists with the technical tasks in community and hospital pharmacy settings, as well as several additional settings.

The curriculum is in a modular format consisting of three five-week instructional modules. Two modules of experiential practice follow the three modules in the following semester. Students may enter the program either in the fall or spring semester. This program is accredited by the American Society of Health System Pharmacists (ASHP).

Additional expenses incurred during the PHT program may include identification badges, books, lecture notes, scrubs, criminal background check, 10-panel drug screen, BLS certification from an AHA provider, and immunizations prior to clinical rotations.

Program Admission Requirements:

1. Attend a Pharmacy Technician Information Session prior to enrollment or meet with the Program Director.
2. Completion of program entrance requirements.
3. Completion of the PHT program application for admission.
4. Attending high school, or possess a GED or high school diploma.
5. Demonstrate keyboarding skills of 25 WPM or higher.
6. Submission of a résumé.
7. Pass a criminal background check at student's expense.
8. Pass a 10-panel drug screen at student's expense.
9. Completion of a PHT health summary with documented immunization records prior to clinical rotations.

REQUIREMENTS

Assessment testing is required of all students. Students who are reading at the college level, and place into CCR 092 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Program Director.

Required Courses

PHT 111	Introduction to Pharmacy	3
PHT 112	Pharmacy Law	2
PHT 115	Pharmacology I	3
PHT 116	Institutional Pharmacy	3
PHT 118	Pharmacology II	3
PHT 119	Community Pharmacy	3
PHT 170	Pharmacy Clinical: Institutional	4

PHLEBOTOMY - CERTIFICATE

Locations: Loveland, Westminster Campus

Field Code: F_CER_PHLB

This certificate is designed to provide the student with entry-level skills required for employment as a phlebotomist. HPR 112 (p. 350), HPR 179 (p. 351) and HPR 180 (p. 351) must be successfully completed with a "C" or better to enable students to sit for a national certifying exam. HPR 112 is a lecture and lab course. HPR 179 is a Phlebotomy seminar/lecture that is taken concurrently with HPR 180, which covers advanced skills and preparation for taking a national Phlebotomy certification exam. HPR 180 is a Phlebotomy clinical internship at a local laboratory.

There are four agencies that recognize the Front Range Phlebotomy Program, students may choose which agency to sit for their certifying exam: American Society for Clinical Pathologist (ASCP); National Health Career Association (NHA); American Medical Technologist (AMT); and National Center for Competency Testing (NCCT).

Students must be 18 years old to be eligible to attend the HPR 180 Clinical: Students are required to have immunizations to meet OSHA requirements, must have current BLS for healthcare certification, and must pass a background check and a 10-panel drug screen through an FRCC approved background check company prior to clinical placement.

REQUIREMENTS

Required Courses

HPR 112	Phlebotomy	4
HPR 179	Seminar: Phlebotomy	1
HPR 180	Internship: Phlebotomy	2

Students completing the Phlebotomy certificate in summer 2017 will take HPR 113 to fulfill certificate requirements (*per 2016-2017 catalog requirements*).

Total Credit Hours: 7

Recording Arts Technology

RECORDING ARTS TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus, Westminster Campus

Field Code: F_AAS_RTEC

This program will enable students to build the skills required in the music industry by preparing students with digital literacy, including skills ranging from audio recording, digital editing, audio production and audio post production, live sound engineering, and film, theater and video sound production.

REQUIREMENTS**Required Courses**

MUS 110	Music Theory I	3
MUS 111	Music Theory II	3
MUS 112	Ear Training/Sight-Singing I Lab	1
MUS 113	Ear Training/Sight-Singing II Lab	1
MUS 121	Music History Medieval to Classical	3
MUS 122	Music History Early Romantic to Present	3
MUS 161	Computer Music Applications I	3
MUS 162	Computer Music Applications II	3
MUS 163	Music Audio Production I	3
MUS 164	Music Audio Production II	3
MUS 167	Music Business I	3
MUS 265	Live Audio Engineering	3

Subtotal: 32**Electives****Music Performance Elective**

MUS 131	Music Class I (Guitar, Piano or Voice)	2
	or	
MUS 141	Private Instruction I	1-2
	and	
MUS 151	Ensemble I (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo)	1

Subtotal: 2**Music Internship or Capstone**

MUS 284	Internship	2
	or	
MUS 289	Capstone	2

Subtotal: 2**Additional Electives**

Select eight credits of music courses (p. 371) not completed above.

Subtotal: 8

Students must complete a minimum of 60 credits of unduplicated coursework to receive an AAS degree.

General Education Courses**Communication**

COM 220	Intercultural Communication	3
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Subtotal: 3**English**

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

NOTE: Transfer students need to complete ENG 121 or ENG 122.

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

NOTE: Transfer students need to complete a (GT-MA1 (p. 248)) course

Natural and Physical Sciences

PHY 105	Conceptual Physics with Lab	4
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Subtotal: 4**Social and Behavioral Sciences**

PSY 101	General Psychology I	3
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Subtotal: 3**Required General Education Courses****Subtotal: 16****Total Credit Hours: 60-62**

Learn more about gainful employment (p. 254)

Recording Arts Technology - Certificates

FOUNDATIONS OF RECORDING ARTS TECHNOLOGY

Locations: Larimer Campus, Westminster Campus

Field Code: F_CER_RCAF

This award is designed as a foundational award to introduce students to recording arts technology/sound engineering. All credits are stackable to the Recording Arts Technology certificate. This award also addresses an industry need for elementary and secondary music teachers needing additional skill set in recording arts technology/sound engineering and is recommended for students attending part-time and/or working full-time.

REQUIREMENTS**Required Courses**

MUS 161	Computer Music Applications I	3
MUS 163	Music Audio Production I	3
MUS 265	Live Audio Engineering	3

Subtotal: 9**Electives****Music Internship or Capstone**

MUS 284	Internship	2
	or	
MUS 289	Capstone	2

Subtotal: 2**Total Credit Hours: 11****RECORDING ARTS TECHNOLOGY**

Locations: Larimer Campus, Westminster Campus

Field Code:

This program will enable students to build the skills required in the music industry by preparing students with digital literacy, including skills ranging from audio recording, digital editing, audio production and audio post production, live sound engineering, and film, theater and video sound production.

REQUIREMENTS**Required Courses**

MUS 110	Music Theory I	3
MUS 112	Ear Training/Sight-Singing I Lab	1
MUS 161	Computer Music Applications I	3
MUS 162	Computer Music Applications II	3
MUS 163	Music Audio Production I	3
MUS 164	Music Audio Production II	3
MUS 167	Music Business I	3
MUS 265	Live Audio Engineering	3

Subtotal: 22

Electives

Music Performance Elective

MUS 131	Music Class I (Guitar, Piano or Voice)	2
	or	
MUS 141	Private Instruction I	1-2
	and	
MUS 151	Ensemble I (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo)	1

Subtotal: 2

Music Internship or Capstone

MUS 284	Internship	2
	or	
MUS 289	Capstone	2

Subtotal: 2

Additional Electives

Select two credits of music courses (p. 371) not completed above. Recommended courses include MUS 106, MUS 131, MUS 132, MUS 141, MUS 142, MUS 151, MUS 152.

Subtotal: 2

Students must complete a minimum of 28 credits of unduplicated coursework to receive a Recording Arts Technology certificate.

Total Credit Hours: 28

Learn more about gainful employment (p. 254)

See gainful employment information

Surgical Technology

SURGICAL TECHNOLOGY

Locations: Westminster Campus

Field Code: F_AAS_STE

The Surgical Technologist is an integral member of the surgical team including the surgeon, anesthesiologist, and nurse to deliver patient care before, during and after surgery. Before an operation, surgical technologist helps prepare the operating room by setting up surgical instruments and equipment. During the surgery, technologist pass instruments and other sterile supplies to surgeons and assistants.

This four semester program develops the knowledge and skills for an entry level job as a Surgical Technologist. This is one of the fastest growing jobs in health care with a projected 15% job outlook in the next 10 years. The curriculum is in alignment with the standards set forth by the Association of Surgical Technologists (AST) core curriculum guidelines. Courses include: health sciences (anatomy, physiology, pathophysiology, pharmacology, anesthesia, medical terminology, microbiology), technological sciences (electricity, information technology and robotics), and patient care concepts (biopsychosocial needs of the patient, death and dying), and surgical technology equipment.

The surgical technologist can work in a variety of settings including hospitals, surgery departments, obstetric departments, and ambulatory surgery centers. The program has a site visit scheduled for initial accreditation by the Commission on Accreditation of Allied Health Education Programs

(www.caahep.org). This step in the process is neither a status of accreditation nor a guarantee that accreditation will be granted.

REQUIREMENTS

Required Courses

STE 100	Fundamentals of Surgical Technology	6
STE 101	Surgical Technology Skills Lab	4
STE 105	Pharmacology for the Surgical Technologist	2
STE 110	Surgical Procedures I	3
STE 115	Surgical Procedures II	3
STE 120	Surgical Procedures III	3
STE 179	Surgical Technical Seminar	2
STE 181	Internship I	4
STE 182	Internship II	4
STE 183	Internship III	6
HPR 208	Medical Record Terminology	2

Subtotal: 39

General Education Requirements

English

Select one course (3 credits) from below:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Social and Behavioral Sciences

PSY 235	Human Growth and Development	3
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Subtotal: 3

Natural and Physical Sciences

BIO 201	Human Anatomy and Physiology I with Lab	4
BIO 202	Human Anatomy and Physiology II with Lab	4
BIO 204	Microbiology with Lab	4

Subtotal: 12

Required General Education Courses

Subtotal: 21

Total Credit Hours: 60-62

Steps to Apply

1. Attend Mandatory Information Session at the Westminster Campus

You must attend a Surgical Technology Program Information Session before you register for the program.

- **Date/Time:** Second Wednesday of the month 6:00 pm to 7:00 pm.

- **Location:** Westminster Campus, Room A0211. See campus map and get directions. See Level A map.

2. Apply to FRCC

3. Complete Prerequisite Coursework

A minimum GPA of 2.75 in these seven courses is required.

The following prerequisite coursework must be completed before applying to the program, with a grade of "C" or better

- ENG 121 English Composition I

- MAT 107 (p. 363) Career Mathematics or higher
- HPR 208 (p. 351) Medical Record Terminology (2 credits)
- BIO 201 (p. 306) Human Anatomy & Physiology I (4 credits with lab)*
- BIO 204 (p. 307) Microbiology (4 credits with lab)*

*All science courses must have been completed within 7 years of entry into the Surgical Technology program.

The following courses can be in progress when applying to the STE program

- BIO 202 (p. 306) Human Anatomy & Physiology II (4 credits with lab)* *
- PSY 235 (p. 388) Human Growth and Development**

If any prerequisite coursework was taken outside of the FRCC system, you must have your transcripts officially evaluated through the FRCC Registrar's Office.

- All prerequisites must be transferred to your FRCC transcript before applying.
- Evaluations take up to 30 days to complete after the Registrar's Office receives the official transcript and the Transfer Credit Evaluation Form. Be sure to specify AAS in Surgical Technology as your degree plan.
- To be considered official, transcripts may not be issued to the student; transcripts must be mailed directly from the previous college to the FRCC Registrar's Office.

Additional Requirements

All Allied Health students who are in programs that have a Clinical Rotation requirement must have proof of the following, to go to their clinical site:

- TB Test (valid for one year and must remain current throughout the program)
- Tdap (within 10 years)
- Hepatitis B Series (three shots) or proof of immunity via a titer
- Measles, Mumps Rubella (MMR, two shots or proof of immunity via a titer)
- 2 Varicella a.k.a. Chickenpox (proof of vaccination, immunity via a titer or disease)
- Seasonal influenza vaccine October - March
- American Heart Association BLS Provider CPR cards (valid for two years), except EMS which follows Colorado State guidelines for CPR
- Passing a background check and drug test through FRCC will also be required

Learn more about gainful employment (p. 254)

Teaching English as a Second Language (TESL)

This certificate prepares students for entry-level employment as tutors, paraprofessionals, or teachers of English to adults and school-age children in numerous educational settings. In some cases, a university degree may be required for English as a Second Language instructor.

Program Admission Requirements:

1. Complete and submit applications for admission to the Teaching English as a Second Language (TESL) program and to FRCC at www.frontrange.edu/tesl.
2. Demonstrate proficiency in English by placing into ENG 121 or above. International students seeking admission to the program are required to have a minimum score of 475 on the paper/pencil TOEFL test, a score of 153 on the computer-based examination, or an "equated" score of 75 on the Michigan Test of English Language proficiency.
3. Apply to FRCC for admission upon acceptance into the program.

Assessment testing is required for all students. Students who place into ENG 121 or above and MAT 050 or above may begin this program of study.

Teaching English as a Second Language - Certificates

TEACHING ENGLISH AS A SECOND LANGUAGE/ABROAD

Locations: Boulder County Campus

Field Code: F_CER_TESA

REQUIREMENTS

Required Courses

TEL 100	TESL (Teaching English as a Second Language) English Study	3
TEL 102	Procedures and Techniques for the English as a Second Language Classroom	3
TEL 103	Career Strategies for the TESL Workplace	1
TEL 188	TESL Teaching Practicum	2
TEL 225	Second Language Acquisition	3
EDU 134	Teaching English as a Second Language (ESL) to Adults	3
EDU 289	Capstone	1

Total Credit Hours: 16

Learn more about gainful employment (p. 254)

See gainful employment information

TEACHING ENGLISH AS A SECOND LANGUAGE/K-12

Locations: Boulder County Campus

Field Code: F_CER_TESK

REQUIREMENTS

Required Courses

TEL 100	TESL (Teaching English as a Second Language) English Study	3
TEL 102	Procedures and Techniques for the English as a Second Language Classroom	3
TEL 103	Career Strategies for the TESL Workplace	1
TEL 188	TESL Teaching Practicum	2
TEL 225	Second Language Acquisition	3
TEL 245	ESL in the Content Areas	3
EDU 289	Capstone	1

Total Credit Hours: 16

Learn more about gainful employment (p. 254)

See gainful employment information

Veterinary Technology

VETERINARY TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus

Field Code: F_AAS_VET2

This program offers two educational options: a two-semester Veterinary Assistant certificate (a separate listing follows) and a two-year Veterinary Technician Associate of Applied Science degree.

The Veterinary Technician AAS degree program provides training in veterinary health and the handling of a variety of domestic and exotic animals, as well as laboratory animals encountered in a veterinary practice or biomedical research setting. While veterinary technicians serve as paraprofessional members of the veterinary medical team, veterinary technicians do not diagnose animal illnesses, prescribe treatment, or perform surgery.

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 (p. 310) or above and MAT 050 (p. 363) or above may begin these program options. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

The program's curriculum includes such topics as anatomy and physiology, radiology, parasitology, medical and surgical nursing, anesthesia, pharmacology, and other related scientific areas of veterinary health or related skills areas. This curriculum is not intended to provide admission to a college of veterinary medicine.

A critical component of the program is student participation in clinical internships. Between the second and third semesters, a 135-hour private practice internship is required. In the final semester, students participate in clinical rotations at the Colorado State University Veterinary Teaching Hospital. This training includes such areas as critical care, large animal medicine and surgery, small animal care, and other related areas.

Admission Requirements:

To enter the program, students must meet the following admission requirements:

1. Completion of a high school diploma or GED.
2. Achievement of indicated assessment scores and completion of preparatory coursework.
3. Students must receive a grade of "C" or better and a cumulative GPA of 2.5 or higher on prerequisite courses listed below:

Completion of ENG 131 Technical Writing I or ENG 121 English Composition I

Completion of BIO 111 General College Biology (no more than seven years old)

Completion of CIS 109 (p. 312) Management Software & Technical Applications: Veterinary Professionals

Completion of VET 102 (p. 394) or HPR 178 (p. 350) Medical Terminology

Completion of MAT 103 (p. 363) Math for Clinical Calculations or MAT 107 (p. 363) Career Math or MAT 121 (p. 363) College Algebra

4. Completion of a Veterinary Technology Intent to Enroll application form available at the Larimer Campus or online at www.frontrange.edu.

Admission to the program is limited to the first 24 students who have submitted the appropriate admission materials. It is strongly recommended that students complete the required general education courses prior to beginning the program. Students must be admitted to the VET program to enroll in any VET prefix courses.

The Veterinary Technology Program also offers two professional development opportunities for currently enrolled students, graduates of the program, or credentialed veterinary technicians and/or assistants. Both of these classes can be taken in addition to the other program requirements to help students explore different opportunities within veterinary medicine.

- VET 109 Applied Companion Animal Behavior is an excellent professional development opportunity for those interested in small animal behavior and is available for enrollment for current students already accepted into the technician or assistant program, credentialed technicians and certified assistants.

- VET 242 Veterinary Critical Care is an advanced level course designed to expose student to the specialty of Emergency and Critical Care. This class is available for enrollment for current students already enrolled in the technician program, graduates of the program, or credentialed technicians.

REQUIREMENTS

All courses must be completed with a grade of "C" or better prior to graduation.

Required Courses

VET 102	Veterinary Medical Terminology	1
VET 106	Exotic Animal Handling	2
VET 108	Introduction to Laboratory Procedures	3
VET 115	Surgical Nursing	2
VET 116	Humane Treatment and Handling of Animals	3
VET 120	Office Procedures and Relations	2
VET 134	Diagnostic Imaging	2
VET 180	Internship: Private Practice	3
VET 205	Veterinary Anatomy and Physiology I	4
VET 206	Veterinary Anatomy and Physiology II	4
VET 224	Pharmacology for Veterinary Technicians	3
VET 225	Anesthesiology	3
VET 227	Animal Nutrition	2

VET 238	Small Animal Nursing	2
VET 239	Large Animal Nursing	2
VET 241	Clinical Laboratory Procedures	4
VET 243	Veterinary Diagnostic Microbiology	3
VET 250	Clinical Competency Evaluation	1
VET 280	Internship	11

Subtotal: 57**General Education Requirements****Natural and Physical Sciences**

BIO 111	General College Biology I with Lab	5
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Subtotal: 5**English**

Select one course (3 credits) from the following:

ENG 121	English Composition I	3
ENG 122	English Composition II	3
ENG 131	Technical Writing I	3

Subtotal: 3

Note: Students desiring professional advancement in this field through transfer should consider taking ENG 121 or ENG 122 to satisfy the general education requirements in English at transfer institutions.

Communication

Select one course (3 credits) from below:

COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3
MTE 110	Applied Communication & Teamwork in Industry	3

Subtotal: 3**Mathematics**

MAT 103	Math for Clinical Calculations or higher	3
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Subtotal: 3

Note: Students desiring professional advancement in this field through transfer should consider taking MAT 121 or a (GT-MA1 (p. 248)) course to satisfy the general education requirements in Mathematics at transfer institutions. Specific transfer pathways may require MAT 201. Please work with your intended transfer institution regarding acceptance of transfer coursework.

Computer Technology

CIS 109	Management Software and Technical Applications: Veterinary Professionals	1
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Subtotal: 1**Required General Education Courses****Subtotal: 15****Total Credit Hours: 72-74**

Learn more about gainful employment (p. 254)

Veterinary Technology - Certificates

BASIC LABORATORY ANIMAL CARE

Locations: Larimer Campus

Field Code: F_CER_BLAC

This certificate is available to students currently enrolled in the Veterinary Technician Program and is designed to meet the demands of the biomedical research community for qualified personnel in the care and management of laboratory animals.

Technicians certified in Laboratory Animal Technology are central to the integrity of biomedical research, assuring a high standard of humane care for research animals. For more information, contact Kimberly Schmidt at 970-204-8670.

REQUIREMENTS**Required Courses**

Students must complete **ALL** of the requirements for the AAS Degree in Veterinary Technology (p. 233) plus the following courses to complete this certificate:

ALT 126	Introduction to Lab Animal Science	3
ALT 280	Lab Animal Internship	3

Subtotal: 6**Total Credit Hours: 6****VETERINARY ASSISTANT**

Locations: Larimer Campus

Field Code: F_CER_VTA

The Veterinary Assistant certificate program provides training in veterinary health and handling of a variety of domestic and exotic species, with the focus on tasks for assisting the Veterinary Technician and Veterinarians. Veterinary Assistants do not diagnose animal illnesses, prescribe treatment, or perform surgery. Completion of all coursework is required before the student is eligible for participation in VET 183 private-practice internship (1.5 credits). This program provides an introduction to the field of veterinary medicine, but is not intended to provide admission to a college of veterinary medicine.

Admission Requirements:

To enter the program, students must meet the following admission requirements:

- Completion of a high school diploma or GED
- Achievement of indicated assessment scores or completion of preparatory course work.
- Completion or concurrent enrollment of BIO 105 (p. 306) or BIO 111 (p. 306) with a grade of "C" or better (no more than seven years old)
- Completion of or concurrent enrollment in VET 102 (p. 394) Veterinary Medical Terminology (1 credit), with a grade of "C" or better.
- Prospective students must attend an information meeting the first Thursday of every month at the Larimer Campus from 4:00 pm to 5:00 pm. See our website for current meeting location.
- Completion of a Veterinary Assistant intent to enroll application form available at the Larimer Campus.

Admission to the program is limited to the first 12 students who have submitted the appropriate admission materials. Students must be admitted to the Veterinary Assistant program in order to take the curriculum courses as shown below.

REQUIREMENTS

All courses must be completed with a grade of "C" or better prior to graduation.

Required Courses

VET 102	Veterinary Medical Terminology	1
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VET 103	Veterinary Assistant Restraint and Handling	2
VET 113	Veterinary Assistant Surgical & Nursing Care	3
VET 114	Veterinary Assistant Laboratory and Clinical Procedures	3
VET 120	Office Procedures and Relations	2
VET 183	Internship	1.5

Subtotal: 12.5

Required General Education Courses

BIO 105	Science of Biology with Lab or	4
BIO 111	General College Biology I with Lab	5

Subtotal: 4

Total Credit Hours: 16.5-17.5

Learn more about gainful employment (p. 254)

See gainful employment information

Welding Technology

WELDING TECHNOLOGY - ASSOCIATE OF APPLIED SCIENCE DEGREE

Locations: Larimer Campus

Field Code: F_AAS_WTE

This program provides entry-level as well as upgrading skills in welding technology.

This program is offered on an open-entry basis: students may complete a Welding Fundamentals certificate, enter the workforce, and then return at any time to upgrade specific skills while pursuing advanced certificate offerings or an AAS degree.

FRCC is certified by the American Welding Society SENSE Educational program.

REQUIREMENTS

All courses applied to the degree or certificate must be completed with a grade of "C" or better.

Assessment testing is required for all students. Students who are reading at college-level and place into CCR 093 or above and MAT 050 or above may begin this program of study. Students scoring below this level should consult with a Faculty Member before registering for courses in this program of study.

New welding students may contact the welding program for advising in the Little Bear Peak building at Larimer, or call 970-204-8610.

Required Courses

WEL 100	Safety for Welders or	1
MTE 105	Safety for Manufacturing Environments	1
WEL 101	Allied Cutting Processes	4
WEL 103	Basic Shielded Metal Arc I	4
WEL 104	Basic Shielded Metal Arc II	4
WEL 106	Blueprint Reading for Welders and Fitters or	4
MTE 106	Print Reading for Manufacturing	3

WEL 110	Advanced Shielded Metal Arc I	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 125	Introduction to Gas Metal Arc Welding	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
WEL 225	Advanced Gas Metal Arc Welding	4

Subtotal: 36-37

Welding Electives

Select a minimum of 8 credits of electives:

WEL 145	Introduction to Robotic Welding	2
WEL 150	AWS Qualification Testing	1
WEL 230	Pipe Welding I	4
WEL 231	Pipe Welding II	4
WEL 250	Layout and Fabrication	4
WEL 251	Design, Layout and Fabrication	4
WEL 264	Creative Welding	4

Subtotal: 8

General Education Courses

Communication

Select one course (3 credits) from below:

MTE 110	Applied Communication & Teamwork in Industry	3
COM 115	Public Speaking	3
COM 125	Interpersonal Communication	3

Subtotal: 3

English

Select one course (3 credits) from below:

ENG 131	Technical Writing I	3
ENG 121	English Composition I	3
ENG 122	English Composition II	3

Subtotal: 3

Mathematics

MAT 107	Career Mathematics or higher	3
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Subtotal: 3

Natural and Physical Sciences

PHY 105	Conceptual Physics with Lab or higher	4
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Subtotal: 4

General Studies Elective

Select one course (3 credits) from the Approved Electives List.

Subtotal: 3

Required General Education Courses

Subtotal: 16

Total Credit Hours: 60-61

Learn more about gainful employment (p. 254)

Welding Technology - Certificates

COMPREHENSIVE WELDING

Locations: Larimer Campus

Field Code: F_CER_WTEC

REQUIREMENTS

Required Courses

WEL 100	Safety for Welders or	1
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MTE 105	Safety for Manufacturing Environments	1
WEL 101	Allied Cutting Processes	4
WEL 103	Basic Shielded Metal Arc I	4
WEL 104	Basic Shielded Metal Arc II	4
WEL 110	Advanced Shielded Metal Arc I	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 125	Introduction to Gas Metal Arc Welding	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
WEL 225	Advanced Gas Metal Arc Welding	4
		Subtotal: 33

Total Credit Hours: 33

Learn more about gainful employment (p. 254)

See gainful employment information

CREATIVE METALWORKING

Locations: Larimer Campus

Field Code: F_CER_WEL1

REQUIREMENTS**Required Courses**

WEL 100	Safety for Welders or	1
MTE 105	Safety for Manufacturing Environments	1
WEL 101	Allied Cutting Processes	4
WEL 125	Introduction to Gas Metal Arc Welding or	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
CAD 101	Computer-Aided Drafting/2D I or	3
ART 131	Visual Concepts 2-D Design	3
WEL 264	Creative Welding	4
		Subtotal: 16

Total Credit Hours: 16

Learn more about gainful employment (p. 254)

See gainful employment information

GAS METAL ARC WELDING (MIG)

Locations: Brighton Center, Larimer Campus

Field Code: F_CER_WTEM

REQUIREMENTS**Required Courses**

WEL 100	Safety for Welders or	1
MTE 105	Safety for Manufacturing Environments	1

WEL 125	Introduction to Gas Metal Arc Welding	4
WEL 225	Advanced Gas Metal Arc Welding	4
		Total Credit Hours: 9

GAS TUNGSTEN ARC WELDING (TIG)

Locations: Larimer Campus

Field Code: F_CER_WTET

REQUIREMENTS**Required Courses**

WEL 100	Safety for Welders or	1
MTE 105	Safety for Manufacturing Environments	1
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
		Total Credit Hours: 9

OXYACETYLENE WELDING

Locations: Brighton Center, Larimer Campus

Field Code: F_CER_WTEO

REQUIREMENTS**Required Courses**

WEL 100	Safety for Welders or	1
MTE 105	Safety for Manufacturing Environments	1
WEL 101	Allied Cutting Processes	4
		Total Credit Hours: 5

SHIELDED METAL ARC WELDING

Locations: Larimer Campus

Field Code: F_CER_WTES

REQUIREMENTS**Required Courses**

WEL 100	Safety for Welders or	1
MTE 105	Safety for Manufacturing Environments	1
WEL 103	Basic Shielded Metal Arc I	4
WEL 104	Basic Shielded Metal Arc II	4
WEL 110	Advanced Shielded Metal Arc I	4
		Total Credit Hours: 13

WELDING FUNDAMENTALS

Locations: Brighton Center, Larimer Campus

Field Code: F_CER_WTEF

REQUIREMENTS**Required Courses**

WEL 100	Safety for Welders or	1
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MTE 105	Safety for Manufacturing Environments	1
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Electives

Select a minimum of 8 credits from the following:

WEL 103	Basic Shielded Metal Arc I	4
WEL 104	Basic Shielded Metal Arc II	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 125	Introduction to Gas Metal Arc Welding	4

Total Credit Hours: 9

Other Degrees

A.G.S. DEGREE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus, Online Learning

Field Code: F_AGS_AGS

This degree is designed for students who want to complete a broad program of both career and transfer courses without specialization. Transferability of the Associate of General Studies Degree depends on the courses taken and the requirements of the receiving institution.

DEGREE REQUIREMENTS

Required General Education Courses

A minimum of 15 credits must be completed from approved gtPathways (Guaranteed Transfer) coursework.

Communication

Choose one course:

- ENG 121 or higher
- COM 115 or higher

Subtotal: 3

Mathematics

Take one course. Credits over 3 will be applied to electives.

- MAT 107 or higher

Subtotal: 3

Arts and Humanities

Take one course:

- ARA 101 or higher
- ART 107 or higher
- ASL 101 or higher
- CHI 101 or higher
- DAN 105 or higher¹
- FRE 101 or higher
- GER 101 or higher
- HUM 103 or higher
- ITA 101 or higher
- JPN 101 or higher
- LIT 115 or higher
- MUS 100 or higher

- PHI 111 or higher
- RUS 101 or higher
- SPA 101 or higher
- THE 105 or higher

Subtotal: 3

¹ Max of three (3) credits for DAN permitted for degree in addition to DAN 125.

Social and Behavioral Sciences

Take one course:

- ANT 101 or higher (excludes ANT 111(SC1: *Natural and Physical Science*))
- COM 220 (May fulfill this requirement **OR** Communication, but not both.)
- ECO 101 or higher
- ETH 200 or higher
- GEO 105; GEO 106; GEO 165; GEO 200
- HIS 101 or higher (excludes HIS 265 (CO3: *Written Communication*))
- POS 105 or higher
- PSY 101 or higher
- SOC 101 or higher
- WST 200 or higher

Subtotal: 3

Natural and Physical Sciences

Take one course. Credits over 3 will be applied to electives.

- ANT 111
- AST 101; AST 102
- BIO 105 or higher
- CHE 101 or higher
- ENV 101
- GEO 111; GEO 112, GEO 160
- GEY 111 or higher
- MET 150
- PHY 105 or higher
- SCI 105 or higher

Subtotal: 3

Electives

Select 15 credits from the Approved Elective List and any combination of 30 credits from general education courses and/or career-technical courses.

Log into eWOLF to see elective requirements in DegreeCheck.

Selection of elective credits should be done with an advisor and your intended transfer institution.

Subtotal: 45

Total Credit Hours: 60

Additional Graduation Requirements

- A minimum of 15 credits must be completed from approved gtPathways (Guaranteed Transfer) coursework.
- No developmental courses may be applied to this degree.
- Students must have a minimum cumulative GPA of 2.0 (all grades "C" or better) to be eligible to graduate.
- Submit Graduation Application, transfer credits, and Prior Learning Assessment Credit to the Registrar's Office by published deadline.
- Students must complete at least 25% of their degree/certificate credit requirements at Front Range in order to earn their award from Front Range.
- Continuing students without a 12 month lapse in enrollment are allowed to select a catalog published during their enrollment that best aligns with their completed coursework toward their intended program of study.

Programs by Location

At Front Range Community College, students may take classes to earn an associate degree or a certificate from among more than 100 areas. Credits from the State Guaranteed Education Courses (p. 248) are guaranteed to transfer to Colorado's public four-year institutions. Students may also take classes individually for their enrichment, or career development.

Career and Technical Education (CTE) AAS degree & certificate course requirements are subject to change due to Colorado Community College System mandated renewal cycles and program revisions. These program revisions are necessary to align with course changes in the Colorado Community College System (CCCS) Common Course Numbering System (CCNS) and/or updated state or national accreditation standards specific to program content. A list of these accrediting agencies is available under the FRCC Program Accreditation section (p. 9) in this catalog. The archived PDF version of this catalog will not contain these updates. To verify the most accurate certificate and AAS degree requirements (p. 161), please review DegreeCheck in the eWOLF Student Dashboard or view our online catalog (p. 11).

Transfer Degrees

BC = Boulder County Campus

BR = Brighton

L = Larimer Campus

LV = Loveland

PR = Prospect

W = Westminster Campus

OL = Online

Not all degrees or certificates are available at all sites. Students should consult a schedule of classes to determine course offerings for each campus location
Associate of Arts

Associate of Arts

No Area of Designation (p. 136)	BC, L, W, OL
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Areas of Designation:

Anthropology	BC, L, W, OL
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Art History	BC, L, W, OL
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Business	BC, L, W, OL
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Communication	BC, L, W, OL
---------------	--------------

Criminal Justice	BC, L, W, OL
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Early Childhood Teacher Education	BC, L, W, OL
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Economics	BC, L, W, OL
-----------	--------------

Elementary Teacher Education	BC, L, W
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English	BC, L, W, OL
---------	--------------

French	BC, L, OL
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Geography	BC, L, W, OL
-----------	--------------

History	BC, L, W, OL
---------	--------------

Music	BC, L, OL
-------	-----------

Philosophy	BC, L, W, OL
------------	--------------

Political Science	BC, L, W, OL
-------------------	--------------

Psychology	BC, L, W, OL
------------	--------------

Sociology	BC, L, W, OL
-----------	--------------

Spanish	BC, L, W, OL
---------	--------------

Studio Art	BC, L, W, OL
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Theater	L, OL
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Associate of Science**Associate of Science**

No Area of Designation (p. 153) BC, L, W,
OL

Areas of Designation:

Biology BC, L, W,
OL

Chemistry BC, L, W,
OL

Fermentation Sciences (p. 156) BC, L

Geology BC, L, W,
OL

Horticulture Business Management L, W, OL

Environmental Horticulture - Landscape
Business Mgmt. L, W, OL

Mathematics BC, L, W,
OL

Physics BC, L, W,
OL

Psychology BC, L, W,
OL

Other Transfer Agreements**Other Transfer Agreements**

The following transfer agreements have different requirements and guarantees from the agreements listed above. Please check with the university you wish to transfer into to ensure you are registering for the appropriate courses.

Pre-Engineering L, W, OL

Career Education**BC = Boulder County Campus****BR = Brighton****L = Larimer Campus****LV = Loveland****PR = Prospect****W = Westminster Campus****OL = Online**

Not all degrees or certificates are available at all sites. Students should consult a schedule of classes to determine course offerings for each campus location.

AAS Degrees**Associate of Applied Science**

Accounting (p. 161) BC, L, W,
(ACC) OL

Applied Technology BC, L, W,
(*Technical College/AVS - Transfer Agreement*) OL

Architectural and Building Science (p. 163) L
(AEC)

Automotive Technology (p. 164) L, W
(ASE)

Business (BUS)
Business (p. 167) BC, L, W,
OL

Business Logistics (p. 167) W

Computer-Aided Drafting and Design (p. 170) L, W
(CAD)

Computer Information Systems (CIS)
- Computer Information Systems (p. 173) BC, W,
OL

- Database Administration (p. 174) BC, L, W

- Programming (p. 175) BC, L, W,
OL

- Web Developer (p. 176) BC, L, W,
OL

Computer Networking, Cybersecurity and Cloud
(CNG)

- Cybersecurity and Cloud Computing (p. 178) L, W

- Network Technologies (p. 179) BC, L, W

Early Childhood Education (p. 186) BC, L, W
(ECE)

Forestry, Wildlife & Natural Resources (AQT)
(NRE) (FSW)
- Natural Resources Technology (p. 190) L

- Forestry Technology (p. 191) L

- Wildlife Technology (p. 190) L

Health Information Technology (p. 195) W
(HIT)

Heating, Ventilation, Air Conditioning and LV
Refrigeration (p. 196)
(HVA)

Horticulture and Landscape Technologies (p. L, W
198)

(HLT)	
Hospitality and Culinary Arts Management (HOS) (CUA)	
- Culinary & Restaurant Management (p. 203)	L
- Hotel & Event Management (p. 203)	L
Integrative Health Professions (p. 205)	L, LV,OL
Interior Design (p. 208) (IND)	L
Interpreter Preparation (p. 209) (IPP)	W
Law Enforcement Academy (LEA)	L
Manufacturing and Energy Technology (p. 211) (MTE) (ELT) (ENY) (EGT) (PPT)	L
Medical Assisting (MAP)	
- Medical Assisting (p. 213)	BC
Medical Office Technology (MOT)	
- Medical Administrative and Billing Specialist (p. 215)	BC
- Billing Specialist	BC
- Medical Office Specialist	BC
Multimedia Technology (MGD)	
- Digital Animation (p. 216)	BC, W
- Graphic Design (p. 217)	BC, W
- Video Production and Editing (p. 217)	BC, W
- Web Design (p. 218)	BC, W
Nursing (p. 222) (NUR)	L, W
Paralegal Studies (p. 226) (PAR)	L, W
Recording Arts Technology (p. 229) (MUS)	L, W
Surgical Technology (STE)	L, W
Veterinary Technology (p. 233) (VET)	L
Welding Technology (p. 235) (WEL)	L

Certificates

BC = Boulder County Campus

BR = Brighton

L = Larimer Campus

LV = Loveland

PR = Prospect

W = Westminster Campus

OL = Online

Not all degrees or certificates are available at all sites. Students should consult a schedule of classes to determine course offerings for each campus location.

Certificates

Accounting (ACC) Certificates

- Accounting (p. 162) BC, L, W, OL

Architectural and Building Science (AEC) Certificate

- Architectural Drafting (p. 164) L, W

Automotive Technology (ASE) Certificates

- Automatic Transmission/Transaxle (p. 165) L, W

- Brakes (p. 165) L, W

- Automotive Electrical/Electronic Systems (p. 165) L, W

- Engine Performance (p. 166) L, W

- Engine Repair (p. 166) L, W

- General Automotive Maintenance & Repair (p. 166) L, W

- Automotive Heating and Air Conditioning (p. 166) L, W

- Light Diesel Engine Repair (p. 166) L

- Manual Drivetrain and Axles (p. 166) L, W

- Suspension and Steering (p. 166) L, W

Business (BUS) Certificates

- Business Specialization (p. 168)	BC, L, W, OL
- Foundations of Business Principles (p. 168)	BC, BR, L, W, OL
- Foundations of Leadership & Management (p. 169)	BC, OL
- International Business Basics (p. 169)	BC
- Logistics (p. 169)	W
- Project Management (p. 169)	BR, W
- Retail Management (p. 169)	BC, BR, L, W, OL
- Small Business Operations (p. 169)	BC, BR, L, W, OL
- Small Business Ownership (p. Error! Bookmark not defined.)	BC, BR, L, W, OL

Computer-Aided Drafting and Design (CAD) Certificates

- Advanced Architectural Computer-Aided Drafting (p. 172)	L, W
- Advanced Mechanical Computer-Aided Drafting (p. 172)	L, W
- Advanced Civil Computer-Aided Drafting (p. 173)	L, W
- Advanced 3D Printing and 3D Scanning (p. 171)	L
- Animation and Visualization Computer-Aided Drafting (p. 172)	L, W
- Basic Computer-Aided Drafting and Design (p. 171)	L, W

Computer Information Systems (CIS) Certificates

Computer Information Systems (CIS) Certificates

- Applications Specialist (p. 177)

BC, L,
W, OL

- Database (p. 177)

BC, L,
W

- Programming (p. 177)

BC, L,
W, OL

- Web Developer (p. 178)

BC, L,
W

Computer Networking, Cybersecurity and Cloud (CNG) Certificates

- Cybersecurity (p. 180)

L, W

- Cloud Computing & Virtualization (p. 180)

L, W

- Microsoft Server Administration (p. 182)

L

- Computer/Network Technician: A+/Network+ (p. 181)

BC

- Linux Server Administration (p. 181)

BC, L

- Network Technician (p. 182)

L, W

- Network Infrastructure (p. 182)

L

- Network Administration: CCNA (p. 182)

W

- Networking Basics (p. 181)

L, W

Construction Trades (CON) Certificates

- Construction Essentials (p. 183)

L

- Construction Fundamentals (p. 183)

L

- Electrical Fundamentals (p. 183)

L

- Plumbing Fundamentals (p. 183)

L

Criminal Justice, Law Enforcement Academy (LEA) & Public Safety (CRJ) Certificates

- Peace Officers Standards and Training (p. 184)

L

- Fundamentals of Public Safety Dispatch (p. 184)

W

- Public Safety Dispatch (p. 185)

W

Dental Assisting (DEA) Certificate

- Dental Assisting (p. 186)

L

Early Childhood Education (ECE) Certificates

- Assistant Early Childhood Teacher BC, L, W, OL
- Early Childhood Education for Paraeducators (p. 188) BC, L, W, OL
- Foundations of Early Childhood Education (p. 188) BC, L, W, OL
- Early Childhood Director BC, L, W, OL

Emergency Medical Services (EMS) Certificates

- Emergency Medical Technician (p. 189) BC, L, PR, W
- Clinical EMT (p. 189) BC, L, PR, W

Forestry, Wildlife, and Natural Resources (AQT) (FST) (NRE) Certificates

- Environmental Education (p. 193) L
- Forestry (p. 192) L
- Natural Resources (p. 192) L
- Natural Resources Geographic Information Systems (p. 193) L
- Natural Resources Recreation (p. 193) L
- Wildland Fire (p. 193) L
- Wildlife (p. 192) L

Geographic Information Systems (GIS) Certificates

- Foundations of Geographic Information Systems (p. 194) BC
- Geographic Information Systems (p. 195) BC

Health Information Technology (HIT) Certificates

- Medical Coding (p. 196) W

Heating, Ventilation, Air Conditioning and Refrigeration (HVA) Certificates

- Residential Air Conditioning and Heating (p. 197) LV
- Light Commercial Air Conditioning and Heating (p. 197) LV
- Commercial Refrigeration (p. 197) LV
- HVAC/R Fundamentals (p. 198) LV

Horticulture and Landscape Technologies (HLT) Certificates

- Floral Design (p. 200) L
- Horticulture (p. 200) L, W
- Irrigation Contracting and Management (p. 200) L
- Irrigation Technician (p. 201) L, W
- Landscape Contracting Technician (p. 201) L
- Landscape Design (p. 201) L, W
- Landscape Maintenance Technician (p. 201) L, W
- Nursery, Greenhouse and Garden Center Management (p. 202) L, W
- Turfgrass Management (p. 202) L
- Urban Agriculture Management (p. 202) L

Hospitality & Culinary Arts Management (HOS) Certificates

- Culinarian (p. 204) L
- Event Planning (p. 204) L
- Restaurant Management (p. 204) L
- Hotel Management (p. 204) L

Integrative Health Professions Certificates

- Aromatherapy OL
- Integrative Health Professions L, LV, OL
- Integrative Health and Wellness Coaching L, LV

- Massage Therapy	LV		
- Reflexology	L, LV		- Video Production and Editing (p. 221) BC, W
- Yoga Teacher	L, LV		- Web Design (p. 221) BC, W
Interior Design (IND) Certificates			Optics Technology Certificate
- Fundamentals in Interior Design, Drafting and Communications	L		- Optics Technology (p. 226) BC
- Kitchen & Bath Design (p. 209)	L		Nurse Aide (NUA) Certificate
			- Nurse Aide (p. 221) LV, W
Machining Technology (MAC) Certificates			Nursing (NUR) Certificate
- Precision Machining Technology (p. 210)	BC		- Practical Nursing - Exit Option (p. 224) L, W
- Manual Machining (p. 210)	BC		- Practical Nursing (p. 225) PR
- CNC Machining (p. 211)	BC		Paralegal Studies (PAR) Certificate
Manufacturing and Energy Technology (ELT) (MTE) (ENY) EGT) Certificate			- Paralegal/Legal Assistant (p. 227) L, W, OL
- Manufacturing and Energy Technology (p. 212)	L		Patient Care Technician (PCT) Certificates
			- Electrocardiogram (p. 228) L, LV, W
Massage Therapy (MST) Certificate			- Health Care Customer Service Basics (p. 228) BR, L, LV, W, OL
- Massage Therapy (p. 212)	LV		- Patient Care Technician (p. 228) LV, W
Medical Assisting (MAP) Certificates			Pharmacy Technician (PHT) Certificate
- Medical Assisting (p. 214)	BC, PR, W		- Pharmacy Technician (p. 229) W
Medical Office Technology (MOT) Certificates			Phlebotomy (HPR) Certificate
- Medical Billing Specialist (p. 215)	BC		- Phlebotomy (p. 229) LV, W
- Medical Office Specialist (p. 216)	BC		Recording Arts Technology (MUS) Certificates
Multimedia Technology (MGD) Certificates			- Foundations of Recording Arts Technology (p. 230) L, W
- Fundamentals in Multimedia Technology (p. 220)	BC, L, W		- Recording Arts Technology (p. 230) L, W
- Digital Animation (p. 219)	W		Teaching English as a Second Language (TEL) Certificates
- Digital Imaging (p. 219)	L		- Teaching English as a Second Language/Abroad (p. 232) BC
- Graphic Design Technician (p. 220)	L		- Teaching English as a Second Language/K-12 (p. 232) BC
- Multimedia (p. 221)	BC, W		Veterinary Technology (VET) Certificates
- Graphic Design (p. 220)	BC, W		

- Basic Laboratory Animal Care (p. 234) L

- Veterinary Assistant (p. 234) L

Welding Technology (WEL) Certificates

- Comprehensive Welding (p. 235) L

- Gas Metal Arc Welding (MIG) (p. 236) BR, L

- Gas Tungsten Arc Welding (TIG) (p. 236) L

- Oxyacetylene Welding (p. 236) BR, L

- Creative Metalworking (p. 236) L

- Shielded Metal Arc Welding (p. 236) L

- Welding Fundamentals (p. 236) BR, L

Degree Information & Elective Lists

Most associate degree programs may be completed in four semesters, if the student is attending on a full-time basis, successfully completing the required number of hours, following the specific educational plan provided by an advisor and is not required to complete developmental-level courses. A student may choose to extend the amount of time spent completing the degree.

Transfer Degree Information

COMPLETING AN A.A./A.S. DEGREE IN TWO YEARS

The Colorado Community College System (CCCS) colleges have adopted a set of guidelines to define the conditions for students who expect to graduate with an Associate of Science or Associate of Arts Degree in two calendar years. The Academic Advising Center at each individual CCCS community college can provide additional information.

The Colorado Community College System colleges guarantee that a student will be able to complete all course work necessary to earn an A.A. or A.S. degree from a specific CCCS college in 60 credit hours and in 24 months.

Students must satisfy all the conditions below to be eligible for this guarantee:

1. Enroll at the same community college for at least four consecutive semesters, excluding summer.
2. Register within one week of the beginning of registration for each semester.
3. Have completed all required developmental coursework before beginning the count of two years to degree completion.
4. Enroll in and pass ("C" or better in each course) an average of 15 credit hours of coursework that applies to the A.A. /A.S. in each of four consecutive semesters.

5. Obtain a recommended plan of study for the A.A. or A.S. degree, signed by the student and community college advisor, prior to registration for the second semester and according to the requirements of the degree.

6. Follow the signed plan of study.

7. Continue with the same degree (A.A. or A.S.) from entrance to graduation.

8. Retain documentation demonstrating that all the above requirements were satisfied (transcripts, advising records, etc.) and file a Graduation Application.

GUARANTEED TRANSFER (GT) PATHWAYS GENERAL EDUCATION CURRICULUM

The Colorado Department of Higher Education, in consultation with Colorado's public colleges and universities, has developed a standardized concept of general education. They have identified the specific courses to satisfy these general education requirements. The curriculum consists of 31 credit hours of courses across these specific content areas: written communication, mathematics, arts and humanities, history and social & behavioral sciences and natural & physical sciences. Receiving institutions shall apply the 31 credit hours of guaranteed general education courses to a student's general education or major requirements. Click here to view the list of GT General Education Courses. (p. 248)

TRANSFER DEGREES & GUIDED PATHWAYS

The following degrees offered at FRCC provide transfer pathways to Colorado's public four-year colleges and universities in specified liberal arts and science designations. These agreements allow you to graduate with a 60-credit Associate of Arts (AA) or Associate of Science (AS) degree, enroll with junior status at a university, and complete the bachelor's degree in no more than an additional 60 credits (for a total of 120 credits). Click here to view the list of Statewide Transfer Articulation Agreements available at FRCC (p. **Error! Bookmark not defined.**).

Associate Degree Requirements

To learn more about the different types of associate degrees at FRCC, please visit our website and meet with an advisor to select the best program for you. Click below to view requirements for the different types of associate degrees and certificates offered at FRCC.

- Associate of Arts (p. 136)
- Associate of Science (p. 153)
- Associate of Applied Science (p. 161)
 - Certificates (p. 161)
- Associate of General Studies (p. 237)
- Degree & Certificate Requirements (p. 264)

Elective Lists

Students completing an Associate Degree at FRCC may need to complete elective courses when specified. The Approved Elective List (p. 247) contains courses considered generally transferable. However, a student's major at a four-year

college/university may limit what credit will be accepted and applied toward degree requirements at that institution.

Students may choose to complete courses listed as GT “Guaranteed Transfer” to better ensure transferability to a four-year college/university. This GT list (p. 248) is also included below.

APPROVED ELECTIVE LIST

Below are the approved elective courses for all degrees at FRCC unless otherwise specified¹. While these courses are considered generally transferable, a student’s major at a four-year college/university may limit what credit will be accepted and applied toward degree requirements at that institution.

Students may choose to complete courses listed as GT “Guaranteed Transfer” to better ensure transferability to a four-year college/university. These courses are designated in this catalog. A list of gtPathways courses can be found here.

The statement “or higher” does not include specialized courses.

CATEGORIES & COURSES

Mathematics & Science

Includes GT-MA1; GT-SC1; GT-SC2 and courses below:

- AQT 102
- ANT 111
- AST 101, AST 102, AST 160
- BIO 105 or higher
- CHE 101 or higher
- CSC 119 or higher
- ENV 101, ENV 110
- FER 101, FER 102, FER 201, FER 203
- GEO 111, GEO 112, GEO 160
- GEY 111 or higher
- GIS 101 or higher
- HLT 101 or higher {excludes HLT 208, HLT 216, HLT 249}
- MAT 120 or higher
- MET 150
- NRE 100, NRE 110, NRE 121, NRE 200, NRE 204, NRE 205, NRE 225
- PHY 105 or higher
- SCI 105 or higher

Liberal Arts, Communication & Design

Includes GT-AH1; GT-AH2; GT-AH3; GT-AH4 and courses below. Courses in Multimedia, Manufacturing, Drafting & Design³ are highly dependent of transfer institution and major.

- Communication

- COM 115 or higher
- ENG 121 or higher
- HIS 265: CO3

- Arts & Expression

- ART 107 or higher
- DAN 105 or higher²
- MUS 100 or higher
- THE 105 or higher

- Literature & Humanities

- HUM 103 or higher
- LIT 115 or higher

- Ways of Thinking

- PHI 111 or higher

- World Languages

- ARA 101 or higher
- ASL 101 or higher
- CHI 101 or higher
- FRE 101 or higher
- GER 101 or higher
- ITA 101 or higher
- JPN 101 or higher
- RUS 101 or higher
- SPA 101 or higher

- Multimedia, Manufacturing, Drafting & Design³

- AEC 101, AEC 121, AEC 122
- CAD 100, CAD 101, CAD 102, CAD 105, CAD 115
- FLD 200
- EGG 211, EGG 212
- EGT 101, EGT 201
- IND 105, IND 112, IND 114
- MAC 100, MAC 101, MAC 102, MAC 110, MAC 120
- MGD 111, MGD 112, MGD 117, MGD 133, MGD 143, MGD 164

Social Sciences, Education and Public Service

Includes GT-SS1; GT-SS2; GT-SS3; GT-H1 and courses below. Courses in Education³ are highly dependent of transfer institution and major.

- History

- HIS 101 or higher, {excludes HIS 265: CO3}

- Economic & Political Systems

- ECO 101 or higher
- POS 105 or higher

- Geography

- GEO 105, GEO 106, GEO 165, GEO 200

- Human Behavior, Culture, or Social Framework

- ANT 101 or higher, {excludes ANT 111: SC1}
- COM 220
- CRJ 110 or higher
- ETH 200 or higher
- JOU 105 or higher
- PSY 101 or higher
- SOC 101 or higher
- WST 200 or higher

- Education³

- ECE 101 or higher
- EDU 111 or higher

Business & Information Technology

Includes no GT pathway courses. Courses in Business & Information Technology³ are highly dependent of transfer institution and major.

- ACC 101 or higher
- BUS 102 or higher
- CIS 115 or higher
- ENP 105
- FIN 201
- HOS 110, HOS 141
- MAN 103 or higher
- MAR 106 or higher

Military Leadership

- AIR 101 or higher
- ARM 111 or higher

Outdoor Studies, Physical Education & Wellness

- HPR 108, HPR 117, HPR 137, HPR 205, HPR 178 or HPR 208

- HWE 100 or higher {excludes HWE 121}
- OUT 126 or higher²
- PED 101 or higher²

¹AAS degrees and AA & AS Degrees with Designation have specific electives defined by industry and transfer requirements. Please view these specified programs for elective requirements and work with an advisor or program lead/faculty to learn more.

²Max of three (3) credits for PED, OUT and DAN permitted for degree in addition to DAN 125.

³Courses selected from the Education, Business & Information Technology and Multimedia, Manufacturing, Drafting & Design sections are highly dependent on transfer institution and major. Students should work closely with the transfer institution before enrolling in these courses.

GUARANTEED TRANSFER (GT) PATHWAYS GENERAL EDUCATION CURRICULUM

The Colorado Department of Higher Education, in consultation with Colorado's public colleges and universities, has developed a standardized concept of general education and has identified the specific courses to satisfy these general education requirements. The curriculum consists of 31 credit hours of courses across these specific content areas: written communication, mathematics, arts and humanities, history and social & behavioral sciences and natural & physical sciences. Receiving institutions shall apply the 31 credit hours of guaranteed general education courses to a student's general education or major requirements.

GUARANTEED GENERAL EDUCATION COURSES**Arts and Expression • Arts GT Courses - AH1**

GT-AH1 Courses

Literature and Humanities • GT Courses - AH2

GT-AH2 Courses

Ways of Thinking • GT Courses - AH3

GT-AH3 Courses

World Languages • GT Courses - AH4

GT-AH4 Courses

Communication • GT Courses - CO1

GT-CO1 Courses

Communication • GT Courses - CO2

GT-CO2 Courses

Communication • GT Courses - CO3

GT-CO3 Courses

History • GT Courses - HI1

GT-HI1 Courses

Mathematics • GT Courses - MA1

GT-MA1 Courses

Natural and Physical Sciences • GT Courses - SC1

GT-SC1 Courses

Natural and Physical Sciences • GT Courses - SC2

GT-SC2 Courses

(Lecture Course Without Required Laboratory)

Social and Behavioral Sciences Economics or Political Systems •**GT Courses - SS1**

GT-SS1 Courses

Geography • GT Courses -SS2

GT-SS2 Courses

Human Behavior, Culture or Social Frameworks • GT Courses -**SS3**

GT-SS3 Courses

The State Guaranteed General Education content areas are identified by the following designations:

Written Communication - 6 Credit Hours

2 courses

- Introductory Writing Course (GT-CO1) and Intermediate Writing Course (GT-CO2)

OR

- Intermediate Writing Course (GT-CO2) and Advanced Writing Course (GT-CO3)

Mathematics - 3 Credit Hours

1 course (or a series of three 1-credit hour courses)

- (GT-MA1)

Arts & Humanities, History and Social & Behavioral Sciences - 15 Credit Hours*Arts & Humanities - 2 courses (minimum 3 credits each)*

- Arts and Expression (GT-AH1)
- Literature and Humanities (GT-AH2)
- Ways of Thinking (GT-AH3)
- World Languages (must be Intermediate/200 level) (GT-AH4)

History -- 1 course (minimum 3 credits)

- (GT-HI1)
- Social & Behavioral Sciences -- 1 course (minimum 3 credits)*

- Economic or Political Systems (GT-SS1)
- Geography (GT-SS2)
- Human Behavior, Culture, or Social Frameworks (GT-SS3)

To reach a minimum of 15 credits, please select 1 additional course (minimum 3 credits) in Arts & Humanities or History or Social & Behavioral Sciences.

Natural & Physical Sciences - 7 Credits Hours

2 courses, one of which must be GT-SC1:

- Course with Required Laboratory (GT-SC1)
- Lecture Course Without Required Laboratory (GT-SC2)

Courses

This section describes credit courses offered by FRCC. Courses are grouped by subject area and are listed in alphabetical order.

- All courses included in this catalog may apply to program requirements of specified certificates and/or degrees (e.g. AAS, AGS, AA, or AS) with the exception of courses listed on the courses not applicable to any degree or certificate (p. 249) section of this catalog.

- Specialized courses must be specified as allowable to apply toward degree/certificate requirements. You can learn more about specialized courses such as internship, capstone, clinical, etc. by viewing the Specialized Courses (p. 249) section of this catalog.

- Courses with an * have been identified by the Colorado Department of Higher Education as being the State Guaranteed General Education courses. You can learn more about each designation by viewing the GT Pathways General Education Curriculum (p. 246) & GT List (p. 248) sections of this catalog.

To view Programs offered at FRCC by location (p. 238), requirements (p. 136) or by MAPs (p. 11), view our Programs (p. 11) section of this catalog.

COURSES NOT APPLICABLE TO ANY DEGREE OR CERTIFICATE

All courses below 100-level are not applicable to any degree or certificate. Course prefixes that include 000-level coursework include: AAA (p. 293); CCR (p. 310); EDU (p. 326); ESL (p. 333); and MAT (p. 362).

In addition, the following 100-level courses will only apply when specified as a certificate or degree requirement.

AAA 101* College: Student Experience

AAA 109* Advanced Academic Achievement

MAT 103** Math for Clinical Calculations

*AAA courses (p. 293) below 100-level or listed above are not currently specified as a certificate or degree requirement and cannot be applied to any certificate or AA, AS, or AAS degree.

**MAT 103 currently applies to AAS Degrees in Nursing and Veterinary Technology ONLY.

Specialized Courses

The following specialized courses are offered within each program area. For further information contact a Program Advisor. (Credit hours are variable.)

XXX 185 - Independent Study ()

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified

instructor. Students are reminded that no more than six (6) credit hours of independent study may be applied to any associate degree program.

Contact Hours: 30 Contact Hours PER CREDIT.

XXX 187 - Cooperative Education ()

Provides students with the opportunity to supplement coursework with paid practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.

Contact Hours: 45 Contact Hours PER CREDIT.

XXX 188 - Practicum ()

Provides the learner the opportunity for the practical application of classroom theory within a given program of study.

Contact Hours: 30 Contact Hours PER CREDIT.

XXX 170-174 - Clinical ()

Offers the clinical practicum to apply the related theory.

Contact Hours: 22.5-45 Contact Hours PER CREDIT.

XXX 175-177 - Special Topics ()

Provides students with a means to pursue in-depth exploration of special topics of interest.

Contact Hours: Contact Hours VARY.

XXX 178-179 - Seminar/Workshop ()

Provides students with select areas of study within a program of study.

Contact Hours: 15 Contact Hours PER CREDIT.

XXX 180-184 - Internship ()

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

Contact Hours: 45 Contact Hours PER CREDIT.

XXX 285 - Independent Study ()

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Students are reminded that no more than six (6) credit hours of independent study may be applied to any associate degree program.

Contact Hours: 30 Contact Hours PER CREDIT.

XXX 287 - Cooperative Education ()

Provides students with the opportunity to supplement coursework with paid practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.

Contact Hours: 45 Contact Hours PER CREDIT.

XXX 288 - Practicum ()

Provides the learner the opportunity for the practical application of classroom theory within a given program of study.

Contact Hours: 30 Contact Hours PER CREDIT.

XXX 289 - Capstone ()

Focuses on demonstrated culmination of learning within a given program of study.

Contact Hours: 15-45 Contact Hours PER CREDIT.

XXX 270-274 - Clinical ()

Offers the clinical practicum to apply the related theory.

Contact Hours: 22.5-45 Contact Hours PER CREDIT.

XXX 275-277 - Special Topics ()

Provides students with a means to pursue in-depth exploration of special topics of interest.

Contact Hours: Contact Hours VARY.

XXX 278-279 - Seminar/Workshop ()

Provides students with select areas of study within a program of study.

Contact Hours: 15 Contact Hours PER CREDIT.

XXX 280-284 - Internship ()

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

Contact Hours: 45 Contact Hours PER CREDIT.

COURSE LIST A-Z

Courses are listed by subject area/prefix (e.g. ACC) and title (e.g. Accounting) for each discipline. Simply click the link for a drop-down menu to view the entire catalog listing of courses for the specified discipline.

Course Basics 101

- Each course title begins with a three-letter subject area and the course number (e.g., ENG 121).

- Each course includes a brief course description, credits, contact hours, and prerequisite(s) and/or corequisite(s) if required for the course.

- A prerequisite must be taken before entering a course. A corequisite must be taken prior to, or concurrently with, a course.

- Contact Hours indicate the total number of class hours during the term. Some courses require a course fee.

- To view available classes offered by semester, please visit our Online Class Search and select the term and subject of interest to get started.

AAA-	Advancement of Academic Achievement
ACC-	Accounting
AEC-	Architectural Engineering/Construction Technology
AIR-	Air Force R.O.T.C.
ALT-	Animal Lab Technology
ANT-	Anthropology
AQT-	Aquaculture
ARA-	Arabic

ARM-	Army R.O.T.C.
ART-	Art
ASE-	Automotive Service Technology
ASL-	American Sign Language
AST-	Astronomy
BIO-	Biology
BUS-	Business
CAD-	Computer Aided Drafting
CCR-	College Composition and Reading
CHE-	Chemistry
CHI-	Chinese
CIS-	Computer Information Systems
CNG-	Computer Networking
COM-	Communication
CON-	Construction Technology
CRJ-	Criminal Justice
CSC-	Computer Science
CUA-	Culinary Arts
CWB-	Computer Web-Based
DAN-	Dance
DEA-	Dental Assisting
DPM-	Diesel Power Mechanics
ECE-	Early Childhood Education
ECO-	Economics
EDU-	Education
EGG-	Engineering
EGT-	Engineering Graphics Technology
EIC-	Electricity Ind-Commercial
ELT-	Electronics
EMS-	Emergency Medical Services
ENG-	English
ENP-	Entrepreneurship
ENV-	Environmental Sciences
ENY-	Energy
ESL-	English as a Second Language
ETH-	Ethnic Studies
FIN-	Finance
FLD-	Floral Design
FRE-	French
FSW-	Fire Science Wildland
GEO-	Geography
GER-	German
GEY-	Geology
GIS-	Geographic Information Systems
HHP-	Holistic Health Professional
HIS-	History
HIT-	Health Information Technology
HLT-	Horticulture & Landscape Technologies
HOS-	Hospitality
HPR-	Health Professional
HUM-	Humanities
HVA-	Heating, Ventilation, Air Conditioning
HWE-	Health Wellness Education
IND-	Interior Design
IPP-	Interpreter Preparation
ITA-	Italian
JOU-	Journalism
JPN-	Japanese
LEA-	Law Enforcement Academy
LIT-	Literature
MAC-	Machining Technology

MAN-	Management
MAP-	Medical Assisting Professional
MAR-	Marketing
MAT-	Mathematics
MET-	Meteorology
MGD-	Multimedia Graphic Design
MOT-	Medical Office Technology
MST-	Massage Therapy
MTE-	Manufacturing Technology
MUS-	Music
NRE-	Natural Resources
NUA-	Nurse Aide
NUR-	Nursing
OSH-	Occupational Safety Technician
OTE-	Optics Technology
OUT-	Outdoor Studies
PAR-	Paralegal
PED-	Physical Education
PHI-	Philosophy
PHT-	Pharmacy Technician
PHY-	Physics
PLU-	Plumbing
POS-	Political Science
PPT-	Powerplant Technology
PSY-	Psychology
REC-	Recreation
RUS-	Russian
SCI-	Science
SOC-	Sociology
SPA-	Spanish
STE-	Surgical Technology
TEL-	Teaching English as a Second Language
THE-	Theatre
VET-	Veterinary Technology
WEL-	Welding
WST-	Women's Studies

FINANCIAL MATTERS

This section of the catalog explains the financial information students need to know to make informed decisions about attending college.

The latest tuition and fee rates are available online at Front Range Community College's website, <https://www.frontrange.edu/tuition>.

Tuition & Fees

The total cost of your education at Front Range Community College (FRCC) is broken into tuition and fees. The State Board for Community Colleges and Occupational Education determines tuition and some fees, which are subject to change. Fees vary by campus. The state of Colorado pays a portion of the cost of higher education attending Colorado public institutions. This reduces your out-of-pocket tuition and is called the College Opportunity Fund (COF) stipend.

Tuition rates per credit hour for the academic year 2017-2018. Rates are subject to change. Fees also apply. See fee explanations below.

	Tuition per credit hour	College Opportunity Fund (COF) Stipend	Total Tuition per credit hour
On campus classes	\$221.55	- \$77.00	\$144.55
Online classes	\$332.50	- \$77.00	\$255.50
Nursing classes	\$294.45	- \$77.00	\$217.45

College Opportunity Fund

The College Opportunity Fund (COF) stipend provides a tuition stipend to resident students. The amount of the per-credit-hour tuition stipend is set annually by the General Assembly and pays a portion of students' total resident tuition. Students must sign up once to create a lifetime account and then authorize the state to pay the student's portion each semester in the form of a COF stipend. Students can authorize the COF stipend each semester when registering for classes. Students who fail to sign up for the COF lifetime account or fail to authorize the COF stipend are responsible for paying the entire tuition amount. The Department of Higher Education will accept billing appeals from students who believe there was a mistake made with their College Opportunity Fund (COF) stipend billing after the student has tried to resolve the issue with FRCC. To file a COF appeal with the Department of Higher Education, go to http://higher.ed.colorado.gov/Finance/COF/COFAppealApp_061013.pdf.

The College Opportunity Fund allows all resident students to apply the COF stipend to up to 145 credit hours of an undergraduate degree. If a student applies the COF stipend to 145 credit hours and has additional credit hours to complete a degree, the student may apply for a one-time waiver to receive

additional credits of COF. Students seeking this waiver must meet with an academic advisor to complete the waiver requirements. Requirements include an academic plan, personal statement and institutional COF Waiver form. The Chief Academic Officer will make a determination and communicate the decision to the student within 30 days.

Fees

A variety of fees are charged at our campuses. The following fee descriptions explain the different types of fees and their purposes.

Registration Fee

A flat registration fee is charged each semester, regardless of the number of courses taken. This fee is refundable if all courses for the semester are dropped by their respective drop deadlines.

Course Fees

To cover the cost of consumable materials and supplies, some courses are assessed course fees. Certain courses and/or programs require services performed by outside parties. One example is malpractice insurance. A list of these fees can be found at <https://www.frontrange.edu/tuition>.

Getting ready to take your first FRCC classes? To view a full list of class, campus, lab kit, digital textbook, and other fees, click here. Then click on "See courses that require additional program fees" at the bottom, these are updated each semester.

Student Center-Campus Center Bond Fee

In 2013, students at the Larimer and Westminster campuses voted to approve new bonds or repurpose existing bonds for campus construction and renovation projects. The current fee amounts can be found on our website <https://www.frontrange.edu/fees>.

Student, Parking and Facility Fees

Student fees are charged at a per credit hour rate and support the operation of Student Life services and the maintenance of parking lots on each FRCC campus. These fees are subject to change. Student Life services include many of the programs and activities that supplement learning experiences at the college, including but not limited to campus events, student activities, students clubs, student organizations, student publications such as the *Boulder County Sun*, *The Front Page*, *The Rangeview* and the official Student Handbook. The current fee amounts can be found at our website, <https://www.frontrange.edu/fees>

Fee Disputes

Student fee proposals or any issues relating to student fees may be disputed by filing a formal written complaint (see *Student Complaint/Grievance*) with the Dean of Student Affairs. A formal, written complaint is one regarding some alleged type of adverse action against a student from a decision made by the institution or alleged violation of student rights. Fee assessments/increases approved at a student election are not subject to the dispute process.

Payments & Refunds

The cashier's office at each campus collects all payments for tuition and fees, and disburses student refunds. Each semester, the college sets a date by which payment must be received for course enrollments. This date is known as the **payment deadline** and can be found at <https://www.frontrange.edu/tuition>. Regardless of the payment method (financial aid-grants, scholarships or loans; Deferred Payment plan; third party payment; or payment in full by student, parent, or other), it is the student's responsibility to ensure that payment to cover all tuition and fees is made prior to the published deadline. For enrollments that take place after the published payment deadline, the student assumes financial responsibility for all associated tuition and fees. If payment is not received by the published deadline, the student risks being dropped from all courses for non-payment (or underpayment), and may only re-enroll if space is available in desired courses. Please note that changes to the student's schedule can result in an outstanding balance. Payment plans are available for full or partial balances, see Deferred Payment below. Even though FRCC intends to drop students who do not pay by the payment deadline, the college cannot guarantee that classes will be dropped for unpaid accounts. Students are responsible for dropping classes they do not intend to attend even if they do not pay on time. Payment options include:

- Mail the payment (check or official employer/agency authorization only) to the Cashier's Office. Payment must be received by the deadline.
- In person at the Larimer, Boulder County and Westminster Cashier's Offices by cash, check, money order, Visa, MasterCard, Discover or official employer/agency authorization. Please note: **only checks or money order payments are accepted at Brighton Center.**
- Online by accessing your student account through eWOLF with Visa, MasterCard, Discover, or American Express.
- Sign up for a Payment Plan in eWOLF.
- Financial Aid offered loans must be accepted in the Student Dashboard on eWOLF, with all additional requirements completed. Any amount not covered by Financial Aid awards will be the student's responsibility and is due by payment deadline or based on the deferred payment plan set with the College.

Payment Plan

Students may elect to pay tuition and fees over the course of one semester by signing up for a payment plan with Nelnet Business Solutions. All payment plan arrangements are created online in eWOLF. For more information go to <https://www.frontrange.edu/payment>.

You need to know:

- By signing up for a payment plan, a non-refundable service fee will be charged.
- If you withdraw from courses after the drop/refund period, you are still responsible for completing your payments.
- You will not be dropped from your current semester's classes if you fail to make payments on your payment plan. However, a financial hold will be placed on your account, and you will be dropped from courses in future terms for which you have already enrolled. FRCC and a collection service will pursue

unpaid balances and you will be held responsible for any collection charges.

- If you have a financial hold on your account, you are not eligible to register.

Financial Obligations

Financial obligations are due and payable to the college when incurred and are payable by the established payment deadlines. An authorized third party may be billed for tuition and fees; however, ultimate responsibility for payment remains with the student.

Students who are financially obligated to FRCC—whether through an outstanding account balance, returned financial aid, a third party promise to pay, outstanding deferred payment, or failure to account for college property in their possession—are not issued an official transcript or allowed to register for additional courses until payment is made. In accordance with state policy, all delinquent student financial obligations, including those from improper withdrawal/drop procedures and the loss of previously awarded financial aid, are referred to the state's central collection service.

Bad Checks

Returned checks constitute nonpayment. If a check is returned prior to the official drop date due to insufficient funds or stop payment, the student is dropped from all classes and charged a \$17 bad check fee. A hold will be placed on the student's transcript and future registration. If a check is returned after the official drop date, the student will not be dropped from classes and will be responsible for all outstanding tuition, fees, bad check fees, and resulting collection charges. A hold will be placed on the student's transcript and future registration.

Credit Card Charge Backs

A Credit Card charge back constitutes non-payment. If your credit card charge is reversed before the drop date, you may be dropped from all of your classes and will be charged a \$15.00 fee. A hold will be placed on your transcript and future registration. If your credit card charge is returned after the drop date, you will not be dropped from your classes. You will be responsible for all outstanding tuition, fees, delinquent accounts, credit card charge back fees, and resulting collection charges. A hold will be placed on your transcript and future registration.

Tuition and Fee Refunds

Students may receive a refund of tuition and fees for any course dropped by the drop deadline or for any courses the college cancels. The payment plan fee is non-refundable. No refunds are given after the drop deadline. Students receiving financial aid may have their aid adjusted and should check with the Financial Aid Office prior to dropping a course. Student receiving Veteran Administration Educational Benefits should talk to their Veteran Services Advisor prior to dropping a course.

All refunds will be issued electronically based on the selected BankMobile refund preference chosen by the student. All students age 17 years and older will be mailed a BankMobile refund preference selection kit upon their first enrollment in the college. The student can choose to activate the BankMobile Vibe account as a refund preference. Students may select to have their refunds credited to their existing bank account via ACH

transfer, or may request a paper check to be mailed. If a preference is not selected, the refund will be issued as a paper check. Refunds for the current semester begin after the last day to drop for the full semester. Credit card payments will be refunded to the original credit card used for payment, whenever possible. For more information, go to <http://www.frontrange.edu/paying-for-college/refunds>.

Financial Aid

The Financial Aid Office advises students and/or families and administers funds that are designed to assist students in meeting their educational expenses. Front Range Community College (FRCC) participates in grant, work study, scholarship and loan programs. Funding sources for these programs include federal, state, institutional, and private sources. Information regarding financial aid programs may be obtained online from the Financial Aid website or any of the FRCC Financial Aid Offices. Every effort will be made to help students in financing their college education, which may involve drawing on a number of aid sources.

Application Procedure

1. Submit an **Application for Admission** to FRCC. Financial aid awards will only be made to students who have been accepted for admission and are in an eligible degree and/or certificate program. Not all degree and/or certificate programs offered by FRCC are eligible for financial aid.
2. Submit a Free Application for Federal Student Aid (FAFSA). The application is available on the U.S. Department of Education's website at www.studentaid.ed.gov.
 - a. There is a priority consideration date of April 1st for completing the FAFSA in order to be eligible for certain limited available funds.
 - b. A new FAFSA must be submitted each academic year.
3. Financial aid applications will be accepted throughout the award year.
4. Submit all requested documentation to the Financial Aid Office as soon as possible to expedite the process. Awards will not be made until supporting documentation is complete. Submission methods vary according to the document request.
5. Outstanding requirements and additional information is available for students via eWOLF, on the Financial Aid Requirements icon on the Student Dashboard.
6. Award notifications for the fall term are generally sent beginning the prior spring term and continue throughout the award year.

Eligibility Criteria

To qualify for financial aid assistance, students must meet at least the following criteria:

- Be accepted in an eligible degree and/or certificate program.
- Be a citizen or permanent resident of the United States.
- Be registered with Selective Service (if required).
- Have a high school diploma or passed the General Equivalency Diploma (GED).
- Not owe a refund on a Federal Grant or be in default on a Federal Educational Loan.

- Apply in a timely manner and submit all documentation and/or information needed by the Financial Aid Office to make a determination of eligibility.

- Maintain eligibility requirements under Financial Aid Satisfactory Academic Progress.

Satisfactory Academic Progress

Each institution that receives Title IV funds is required by the U.S. Department of Education to define and enforce standards for Satisfactory Academic Progress.

Satisfactory Academic Progress measures a student's performance in the following three areas/criteria: completion rate, cumulative GPA and maximum time frame. The Financial Aid Office is responsible for ensuring that the "Satisfactory Academic Progress" criteria are met. This is determined by routinely monitoring and making determinations for continued financial aid eligibility. In order to be eligible to receive financial aid (federal and/or state and at times institutional aid), the student must be making satisfactory progress toward an eligible degree and/or certificate, as identified in the quantitative (the completion rate of all attempted credit hours and the maximum timeframe for program completion) and qualitative (the cumulative GPA) standards of the policy.

Academic progress may be reviewed at the time a financial aid application is received and will be reviewed at the end of each term. The maximum time frame allowed in which a student is expected to complete their eligible degree and/or certificate is within 150% of the number of credit hours required for the specific program. All attempted credit hours are considered with the maximum time frame allowed, which includes all transfer credits and courses taken at Front Range Community College as a high school student. The standard of satisfactory academic progress must include a student's total academic history at Front Range Community College regardless of whether the student has previously received financial assistance. If a student does not meet the requirements, they become ineligible for financial aid and have the right to appeal an ineligible status. Appeal information is available in eWOLF in the Payments & Financial Aid - Forms pull down menu. Review the Financial Aid Satisfactory Academic Progress Policy or see your financial aid advisor.

Gainful Employment

The U.S. Department of Education requires colleges to disclose a variety of information for any financial-aid-eligible program that "prepares students for gainful employment in a recognized occupation." The information provided here is the best available to us with representation from one year. We hope that this information is helpful to our current students and to prospective students as they make their career and educational choices.

To find a listing of programs and certificates eligible for Title IV finding please visit: <http://www.frontrange.edu/programs-and-courses/academic-programs/gainful-employment>

To view gainful employment information related to a specific certificate, please click the [See gainful employment information](#) link at the bottom of each eligible certificate program with data available. This will direct you to our gainful employment online tables with the desired program information.

Funding Sources

Students have access to many different sources of funding which include grants (p. 255), work study (p. 255), scholarships (p. 255), and loans (p. 255). In this section (p. 255), you will find general information about different funding sources and summer aid (p. 255). For more detailed financial aid information, please visit our website - Paying for College.

Grants

1. **Federal Pell Grant.** A federal grant program designed to provide financial assistance for postsecondary education. Awards are established with documented need and amounts determined by the federal government. Students must complete a FAFSA.
2. **Federal Supplemental Educational Opportunity Grant (FSEOG).** A federal grant designed to provide assistance to students with documented exceptional need to help pay for postsecondary education. Awards must not exceed \$4,000. Students must complete a FAFSA. Funds are limited.
3. **Colorado Student Grant.** A Colorado grant program funded by the Colorado General Assembly to provide assistance to qualified undergraduate students with documented financial need at state institutions of higher education. Students must be Colorado residents and complete a FAFSA. Funds are limited.
4. **Colorado CTE Grant.** A Colorado grant program funded by the Colorado General Assembly to provide tuition assistance to qualified students with documented financial need. Students must be Colorado residents and complete a FAFSA. Funds are limited.

Work Study

1. **Federal Work Study** - This is a federally funded work program with a portion of the funds contributed by the college. Awards are made only to students who have documented financial need. A wide variety of positions are available on or off-campus. Off-campus positions are available with non-profit agencies and local elementary schools. Students must complete a FAFSA. Funds are limited.
2. **Colorado Work Study** - This funding is by the Colorado General Assembly for a work program awarded to Colorado residents with documented financial need. A wide variety of positions are available on or off campus. Students must complete a FAFSA. Funds are limited.
3. **Colorado No-Need Work Study** - This funding is by the Colorado General Assembly for a work program awarded to a limited number of Colorado residents without documented financial need. Students must complete a FAFSA. Funds are limited.

Scholarships

1. **Colorado Merit Scholarship.** This funding is provided by the Colorado General Assembly for Colorado residents.
2. **FRCC Foundation Scholarships**
3. **Outside/Private Scholarships**
4. **FRCC Student Success Institutional Scholarship**

Scholarships are available from several sources, and the criteria for awards vary. Each scholarship is awarded under provisions of the particular scholarship program. The majority of scholarships require some type of application. For a complete description of scholarships and appropriate application procedures, visit our

website. In addition, FRCC administers scholarship funds that are provided from funds received through corporations, businesses, foundations, individuals, civic organizations, and service clubs. Applications for these scholarships can be obtained through free online scholarships searches, high school counselors, and the grantor of the scholarship.

Loans

1. **Federal Direct Subsidized Loan.** These are loans based on documented financial need. Repayment begins six months after the student has graduated or is no longer attending at least six credit hours. If applicable, partial or full origination fees may be deducted prior to disbursement of funds. Students must complete a FAFSA.
2. **Federal Direct Unsubsidized Loan.** These loans are not based on financial need. Repayment begins six months after the student has graduated or is no longer attending at least six credit hours. If applicable, partial or full origination fees may be deducted prior to disbursement of funds. Students must complete a FAFSA.
3. **Federal Direct Parent Loan for Undergraduate Students (PLUS).** These loans are made to parent(s) with good credit histories to help pay educational expenses of dependent, undergraduate students enrolled at least half-time. Amounts are limited to the cost of educational expenses minus other aid. If applicable, partial or full origination fees may be deducted prior to disbursement of funds. Repayment begins 60 days after the final disbursement. Students must complete a FAFSA.

Summer Aid

Funding for summer generally consists of unused academic year Federal Pell Grant and Federal Direct Loan (Subsidized and/or Unsubsidized), or PLUS Loan eligibility.

Additional Information

Detailed information about financial aid programs, application processes and procedures, rules and regulations governing the various programs, and cost of attending FRCC are available by visiting our website or at the Financial Aid Offices. Contact can also be made by calling one of the telephone numbers listed below or sending an email to askfa@frontrange.edu.

Campus	Phone Number
Boulder County Campus	303-678-3696
Larimer Campus	970-204-8376
Westminster Campus	303-404-5250
Brighton Center (limited services)	303-404-5250

Veteran Administration Educational Benefits

A veteran or dependent of a veteran receiving VA educational benefits, or students currently enlisted in the military, MUST contact a member of the FRCC Veteran Services staff every semester and submit a VA certification request form before VA enrollment certification will occur. Students using VA educational benefits must adhere to VA guidelines in order for benefits to be certified. This includes immediately notifying FRCC Veteran Services staff of any class schedule changes. Audited courses, online developmental courses, and courses not

applicable to a declared program of study cannot be approved for VA educational benefits.

Students using VA educational benefits must maintain satisfactory academic progress (SAP) while attending FRCC. Please refer to the FRCC Academic Progress Policy. Academic progress is reported to the VA Educational Benefits Office every semester, and failure to successfully complete a course may result in repayment of VA benefits. An incomplete grade does not affect VA educational benefits unless the incomplete is changed to a grade that lowers the student's cumulative GPA. The Academic Progress Policy may then apply.

Use of VA educational benefits requires time for processing. Students are encouraged to call or email FRCC Veteran Services staff with questions regarding certification and Colorado residency requests early in the registration process every semester. The VA educational benefits office requires prior training and transcripts from previous colleges to be officially evaluated within two semesters. Failure to comply with transcript evaluation within stated timeframe will prevent VA enrollment certification. For more information on VA educational benefits, please check with your local VA office or go to www.benefits.va.gov.

Student debt to the Department of Veteran Affairs or FRCC could result from student enrollment changes or changes in benefit eligibility. Any courses that are withdrawn from or dropped after the first day of class could result in a student debt to the VA for repayment of any funds associated with the dropped course. The dates of eligibility election, end of benefits and decreases in eligibility percentage while enrolled at FRCC may affect the funds received from the VA, resulting in student debt to FRCC.

Military Tuition Assistance is available for all branches of the military through the student's military unit. Tuition assistance programs cover the cost of tuition only; any remaining balance for books and fees will be the responsibility of the student. Authorizations and/or vouchers are due by the payment deadline to avoid being dropped for non-payment. Tuition Assistance program eligibility and requirements vary, so please refer to your unit or the websites below for more information.

Air Force: www.my.af.mil

Army: www.goarmyed.com

Army/Air National

Guard: <https://www.colorado.gov/pacific/sites/default/files/Updated%20Brochure%202-11-15.pdf>

Coast Guard, Marine,

Navy: <http://www.military.com/education/money-for-school/tuition-assistance-ta-program-overview.html?comp=1198882857072&rank=3>

ACADEMIC MATTERS

FRCC has guidelines and standards to inform students of FRCC expectations. The following is a summary of the information students need to know. If needed, any member of the Student Affairs staff can help you understand these policies, standards, rights and responsibilities.

Academic Standing

Academic Standing applies to all students who have attempted 9 or more credits at a CCCS college, regardless of the number of term credits they attempt from that point forward. Academic Standing is determined following the posting of the majority of term grades for each semester. Students placed on probation or suspension (see definitions below) will be notified of their status. Suspended students will not be allowed to attend any CCCS college in the subsequent semester/s unless an appeal is approved (see appeal procedures below). Academic Standing status will be noted on the advising, official, and unofficial transcripts. The Academic Standing of a student is not specific or limited to the home institution; it does impact a student's enrollment at other CCCS colleges, as per CCCS ES 4-81.

Recognizing the value of measuring academic progress for all students, the Colorado Community College System (CCCS) has established the following procedure for measuring and notifying students of their academic standing. This procedure is intended to be informational and helpful, but also establishes clear standards of academic progress that must be met and maintained in order to be a successful student. **A student's academic standing at FRCC will impact academic standing at another CCCS college.**

All FRCC students are expected to achieve satisfactory academic progress. For students who have attempted fewer than nine (9) credit hours, the college will monitor academic progress through an Academic Alert process. These students are not subject to Academic Standing.

Please click here for Catalog Usage information.

Definitions, Standards, and Practices

- Abbreviations: Cumulative Grade Point Average = CGPA; Term Grade Point Average = TGPA.

- Only courses taken "in residence" will be used for this procedure; "in residence" means taken at the student's home institution. Courses taken elsewhere and transferred in do not apply. The GPA calculations for this procedure may not match those used for financial aid purposes or athletic eligibility.

- Academic Standing applies to all students who have attempted 9 or more credits while attending a college in the Colorado Community College System.

- During the student's first 8 credit hours of enrollment of college level coursework, FRCC will monitor satisfactory progress through the Academic Alert process.

- Initial Standing is assigned to students who have attempted **fewer than 9** cumulative credit hours with a CGPA of greater than or equal to 2.00 for all classes attempted.

- Academic Alert is assigned to students who have attempted **fewer than 9** cumulative credit hours with a CGPA of less than 2.00.

- Good Standing is assigned to students who have attempted **at least 9** cumulative credit hours and have a CGPA of greater than or equal to 2.00 for all classes attempted.

- Academic Probation is assigned to students who have attempted **at least 9** cumulative credit hours and have a CGPA of less than 2.00 for all classes attempted.

- Students who raise their CGPA to at least 2.00 during the Academic Probation term will be returned to Good Standing for the subsequent term.

- Students who earn a TGPA of at least 2.00 for all classes attempted during the Academic Probation term, but fail to raise their CGPA to 2.00 or above will be allowed to attend the next term, but will remain on Academic Probation. This is called Probation (Continuing).

- Students who earn a TGPA of less than 2.00 for all classes attempted during the Academic Probation term will be suspended and will not be allowed to enroll at any CCCS college for the next term, excluding summer term (as summer term may not be used as a "suspension term").

Academic Suspension Rules

- Summer term may **not** be used as a "suspension term".

- Summer term may be used to remediate (improve) the GPA. If a student wishes to enroll for summer term after being suspended, they will need to follow their home institution's appeal process.

- Initial suspension is for one term, excluding summer term.

- A second suspension is for two terms, excluding summer term.

- If a student **who has served the suspension time for initial suspension or second suspension** wishes to return, the student will be allowed to re-enroll only after meeting with an academic advisor at the CCCS College that the student wishes to attend. The student will be placed on Academic Probation. (See FRCC Academic Suspension Procedures).

- A third suspension is for two full years, or 4 academic terms excluding summers.

- If a student who has served the **third suspension time of two years** wishes to return, the student must meet with an academic advisor at the CCCS College that the student wishes to attend in order to get the suspension lifted.

FRCC Academic Suspension Procedures

- A student who has been placed on initial or second academic suspension status by any CCCS college may appeal the suspension for unusual or mitigating circumstances by meeting with their Pathways Advisor and submitting a College Wide Appeal Form. If the appeal is approved, students will remain on academic probation (continuing) and must complete the semester with a TGPA of 2.00 to continue enrollment.

- A student who has been placed on third suspension status by any CCCS college will not be permitted to appeal and must remain on suspension for two years.

Academic Renewal

The purpose of academic renewal is to allow a student the opportunity to remove a maximum of 30 semester credit hours of unsatisfactory academic performance from the GPA calculation. Only grades of D and F are eligible for academic renewal and exclusion from GPA calculation.

A student applying for academic renewal must meet the following criteria:

1. The student must have zero attempted credits at FRCC for two or more academic years, which is six consecutive semesters, before being eligible to apply for academic renewal.
2. The student must be enrolled at FRCC and have completed at least 6 credit hours with a 2.0 term grade point average to be awarded academic renewal.
3. Students can only be granted academic renewal once, and it is not reversible.
4. Students applying for academic renewal must complete the Academic Renewal Application Form in consultation with their academic advisor and submit it to the Office of the Registrar.

If awarded academic renewal, the original grades and credit hours remain on the permanent academic transcript. A notation indicates that academic renewal has been awarded, and the GPA has been adjusted. Credit excluded from the GPA calculation cannot be used to satisfy the requirements for completion of an FRCC certificate or degree.

A student concerned about a poor academic record is encouraged to meet with an advisor to discuss FRCC's other academic progress options and strategies for academic success.

The Academic Renewal Policy is only applicable to classes taken at Front Range Community College. Other institutions receiving an FRCC transcript for transfer are not bound by this college policy and may choose to calculate the student's transfer GPA to include all grades, even those excluded by FRCC under this policy.

Students applying for academic renewal are responsible for investigating the impact of renewal on transfer admission, financial aid, remaining COF stipend eligible hours, VA educational benefits, and other agencies' policies. For clarification of the scope and definition of this policy, speak with your academic advisor.

Academic Progress

Credit Completion Progress Standards

Credit Completion Progress standards apply to all students who have attempted 9 or more credits at a CCCS college, regardless of the number of term credits they attempt from that point forward. Credit Completion Progress is determined following the posting of the majority of term grades for each semester. Students placed on warning 1, warning 2, or warning 3 will be notified of their status. Credit Completion Progress status will be noted on the advising and unofficial transcripts only. It will not

be noted on the official transcript. The Credit Completion Progress status of a student is specific to the home institution and does not impact a student's enrollment at other CCCS colleges.

For students who have attempted fewer than 9 credit hours, the college will monitor credit completion through an Academic Alert process. These students are not subject to the Credit Completion Progress guideline.

Recognizing the value of credit completion for all students with regards to retention, transfer and credential attainment, the Colorado Community College System (CCCS) has established the following practice and procedures for measuring and notifying students of their credit completion progress. This procedure is intended to be informational and helpful, but also establishes clear standards of credit completion progress that must be met and maintained in order to be a successful student in our colleges.

Definitions, Standards and Practices

- Credit Completion Progress: All credit bearing classes (developmental and college level) will be used to calculate the percent of attempted credits passed. This includes summer term courses.

- Only courses taken "in residence" will be used for this calculation. "In residence" means taken at the student's home institution. Courses taken elsewhere and transferred in do not apply. The credit completion rate for this procedure will not necessarily match those used for financial aid purposes or athletic eligibility.

- Grades considered to be passing when computing the percent of attempted credits passed are as follows: A, B, C, D, S/A, S/B, S/C, and S.

- Grades considered to be failing when computing the percent of attempted credits passed are as follows: I, F, U, U/D, U/F, W, and AW

- Course Completion Rate is calculated by dividing the total attempted credits by the number of credits successfully completed as per the definitions above.

Initial Standing: Student has attempted fewer than 9 cumulative credit hours will not be assessed for credit completion.

Good Standing: Student has attempted at least 9 cumulative credit hours and has a cumulative course completion rate of at least 50%.

Warning 1: Student has attempted at least 9 cumulative credit hours and has a cumulative course completion rate of less than 50% for the first time.

Warning 2: Student has attempted at least 9 cumulative credit hours and has a cumulative course completion rate of less than 50% for the second time.

Warning (Continued): If a student on Credit Completion Probation passes 50% or more of their attempted term credits, but fails to raise their cumulative completion rate to 50%, they will be allowed to continue the next term, but will remain on Credit Completion Probation.

Warning 3: Student has attempted at least 9 cumulative credit hours and has a cumulative course completion rate of less than 50% for the third time.

Warning Rules:

- Students on Warning 1 will receive a communication regarding their credit completion status and will be given information on resources, best practices, etc.

- Students on Warning 2 will receive a communication regarding their credit completion status **and** will have a credit completion hold (which will impact registration) placed on their student account at their home college. The student will not be able to make any changes to their student account until they meet with an advisor.

- Students on Warning 3 will receive a communication regarding their credit completion status **and** will have a credit completion hold (which will impact registration) placed on their student account at their home college. The student will not be able to make any changes to their student account until they meet with an advisor. **The college reserves the right to limit the number of credit hours** that the student may take when a student is on Warning 3 status.

Last Day of Attendance:

Faculty is required to provide the last day of attendance for each student who is awarded an F or U/F grade. In addition, if faculty assign a W, then the last date of attendance is also required.

Grades, Honors & Transcript Requests

Grades & Definitions

Achievement in a course is measured by meeting specific course objectives. At the beginning of a course, the instructor explains objectives and the criteria by which grades are assigned. For the following grade descriptions, "achievement" may be defined as successfully reaching a level of knowledge, understanding or competency. A satisfactory, or "S" grade, is a "C" or better.

Grades are issued at the end of each semester and are not mailed. Students may access grades by logging into their account in eWOLF through www.frontrange.edu.

A	Excellent or Superior
B	Good
C	Average
D	Deficient
F	Failure
I	Incomplete (p. 261)
S	Satisfactory (p. 261)
U	Unsatisfactory (p. 261)
S/A	Satisfactory (A-level) work in a designated developmental course (p. 261)
S/B	Satisfactory (B-level) work in a designated developmental course (p. 261)
S/C	Satisfactory (C-level) work in a designated developmental course (p. 261)
U/D	Unsatisfactory (D-level) work in a designated developmental course (p. 262)
U/F	Unsatisfactory (F-level) work in a designated developmental course (p. 262)
W	Withdrawal (p. 262)
AW	Administrative Withdrawal (p. 262)
AU	Audit (p. 261)
PLA	Prior Learning Assessment Credit ("C" or better)
CR	Credit
IP	In Progress
NC	Non-Credit
R	Repeated Course (p. 262)
SP	Satisfactory Progress (p. 262)
Z	Grade not yet reported (p. 262)

Grade Point Average (GPA):

Grade points measure the level of achievement for the credit hours completed. To calculate the GPA, multiply the number of grade points by the number of credit hours received for each course. Total the number of credits and the number of grade points separately. Divide the total grade points by the total credits.

A = 4 grade points

B = 3 grade points

C = 2 grade points

D = 1 grade point

F = 0 grade points

Course	Credits	Grade	Grade Points	GPA
MAT 121 College Algebra	4 cr.	C (2 pts)	8	2.0
HWE 110 Fitness Condition.	2 cr.	A (4 pts)	8	4.0
ENG 121 English Comp I	3 cr.	B (3 pts)	9	3.0
BIO 105 Science of Biology	4 cr.	B (3 pts)	12	3.0
TOTALS	13	Credits × Grade Point Total ÷ Total Credits = GPA	37	2.845

Note: Credits transferred to FRCC from other institutions and developmental-level courses are not calculated in the GPA on the FRCC transcript.

Grades Required for Certificate & Degrees

Students must earn a grade of "C" or better for all courses applied toward award of any Associate of Arts, Associate of Science, Associate of General Studies, or Associate of Applied Science degree. Students must earn a grade of "C" or better for all courses applied toward award of any certificate. Some programs or courses also require that students achieve specific grades or GPAs to continue in the program. See the Programs section (p. 11) of this catalog for requirements.

Honors

Term Academic Honors:

FRCC provides an opportunity for students to be recognized with Academic Honors, on a term-by-term basis. The College has three recognized Honors: (1) Dean's List, (2) Vice President's List, and (3) President's List. Students who qualify will receive a notation for that term on their official transcripts. Students must complete a minimum of 12 college-level credits during the term to be eligible for this recognition.

Term GPAs required to qualify for these Term Academic Honors are as follows:

Honor	Required Term GPA
Dean's List	3.50 – 3.749
Vice President's List	3.75 – 3.999
President's List	4.00

Graduation Honors:

Graduation honors recognize outstanding academic achievement throughout a student's academic career. The honors are awarded to students who complete the requirements for an associate degree, complete at least 30 credit hours at FRCC, and earn a 3.5 or better cumulative GPA at FRCC. Only completed college-level courses taken at FRCC will be included in the GPA calculation used for graduation honors. The three levels of recognition are defined as follows and will be posted on the student's transcript:

Honor	Required Cumulative GPA
cum laude ("with honor")	3.50 - 3.749
magna cum laude ("with great honor")	3.75 - 3.99
summa cum laude ("with highest honor")	4.00

Repeated Courses & Limits

Repeated Courses

All FRCC courses may be repeated. Limits apply (see below). Courses transferred from other institutions do not apply to this policy. Each registration for the course and each grade received will be listed on the transcript. On the transcript a notation will follow the course indicating that the course was repeated and designating whether the course will be included or excluded from the GPA. The highest grade will be used in the GPA calculation. In the event that the same grade is earned two or more times for a repeated course, the most recent instance of the duplicate grade will be included in the term and cumulative GPA. All other duplicate grades will be excluded from the term and cumulative GPA. For students classified as Resident for tuition purposes, all credit hours earned for initial and repeated courses will be deducted from the student's COF stipend eligible hours. Repeating a course may impact the student's financial aid eligibility.

Repeated courses may be applied only one time to a certificate or degree, except for variable credit courses that may have up to 6 credits of the same course applied.

For Developmental Courses Only:

The grading system for developmental courses changed beginning Fall 2006, and developmental grades are no longer included in the cumulative GPA calculation. However, if either the initial course or the repeated course (or both) were taken prior to 2006, then the student must complete a repeat course petition form for the developmental coursework and submit it to the Office of the Registrar.

Repeat Course Limits

In order to increase retention and student success, Front Range Community College has the following limits with regard to repeated courses:

- Students will be limited in the number of times that they can take the same course.
- Certain courses are exempt from the repeat course procedure due to the nature/offering of the course.

- If a student has taken a course and attempts to register for the course a second time, the student will receive an automated notification of possible financial aid implications, available support services, and how to access those services.
- If a student has taken a course twice and attempts to register for the course a third time, the student will not be able to register for that particular course until an academic action plan is created and approval granted by their academic advisor.
- If the academic advisor does not feel that the registration is warranted, the student may appeal to the Dean of Student Affairs by submitting a copy of his or her academic action plan and a personal statement outlining the reason for the request to repeat the same course multiple times. The Dean of Student Affairs will respond to the appeal within 15 calendar days.
- If a student has taken a course three times and wants to register for the course a fourth time, the student must appeal to the Dean of Student Affairs by submitting a copy of his or her academic action plan and a personal statement outlining the reason for the request to repeat the same course multiple times. The Dean of Student Affairs will respond to the appeal within 15 calendar days.

Transcript Requests

Please note the following information when requesting an FRCC transcript:

- Official transcripts are ordered online. Students can request an electronic or paper transcript via the student account in eWOLF or at www.frontrange.edu/transcripts. Electronic transcripts are delivered in a PDF format. Students who are not able to pay with a credit card can contact the Office of the Registrar for other options.
- Official transcripts are \$3.00 each for an electronic or paper copy. Same day paper transcript requests are \$10.00 each. Expedited paper transcripts are available for an additional charge.
- Students are able to track transcript order and delivery.
- Transcripts are not released if a student has financial obligations to the college or another college in the Colorado Community College System.
- Transcripts are released in accordance with FERPA. (See Family Educational Rights and Privacy Act in the Legal Notices section of the catalog.)

Grade Definitions:

AU - Audit:

By auditing a course, a student may participate in course activities, but does not receive a formal transcript grade. Students must indicate intent to audit a course by the add/drop deadline. The deadline for adding/dropping a course with a refund is the deadline (Census 1). Audited courses are not eligible for the College Opportunity Fund stipend. Students will be responsible for the full in-state or out-of-state tuition. Audited courses do not meet the credit hour requirements for financial aid or veteran benefits and may not be applied to certificates or degrees. Course credits for which an AU is earned will not count in Attempted Hours and Earned Hours. No Quality Points will be assigned, and there will be no impact on either the Term or Cumulative GPA.

I - Incomplete Grade:

The "Incomplete" grade is a temporary grade and is designed for students who, because of documented illness or circumstances beyond their control, are unable to complete their coursework within the semester, but have completed at least 75% of all course assignments and tests in a satisfactory manner with a grade of "C" or better.

If circumstances beyond the student's control prevent the student from completing a test or assignment at the end of the term, it is the student's responsibility to initiate the request for an "Incomplete" grade from the instructor. The instructor determines whether the student has a reasonable chance of satisfactorily completing the remaining course activities in a timely manner.

The instructor will complete and sign an "Incomplete Grade Contract" and will submit it to the Office of the Registrar with final grades for the semester. The Office of the Registrar will send a copy of the "Incomplete Grade Contract" to the student. The incomplete grade will be assigned on the class roster at the time of the submission of grades.

Students are encouraged to inform instructors, as soon as possible, if they are having difficulties with any part of the course. In the event that a student and instructor cannot reach resolution concerning an Incomplete, then the student should contact the Dean of Instruction at their campus.

Military personnel and emergency management officials who are required to go TDY in the middle of a semester should contact their instructor for special consideration. Documentation of official TDY assignment is required. Other options are available depending on the time frame. Please see your Campus Veteran Services Advisor to determine which option is best for you.

Incomplete grades which are not converted to a letter grade by the instructor after one subsequent semester (not including summer semester) will revert to the default grade specified in the Incomplete Grade Contract.

S - Satisfactory:

An "S" grade indicates that the quality of student work in the course is equivalent to "C" or better. "S" grades will count in attempted and earned credits, but will not carry any quality points. Therefore, "S" grades will not be included in GPA calculations. They may not be applied to any course in the Colorado Guaranteed Transfer Program for General Education. No course taken for an S/U grade may be applied to the AA/AS degree with the exception of physical education courses, and in that case, no more than three credits of PED/OUT/DAN for all degrees.

U - Unsatisfactory:

A "U" grade indicates the quality of student work in the course is equivalent to a "D" or less. It may not be applied to any degree requirements.

S/A, S/B, S/C:

These are satisfactory grades awarded only for developmental courses. The A, B, and C indicate the level of satisfactory performance. These grades are not included in the GPA calculation, but may impact financial aid eligibility. The course will count in attempted credits, but will not generate earned credits.

U/D, U/F:

These are unsatisfactory grades awarded only for developmental courses. The D and F indicate the level of unsatisfactory performance. These grades are not included in the GPA calculation, but may impact financial aid eligibility. The course will count in attempted credits, but will not generate earned credits.

W-Withdrawal:

The "W" or withdrawal grade is assigned when a student officially withdraws from a course. A grade of withdrawal may only be processed during the first 80% of the course. No academic credit is awarded. The course will count in attempted credits.

AW - Administrative Withdrawal:

The "AW" or administrative withdrawal grade is assigned by the college when a student has been administratively withdrawn. No academic credit is awarded. The course will count in attempted credits.

SP - Satisfactory Progress:

This temporary grade symbol is assigned to certain approved courses that extend beyond the end of a normal semester. No academic credit is awarded until the course is completed.

Z - No Grade Submitted:

This temporary grade symbol is assigned by the Registrar when a grade is not received from the course instructor. This grade is replaced and credit awarded upon assignment of a grade by the instructor.

Repeat field Indicators - I or E:

Assigned for repeated courses on the student's transcript, an "I" will indicate include in earned hours and GPA calculation or an "E" will indicate exclude from earned hours and GPA calculation.

Grade Point Average

Grade points measure the level of achievement for the credit hours completed. To calculate the GPA, multiply the number of grade points by the number of credit hours received for each course. Total the number of credits and the number of grade points separately. Divide the total grade points by the total credits.

A = 4 grade points

B = 3 grade points

C = 2 grade points

D = 1 grade point

F = 0 grade points

Course	Credits	Grade	Grade Points	GPA
MAT 121				
College Algebra	4 cr.	C (2 pts)	8	2.0
HWE 110				
Fitness Condition.	2 cr.	A (4 pts)	8	4.0
ENG 121				
English Comp I	3 cr.	B (3 pts)	9	3.0
BIO 105				
Science of Biology	4 cr.	B (3 pts)	12	3.0
TOTALS	13	Credits × Grade Point Total ÷ Total Credits =GPA	37	2.845

Note: Credits transferred to FRCC from other institutions and developmental-level courses are not calculated in the GPA on the FRCC transcript.

Grades Required for Certificates and Degrees

Students must earn a grade of "C" or better for all courses applied toward award of any Associate of Arts, Associate of Science, Associate of General Studies, or Associate of Applied Science degree. Students must earn a grade of "C" or better for all courses applied toward award of any certificate. Some programs or courses also require that students achieve specific grades or GPAs to continue in the program. See the Programs section of this catalog for requirements.

Repeat Courses & Limits

All FRCC courses may be repeated. Limits apply (see below). Courses transferred from other institutions do not apply to this policy. Each registration for the course and each grade received will be listed on the transcript. On the transcript a notation will follow the course indicating that the course was repeated and designating whether the course will be included or excluded from the GPA. The highest grade will be used in the GPA calculation. In the event that the same grade is earned two or more times for a repeated course, the most recent instance of the duplicate grade will be included in the term and cumulative GPA. All other duplicate grades will be excluded from the term and cumulative GPA. For students classified as Resident for tuition purposes, all credit hours earned for initial and repeated courses will be deducted from the student's COF stipend eligible hours. Repeating a course may impact the student's financial aid eligibility.

Repeated courses may be applied only one time to a certificate or degree, except for variable credit courses that may have up to 6 credits of the same course applied.

For Developmental Courses Only:

The grading system for developmental courses changed beginning Fall 2006, and developmental grades are no longer included in the cumulative GPA calculation. However, if either the initial course or the repeated course (or both) were taken

prior to 2006, then the student must complete a repeat course petition form for the developmental coursework and submit it to the Office of the Registrar.

Repeat Course Limits

In order to increase retention and student success, Front Range Community College has the following limits with regard to repeated courses:

- Students will be limited in the number of times that they can take the same course.
- Certain courses are exempt from the repeat course procedure due to the nature/offering of the course.
- If a student has taken a course and attempts to register for the course a second time, the student will receive an automated notification of possible financial aid implications, available support services, and how to access those services.
- If a student has taken a course twice and attempts to register for the course a third time, the student will not be able to register for that particular course until an academic action plan is created and approval granted by their academic advisor.
- If the academic advisor does not feel that the registration is warranted, the student may appeal to the Dean of Student Affairs by submitting a copy of his or her academic action plan and a personal statement outlining the reason for the request to repeat the same course multiple times. The Dean of Student Affairs will respond to the appeal within 15 calendar days.
- If a student has taken a course three times and wants to register for the course a fourth time, the student must appeal to the Dean of Student Affairs by submitting a copy of his or her academic action plan and a personal statement outlining the reason for the request to repeat the same course multiple times. The Dean of Student Affairs will respond to the appeal within 15 calendar days.

Honors

Term Academic Honors:

FRCC provides an opportunity for students to be recognized with Academic Honors, on a term-by-term basis. The College has three recognized Honors: (1) Dean's List, (2) Vice President's List, and (3) President's List. Students who qualify will receive a notation for that term on their official transcripts. Students must complete a minimum of 12 college-level credits during the term to be eligible for this recognition.

Term GPAs required to qualify for these Term Academic Honors are as follows:

Honor	Required Term GPA
Dean's List	3.50 – 3.749
Vice President's List	3.75 – 3.999
President's List	4.00

Graduation Honors:

Graduation honors recognize outstanding academic achievement throughout a student's academic career. The honors are awarded to students who complete the requirements for an associate degree, complete at least 30 credit hours at FRCC, and earn a 3.5 or better cumulative GPA at FRCC. Only

completed college-level courses taken at FRCC will be included in the GPA calculation used for graduation honors. The three levels of recognition are defined as follows and will be posted on the student's transcript:

Honor	Required Cumulative GPA
cum laude ("with honor")	3.50 - 3.749
magna cum laude ("with great honor")	3.75 - 3.99
summa cum laude ("with highest honor")	4.00

Transcript Requests

Please note the following information when requesting an FRCC transcript:

- Official transcripts are ordered online. Students can request an electronic or paper transcript via the student account in eWOLF or at www.frontrange.edu/transcripts. Electronic transcripts are delivered in a PDF format. Students who are not able to pay with a credit card can contact the Office of the Registrar for other options.
- Official transcripts are \$3.00 each for an electronic or paper copy. Same day paper transcript requests are \$10.00 each. Expedited paper transcripts are available for an additional charge.
- Students are able to track transcript order and delivery.
- Transcripts are not released if a student has financial obligations to the college or another college in the Colorado Community College System.
- Transcripts are released in accordance with FERPA. (See Family Educational Rights and Privacy Act in the Legal Notices section of the catalog.)

Graduation Preparation

Here's how to prepare for graduation:

STEP 1: At least one semester before you graduate log into eWOLF and click on the DegreeCheck icon on the Student Dashboard. DegreeCheck is an online degree audit system. If you have questions please see an academic advisor.

STEP 2: If you have credit from another institution that you wish to apply toward your program of study at FRCC, complete a Transfer Credit Evaluation Request form by the graduation application priority deadline for the term in which you wish to graduate. The online request form is at: https://frontrange.formstack.com/forms/transfer_credit_evaluation_request. And, request that official transcripts from other institutions - an original transcript from each institution - be sent directly to FRCC. (Official transcripts by definition are sent from one school to another. FRCC cannot accept transcripts that are hand-delivered.) If you have approved Prior Learning Assessment Credit, all documents must be submitted by the graduation application priority deadline.

STEP 3: Apply for graduation by the priority deadline for the term in which you wish to graduate. The online application is

at: https://frontrange.formstack.com/forms/graduation_application.

Note that:

- The name you request to be printed on your diploma must match college records. To update your records, complete the demographic change form at: https://frontrange.formstack.com/forms/demographic_change_request
- The certificate/degree program on your graduation application must match college records. Log into eWOLF to see your declared major
- A separate graduation application is required for each certificate or degree

Degree and Certificate Requirements

For Degrees Students MUST:

- Complete a minimum of 60 semester hours for the Associate of Arts (A.A.), Science (A.S.), or General Studies degree (A.G.S.), or a specified number of semester hours for an Associate of Applied Science degree.
- Complete 15 credit hours of general education coursework for the AAS degree.
- Earn a grade of "C" or better in all applicable courses.
- Complete a minimum of 25% towards a degree at FRCC. This 25% includes online courses taught by FRCC. CCCOnline courses also are considered FRCC courses when the student registers for those courses through FRCC.
- To obtain a second degree, a student must meet all degree requirements as well as complete 15 additional semester hours at FRCC that apply toward the second program of study.
- Provide official transcripts to the college if transfer credits are to be applied <https://www.frontrange.edu/getting-in/transfer-students>.
- Complete a graduation application by the priority deadline at <https://www.frontrange.edu/graduation>.
- If necessary and due to extenuating circumstances, request a course substitution from the program chair. The request must be documented on the Course Substitution Form and approved by the appropriate dean and Chief Academic Officer. Please note that A.S., A.A., A.G.S. and all Degrees with Designation do not allow for course substitutions.
- Complete the requirements in effect for the officially declared program of study as published in the college catalog. This catalog is effective beginning each Summer Semester for students enrolling at Front Range Community College for the first time. It should be noted that specific catalog requirements are subject to change by the college or its governing agencies. When such changes occur, the college notifies students affected by these changes and provides advising assistance.
- Continuing students who have not had a 12-month lapse in enrollment will be allowed to use the requirements listed in any catalog published while continuously attending the college. Students may not combine requirements from multiple catalogs in order to graduate.

Students MAY NOT:

- Apply more than a total of six semester hours of independent study courses, variable credit courses or internship courses to an associate degree program, unless otherwise specified.
- Apply an "S" grade to any Guaranteed Transfer course.
- Apply more than 6 semester hours of an "S" grade to an Associate of Arts or an Associate of Science degree.
- Apply more than a combined total of 3 semester hours of PED/OUT/DAN toward any degree.
- Use a "U" grade toward any associate degree program.
- Use developmental courses toward any associate degree program.

For Certificates students MUST:

- Complete all course requirements listed in the catalog.
- Earn at least 25% of the total certificate credit hours at FRCC.
- Earn a grade of "C" or better for all courses required for the certificate. Please note that some programs require a higher GPA or have minimum required grades above a "C" to be eligible for a certificate.
- Provide official transcripts to the college if transfer credits are to be applied <https://www.frontrange.edu/getting-in/transfer-students>.
- Complete a graduation application by the priority deadline at <https://www.frontrange.edu/graduation>.
- Complete the requirements in effect for the officially declared certificate as published in the college catalog. This catalog is effective beginning each Summer Semester for students enrolling at Front Range Community College for the first time. Continuing students who have not had a 12-month lapse in enrollment will be allowed to use the requirements listed in any catalog published while continuously attending the college. Students may not combine requirements from multiple catalogs in order to graduate. It should be noted that specific catalog requirements are subject to change by the college or its governing agencies. When such changes occur, the college notifies students affected by these changes and provides advising assistance.

Commencement

A commencement ceremony is held in May of each year. Students who have been awarded a degree and/or certificate in the academic year are invited to participate in the commencement ceremony. Honors for Spring semester graduates are based on cumulative GPA at the end of the Fall semester.

Boulder County Commencement

Larimer Commencement

Westminster & Brighton Commencement

Transferring Credit to FRCC

If a student plans to complete a degree or certificate with applicable transfer credit, an official transcript must be sent directly to FRCC from each institution where the credits were

earned. As part of this process, students must complete a Transfer Credit Evaluation Request Form. This form is available online at www.frontrange.edu/transfer.

The transfer of academic credit to the college is governed by the Colorado Community College System (CCCS) College Transfer Guide (ES 9-82) and reads as follows:

- FRCC will only accept transfer credit from post-secondary institutions accredited by one of the six regional accrediting associations. Credits earned at nationally accredited or unaccredited institutions are not transferable to FRCC.
- Only courses which are applicable to students' FRCC degree or certificate requirements are generally accepted in transfer.
- Courses accepted in transfer MUST match the content and meet or exceed the rigor of the accepting institution as determined by the professional judgment of the transfer evaluator or department chair.
- Transfer credit is accepted as specified by legislated and CCCS articulation agreements.
- The college may examine credits to ensure that the content is not outdated or obsolete. Please note that some courses that are more than 10 years old may not be transferable. In addition, courses must be no more than 7 years old for some health programs (please check with the department).
- Courses will be evaluated against the Common Course Numbering System.
- The official FRCC transcript will include courses taken at the institution and those transfer credits requested by the student.
- Courses will be transcribed with CCCNS course number, title, prefix and the number of credits awarded by the transferring institution.
- Grades for transfer courses will be recorded in Banner and show on the official transcript. Grades for transfer courses are not included in the Grade Point Average.
- Pre-requisite courses below the 100 level will not be accepted in transfer and will not appear on the transcript, but will be noted in the student's record.
- A grade of "C" or better, "P", "S" (when representing at least "C" level work) or better is required for transfer. Transfer credit will not be awarded for courses with "D", "F", or "U" grades.
- There is no limit to the amount of credit transferred into FRCC; however, no more than 75% of degree or certificate requirements may be completed using transfer credit. At least 25% of degree or certificate requirements must be earned at FRCC.
- Upper-level courses can be accepted in transfer IF the course can be equated to a course in CCCNS.
- Elective courses that do not equate to a CCCNS course will be listed with the appropriate prefix, numbered as 999 and include "Elective" with a colon and then an entry to describe the course content. If no appropriate prefix is included in the CCCNS then the elective course will be given either the prefix TRN for Transfer Elective or CTE for Career Technical Elective. The course number will be 999, and the title will include a colon and an entry to describe the course content.
- Prior Learning Assessment credits will be accepted as determined by the CCCS Prior Learning Assessment Credit Manual.

- Transfer courses that have the GT designation will be noted as GT courses. If the course is not present in the CCCNS then it will be transcribed with the prefix GTP for GT-Pathways, the applicable GTP course number, and the course title that matches the GT designation, (e.g., CO1, AH3, MA1, etc.)
- Transfer credits will be awarded as governed by CCHE and State Board policies and System President procedures.
- Quarter hours and other non-standard credit hours that are accepted in transfer will be converted into semester credit hours.

Transfer of International Credits

Students who have attended international institutions and want their credits evaluated for transfer must first have the international transcripts evaluated by a recognized member of the National Association of Credential Evaluation Services (NACES) and have an official copy of their course-by-course credit evaluation report sent directly to FRCC. A complete list of approved NACES members can be found at www.naces.org/members.html. FRCC will perform a transfer credit evaluation only after the student has declared a degree program and submitted both a Transfer Credit Evaluation Request form and an official copy of their NACES course-by-course credit evaluation report. Students may also be required to provide English-translated course descriptions for courses that they wish to have transferred.

Prior Learning Assessment (PLA) Credit

The Colorado Community College System (CCCS) awards credit for prior learning assessment based on board policy 9-42 of the State Board for Community Colleges and Occupational Education.

Prior Learning is non-college or experience-based learning attained outside the sponsorship of accredited post-secondary education institutions. Prior Learning Assessment (PLA) Credit includes learning acquired from work and life experiences; community and volunteer extension courses; individual study and reading; civic, community and volunteer work; and participation in informal courses and in-service training sponsored by associations, business, government, and industry. PLA Credit is not awarded for **EXPERIENCE**, but for college-level **LEARNING** that entails knowledge, skills, and competencies obtained as a result of their prior learning experience. Although PLA Credit is tuition-free, a fee will be assessed based upon assessment method. These methods include:

Standardized Tests

- College Level Examination Program (CLEP)
- Excelsior College, UExcel / Formerly American College Testing Proficiency Program (ACT-PEP/RCE/EXCELSIOR)
- DSST, formerly Defense Activity for Nontraditional Educational Support (DANTES)
- Advanced Placement (AP)
- International Baccalaureate (IB)

Institutional Challenge Examinations

- Examination equivalent to the comprehensive exam that assesses all competencies/outcomes of the course.
- Examination may be written, oral, demonstration or a combination of all three
- Evaluated by a designated subject matter expert

Published Guides

- American Council on Education (ACE) for military training & experiences
- ACE (non-collegiate) for industrial and corporate training programs
- Other published guides developed by nationally recognized organizations

Portfolio Assessment

Portfolio requirements and assessment determined by college faculty for work or life experiences that meet the following criteria:

- The learning is demonstrable
- The learning includes both theoretical and applied components
- The learning is at the college level, and
- The learning is equivalent to a specific college course or courses in the student's program of study

Faculty Evaluated Industry and Workplace Credit

Faculty evaluation of non-collegiate training programs that result in industry certifications, professional licensure, apprenticeship completion, and other workplace skill development.

Note: Students, staff and faculty can learn more about the Colorado Community College System PLA Credit System by visiting www.cccs.edu/PLA. The Prior Learning Assessment form is available in the Office of the Registrar.

Standards for Awarding Credit for PLA

- Academic credit will only be awarded for those courses directly applicable to curriculum requirements at FRCC and to the student's declared certificate or degree program listed in the college's catalog.
- A student may not apply for PLA credit for a course in which they are currently taking.
- All work assessed for PLA must meet or exceed "C" level work. Minimum cut-off scores on standardized tests are also established to meet the "C" grade level. A student must take the course if they do not meet the minimum cut-off score.
- A student may use PLA to fulfill all degree/certificate graduation requirements except for the mandatory 25% residency requirement.

- If pursuing a transfer degree (A.A., A.S., or A.G.S. Articulated degree program), PLA will be granted for the purpose of satisfying graduation requirements. Because credits may not transfer to all colleges, contact your transferring college to determine their PLA requirements.

PLA Policies and Procedures

To be eligible for PLA credit, a student must be enrolled in a program of study with a declared major.

For all prior learning methods, the course number, course title, number of semester hours, and grade of "PLA" will be posted on the student transcript.

The maximum PLA credit applicable toward graduation is up to the residency requirement of the college from any combination of all PLA methods.

Awarded credit may be applied to meet Guaranteed Transfer (GT) courses. The use of these credits will result in public four-year institutions' reevaluation of scores received on National Standardized Exams.

If PLA is applied to the AA, AS, or AGS-Articulated degree requirements, transferability and transfer guarantees may be affected. Consult your advisor and the receiving institution for details.

All documentation and files regarding a student's prior learning credit will be maintained by FRCC.

A student wishing to appeal a prior learning assessment credit decision should follow the transfer credit appeal process outlined in this catalog.

Prior experience shall be evaluated only if requested by the student.

Transferability of PLA Credit

Students intending to transfer to another community college in the state system may have their prior learning credits transferred to that college as long as the credits are applicable to the student's declared certificate/degree program.

Students intending to transfer to other collegiate institutions not within the state community college system should contact that institution to determine the transferability of credit awarded by prior learning assessment.

Secondary to Post-Secondary Articulation Agreements

FRCC through CCCS has established agreements with local school districts, businesses and Colorado four-year colleges/universities to award college credit for approved and selected courses and programs completed both inside and outside the college.

Appeals

Colorado Department of Higher Education Appeal

In addition to hearing appeals regarding the state guaranteed general education program, a student may appeal directly to the Colorado Department of Higher Education (CDHE) (<http://higher.ed.colorado.gov/Academics/Complaints/>) when the issue involves one of the following areas:

- Violation of the Student Bill of Rights (see Student Bill of Rights (p. 271))

- Noncompliance with Colorado Department of Higher Education (CDHE) policies pertaining to transfer, student fees, etc.

- Failure of an institution to follow its established policies and procedures

- Failure of an institution to respond to a student's written appeal within 30 days

The Colorado Department of Higher Education (CDHE) appeal process is not designed to resolve disputes between an individual and an institution that involves grades, billing, terms of employment or athletic eligibility. Front Range Community College tuition classification decisions cannot be appealed to the Colorado Department of Higher Education (CDHE).

Procedures:

To initiate an appeal with the Colorado Department of Higher Education (CDHE), submit a written request (letter or email) describing the issue(s) and steps taken to resolve the issue with Front Range Community College. Eligible appeals, as indicated above, will follow the full appeal process. Appeals to FRCC will be referred to the appropriate college authority. For more information regarding Colorado's Student Appeal Process, go to <http://highered.colorado.gov/Academics/Appeals/>.

Academic Appeal Procedures

1. Statement of Purpose

To secure equitable solutions to problems of an academic nature that affect a student's academic progress.

2. Basis for an Academic Appeal

An academic appeal may be initiated in the following areas:

- Denial of program completion/graduation

- Academic dismissal from a program

- Final grades

Note: Appeals/grievances of a non-academic nature are handled by the Dean of Student Affairs in accordance with the current student grievance procedure.

3. Procedure

1. Informal Appeal - This process must be used first. The student and instructor should attempt to resolve the problem on an informal basis whenever possible. If this fails, the student may meet with the instructor and the department chair to resolve the issue. If the issue is not resolved in the informal process, the student may initiate the formal appeal process.
2. Formal Appeal - A College Wide Appeal Form must be initiated according to the procedures and timelines listed below:
 - Final grade appeals must be initiated by the student within thirty calendar days of the awarding of the grade.
 - Denial of program completion/graduation or academic dismissal appeals from any program must be initiated within ten calendar days following the notification to the student.
 - The student may initiate a formal appeal by submitting a College Wide Appeal Form. Appeals may be submitted outside the timelines indicated above only if documented extenuating circumstances exist. These circumstances must be fully explained in the College

Wide Appeal Form and accompanied by supportive documentation. Acceptance of late appeals will be at the discretion of the Instructional Dean.

- The Dean of Instruction will convene an administrative hearing.
- Participants in the administrative hearing will include the student, the instructor, and the Dean of Instruction. If the instructor is unavailable, the department chair will represent the instructor.
- The instructor may submit written statements by other individuals having information regarding the complaint. If a student wishes to submit supporting documentation with their appeal, it must be uploaded with the College Wide Appeal Form before submitting online or it can be submitted to the Welcome Center Desk on campus.

After the hearing, the Dean of Instruction will review all oral and written statements and reach a decision.

Students will be notified of the appeal decision via their student issued CCCS email account, accessible through eWOLF within ten calendar days after the hearing. A written notification will also be sent to the instructor.

Petition for Review of Due Process: After the appeals decision by the Dean of Instruction, the student may submit a written request to the campus Vice President for a process review of the appeals proceedings. The Petition for Review must be submitted within ten calendar days of the written notification of the initial decision. Failure to meet the ten-day deadline for a written request for review will result in the initial decision made by the Dean of Instruction being final and not subject to additional review. All decisions of the Vice President are final.

Academic Suspension Appeals

- Students may appeal their suspension based on procedures developed by their home college or the CCCS College they wish to attend. At a maximum, students may appeal to their home college and to one other CCCS College of their choice.
- If the student's suspension appeal is approved, the student will be placed on Academic Probation.
- If the student's suspension appeal is not approved, the student may be dropped from all courses registered for the upcoming terms at their home college. Students are ultimately responsible for their enrollment and need to check their enrollment schedule for accuracy.
- The student needs to check with their home college regarding enrolling for summer term classes.

For more information see Academic Standing (p. 257).

Transfer Credit Appeals Process

Consistent with the requirements of the Colorado Commission of Higher Education, CCCS Colleges have established a Transfer Appeals Process. Based upon the initial transcript evaluation of transfer credits completed, a student may appeal:

- A decision regarding the transferability of a specific course(s);
- A decision regarding the placement of a specific course(s); or
- The college's failure to provide a transcript evaluation within the designated 30-day calendar period.

Procedures for Transfer Credit Appeal at the College Level:

Appeal and Secondary Decision

- Students with questions or concerns about their transcript evaluations should contact the Transcript Evaluator who provided the evaluation. If the question or concern cannot be resolved between the student and Transcript Evaluator, the student may formally appeal in writing to the Associate Registrar within 15 calendar days of the date of the evaluation.
- The decisions regarding course transferability and/or placement made in the initial transcript evaluation will be binding if the student fails to file a written appeal within 15 calendar days.
- The appointed college official will have 15 calendar days to review the student's appeal and inform the student in writing of the decision on the appeal including the rationale for that decision. In addition, the student shall be informed in writing of the process for appealing this decision.
- The student is informed by the appointed official of the remaining appeal options. Failure to inform the student will result in the decision being considered null and void. The student's request will prevail and cannot be overturned by the college.

Appeal beyond Secondary Decision

The secondary decision may be appealed by filing a written appeal with the Chief Academic Officer of the college within 15 calendar days of the postmark date of the letter notifying the student of the appointed official's decision. If the student fails to file an appeal within this time period, the original or initial decision shall be binding.

The college will hear and reach a decision on the appeal within 15 calendar days after the appeal is filed.

The student will be notified in writing by the college of its decision regarding the transfer appeal and the rationale for the decision.

Course Substitution Appeal

Individual programs may have designated specific courses to meet general education requirements. When not specified within the specific degree program, students may select courses from the Approved General Education Course List for the A.A.S. degree. A Program Advisor must approve any course substitution to the specific program requirements.

Students must meet with a Faculty Advisor and complete the course substitution form. The appeal is reviewed by the Dean of Instruction and forwarded to the Chief Academic Officer for determination.

STUDENT MATTERS

Registration

Before registering for courses, meet with your advisor and refer to DegreeCheck, which will keep you on track. Find the DegreeCheck icon in eWOLF in the Student Dashboard. Registration instructions are published online each semester at <https://www.frontrange.edu/registration>, and in the eWOLF Registration pull down menu. In addition, in-person registration assistance can be obtained on campus at the Admissions Office, Advising, the Student Success Center or Welcome Desk.

Course Prerequisite and Co-requisite Requirements

A prerequisite is a requirement that must be met before you can enroll in certain courses. For example, at FRCC, before you can take ENG 122: English Composition II, you must meet one of these requirements:

- ENG 121: English Composition I, completed with a "C" or better
- ACT English score of 26 or higher
- SAT Verbal score of 600 or higher
- Appropriate score on AP English and Language Composition

A co-requisite is a course that, in most cases, must be taken at the same time or in the same semester as another course. Some co-requisites can be taken prior to the class. For example, MAT 121: College Algebra is a co-requisite for CHE 111: College Chemistry I, unless it has already been successfully completed.

A student enrolled in a developmental education course that is a prerequisite or co-requisite to a college-level course, must earn a S/A, S/B, or S/C to have successfully completed that prerequisite or co-requisite requirement. An U/D or U/F are considered failing and will not fulfill the prerequisite or co-requisite and that course is not financial aid eligible.

All prerequisites and co-requisites are included in the course descriptions as listed in this catalog. In lieu of taking the prerequisite course, you can meet prerequisite requirements with appropriate scores on one of the following tests if taken within the last five years:

- ACT or SAT scores
- AP test scores
- CLEP scores
- DSST scores
- Other placement test scores
- Prior college level credit earned from a regionally accredited university or college completed with a grade of "C" or better. This credit can, in most cases, be more than 5 years old. Science courses using pre-requisites must have been completed within the last 7 years. All other coursework should be completed within 10 years.

To have test scores or prior college credit evaluated for prerequisite exemption, submit in person or email from your student.ccs.edu account an unofficial copy of your transcripts to your campus advising or testing department. When submitting information by email, please include your name, S#, and course(s) for which you are registering.

If you are currently taking a course at a different institution and need to register for the higher level course at FRCC, bring proof

of your enrollment in the course to the campus advising or testing center. You will also need to submit proof of a final passing grade no later than the payment deadline for the term or you will be dropped from the higher level course at FRCC.

In certain subject areas, a prerequisite override may be an option. Please see the campus academic department if you feel this applies.

If you intend to earn a certificate or degree from FRCC and have had previous college-level learning experiences (through testing, other college coursework, or job training), find out how to transfer credit into FRCC in the Academic Matters section of this catalog.

Credit Hours

In general, students attend 50 minutes of lecture or class each week, for 15 weeks, for each credit hour earned. Class time requirements differ for certain lab, lecture/lab, and hybrid courses. Typically, students spend a minimum of two hours on class assignments for every one hour of class.

Course Load

The typical course load for full-time students is 12-18 credit hours.

12 + credits = full-time

9-11 credits = 3/4 time

6-8 credits = 1/2 time

0.5-5 credits = less than 1/2 time

Students must receive course overload approval from an Academic Advisor, Dean, and/or their designee to enroll in more than 18 credits in any semester. In order to complete a degree within 2 years, a student must complete at least 30 credit hours per academic year.

Students receiving financial aid or VA educational benefits should contact their Financial Aid or Veteran Services Advisor for more information on the impact of course load on the amount of financial aid or VA educational benefits.

Adding and Dropping Courses

To add or drop courses, go to www.frontrange.edu and log into eWOLF. Students can add classes to their course schedule until the published deadline for that course. Students can drop courses from their course schedule and receive a refund up to the published drop deadline for that course. Dropping a course deletes the course from the student's record. Failure to officially drop a course by the applicable deadline will result in a financial obligation for the course tuition and fees and may result in the assignment of a failing grade and financial obligations. Add and drop deadlines are published each semester at <https://www.frontrange.edu/deadlines>. It is the student's responsibility to add or drop courses by the published deadline.

Course Waitlist

When a course is full, a waitlist is created to facilitate registration for open spaces that may occur. The waitlist allows students an opportunity to get into a course that is currently full but may have openings prior to the start of the course. The

waitlist will record the time and date that the student placed his/her name on the waitlist and students will be notified of an opening to enroll via their college-issued email account.

Most courses have a waitlist option when the course is full. However, waitlists are not available for programs with special admission requirements (e.g., nursing). A student cannot waitlist for more than one section of the same course. For example, a student cannot waitlist for ENG 121-001 and ENG 121-601. In addition, students cannot register for a course and waitlist for a different section of the same course.

A student's schedule cannot exceed 18 credit hours, including both the waitlisted and enrolled courses combined, unless the student has received approval for course overload from an academic advisor or Dean for that semester.

Instructions on how to waitlist for a course can be found at www.frontrange.edu/waitlist/.

Withdrawing from Courses

Students can withdraw from courses after the drop deadline has passed and before 80% of the course has been completed. A course withdrawal does not delete the course from the academic record, and does not provide the student a refund of tuition, fees, or COF stipend. A grade of "W" is recorded on the transcript. This does not impact a student's GPA, but may impact a student's academic progress as it pertains to degree or certificate completion rate and awarding of financial aid. A withdrawal will also affect a student's enrollment status, as it will not count toward the total number of credits enrolled in a semester. Non-attendance does not activate the withdrawal process and may result in a failing grade and/or financial obligation.

Deadlines for withdrawing vary from course to course and are published each semester in your course syllabus and at <https://www.frontrange.edu/deadlines>. Students are strongly encouraged to meet with their academic advisor and a financial aid advisor prior to withdrawing from a course or courses. Student veterans, students enrolled through Concurrent Enrollment, and International students must meet with their advisor prior to withdrawing. To withdraw from courses, go to www.frontrange.edu and log into eWOLF or complete the process in person on campus in the Registrar's Office.

Withdrawal Appeal for Extenuating Circumstances:

An appeal process is available to students who experience an extenuating circumstance beyond their control that affects their ability to participate in coursework for prolonged periods of time or impacts their ability to drop and/or withdraw from a course by the published deadline. Students must complete an appeal application packet, including supporting documentation, for their appeal to be considered by the Extenuating Circumstances Appeals Committee.

- Students must submit a completed *Extenuating Circumstances Appeal* form with supporting documentation after the semester ends, and within 6 months of the semester for which they are appealing. The form can be found in eWOLF in the Student Resources pull down menu - Student Forms.
- Students must document the extenuating circumstance. Please note that a change in employment or work hours does not constitute an extenuating circumstance.

Extenuating circumstances can include but are not limited to extended and unexpected illness, accidents, natural disasters, and unexpected requirements for military personnel and emergency management officials during an academic term. Documentation of the extenuating circumstance must be received within 30 days of submitting the appeal. Appeals without supporting documentation will be denied.

- All appeals for medical circumstances must be accompanied by the Front Range Community College Medical form only. Other forms of medical documentation will not be accepted.
 - Repeated appeals for the same reason will not be considered.
 - Completed *Extenuating Circumstances Appeal* forms will be reviewed by a committee and the student will be notified by their college-issued email of the committee's decision.
 - The decision made by the committee is final.
 - If approved, the Extenuating Circumstances Appeals Committee may award an administrative withdrawal. A grade of "AW" is recorded on the transcript. This does not impact a student's GPA, but may impact a student's academic progress as it pertains to degree or certificate completion rate and awarding of financial aid. A withdrawal will also affect a student's enrollment status, as it will not count toward the total number of credits enrolled in a semester.
- Note to Financial Aid Students: Making changes to your schedule and courses may have Financial Aid implications. If you drop or withdraw from classes, you may owe some or all of the funds you have received. It is advised that students meet with a Financial Aid Advisor prior to submitting the appeal to discuss the impact of this withdrawal. **An appeal will not dismiss any prior balances owed and cannot guarantee avoidance of state collections for past due amounts.**

Learning Options

To meet the diverse needs of students, Front Range Community College offers a variety of ways for students to reach their educational goals.

Flexible Learning

Classroom Instruction (Traditional) includes a minimum of 15 hours of personal contact per credit hour. Instruction may include lectures, small group discussion, labs, fieldtrips, or other in-person delivery methods. Some content may be delivered online.

Hybrid Courses are courses that combine online and on-campus instruction. Online instructional activities are substituted for a portion of the required scheduled course time. Internet access and computer literacy are required.

Online Learning Courses cover the same material as regular classroom courses. Specially prepared instructors use online course sites to build an online community of learners. Internet access and computer literacy are required. For more information about **FRCC Online courses**, including how to set up your computer for online courses, go to www.frontrange.edu/online. FRCC students may also enroll in online courses offered by the Colorado Community College System. **CCOnline courses** are taught by instructors across the Colorado Community College System and appear as FRCC credit on your transcript. Internet

access and computer literacy are required. For more information about CCCOnline courses, go to www.cconline.org.

Start 2 and Start 3 Courses offer fast-paced, intensive learning options for motivated students. These courses have a start date later in the semester than traditional courses. For both, the same amount of content is covered over a shorter period of time.

Evening and Weekend Courses, like traditional classroom instruction, include lecture, small group discussion, labs, field trips, and other in-person and online delivery methods.

Learning Communities are designed to enhance student learning by pairing two courses. Two professors guide the learning by integrating assignments. Both classes are enrolled with the same small group of students and are scheduled back-to-back.

Support Services

FRCC provides a wide range of services to help you reach your academic, career, and personal goals. These services include: advising & counseling, campus stores, campus safety & security, disability services, fitness centers, campus dining, job search & internships, learning support services, libraries, student involvement opportunities, support for students of concern, testing centers, academic assistance, student centers, and veteran support services.

Student Rights, Responsibilities & Code of Conduct

It is the responsibility of each student at Front Range Community College to be a responsible member of the college community by reading and complying with the published policies, procedures, rules and regulations of the college, as outlined in this Catalog, the Student Handbook, and other official materials, including online publications at www.frontrange.edu. The following are some of the most frequently referenced policies and administrative procedures.

Student Bill of Rights

The Student Bill of Rights 23-1-125. Commission directive, student bill of rights, degree requirements, implementation of core courses, competency test, prior learning.

Student Bill of Rights. The general assembly hereby finds that students enrolled in public institutions of higher education shall have the following rights:

- Students should be able to complete their Associate of Arts and Associate of Science degree programs in no more than 60 credit hours or their baccalaureate programs in no more than 120 credit hours unless there are additional degree requirements recognized by the commission.
- A student can sign a two-year or four-year graduation agreement that formalizes a plan for the student to obtain a degree in two or four years, unless there are additional degree requirements recognized by the commission.
- Students have a right to clear and concise information concerning which courses must be completed successfully to complete their degrees.
- Students have a right to know which courses are transferable among the state's public two-year and four-year institutions of higher education.

- Students, upon completion of core general education courses, regardless of the delivery method, should have those courses satisfy the core course requirements of all Colorado public institutions of higher education.
- Students have a right to know if courses from one or more public higher education institutions satisfy the students' degree requirements.
- A student's credit for the completion of the core requirements and core courses shall not expire for 10 years from the date of initial enrollment and shall be transferable.

Academic Integrity

Students at Front Range Community College are expected to behave as responsible members of the college community and to be ethical in their academic work. FRCC strives to provide students with the knowledge, skills, judgment and critical thinking necessary to function in society. To falsify or fabricate the results of one's research; to present the words, ideas, data, or work of another as one's own; or to cheat on an examination corrupts the essential process of higher education and is a disservice to the student and to the college community.

Guidelines for academic integrity: Students assume full responsibility for the content and integrity of the coursework they submit. The following guidelines are to assist students in observing academic integrity:

- Students must do their own work and submit only their own work on examinations, reports and projects, unless otherwise permitted by the instructor.
- Students are encouraged to contact their instructor about appropriate citation guidelines.
- Students may benefit from working in groups. However, students must not collaborate or cooperate with others on graded assignments, examinations, or other academic exercises unless clearly directed to do so by the instructor.
- Students must follow all written and/or verbal instructions given by instructors or designated college representatives prior to taking examinations, placement assessments, tests, quizzes and evaluations.
- Students are responsible for adhering to course requirements as specified by the instructor in the course syllabus.

FRCC treats all violations of academic integrity seriously. Faculty, departments, and deans act in partnership to develop appropriate responses to incidents of academic dishonesty. The purpose of this partnership is to serve the best interests of students enrolled at the college.

Violations of academic integrity include but are not limited to: plagiarism, misuse of academic materials, unauthorized collaboration, falsification of information, helping someone else violate reasonable standards for academic behavior, and cheating.

Plagiarism is the adoption or reproduction of ideas, words, or statements of another person as one's own without proper citation or acknowledgment. When a student submits work that they claim to be their original work, but actually is not, the student has committed plagiarism. Plagiarism includes the following: copying of one person's work by another and claiming it as his or her own; false presentation of one's self as the author or creator of a work; falsely taking credit for another person's unique method of treatment or expression; falsely representing

one's self as the source of ideas or expression; or the presentation of someone else's language, ideas, or works without giving that person due credit.

The misuse of academic materials includes, but is not limited to, the following: stealing or destroying library or reference materials or computer programs; stealing or destroying another student's notes or materials, or having such materials in one's possession without the owner's permission; receiving assistance in locating or using sources of information in an assignment when such assistance has been forbidden by the instructor; illegitimate possession, distribution, or use of examinations or answer keys to examinations; unauthorized alteration, forgery, or falsification of academic records; and unauthorized sale or purchase of examinations, answer keys, papers, or assignments.

Cheating includes intentionally using or attempting to use unauthorized materials, information, or study aids in any forms of work submitted for credit or hours; multiple submissions of the same assignment to different classes without prior authorization; altering or interfering with grading; lying to improve a grade; altering graded work; unauthorized removal of tests from classroom or office; forging signatures on academic documents; intentional and unauthorized falsification of any information or citation in academic work; and intentionally or knowingly helping or attempting to help another to violate any part of the code of academic integrity.

If an instructor or faculty member suspects or has accused a student of academic dishonesty (according to but not limited by the definitions above), he or she will inform the student and submit a report and any appropriate documentation to the Dean of Student Affairs. Individual members of the faculty will determine the appropriate academic consequence in the class, which may extend from a warning up to and including failure of the course. Individual departments may establish by agreement rules requiring specific academic sanctions. As academic misconduct is also a violation of the student conduct code, the Dean of Student Affairs may determine appropriate institutional consequences up to and including dismissal from the college, following the processes and sanctions outlined in the college's disciplinary procedures. Students have a right to appeal final grades and disciplinary sanctions based on the college's appeals policies. For more information visit www.frontrange.edu/conduct

Alcohol and Drug Use Policy

In compliance with the Drug-Free Schools and Communities Act Amendment, FRCC has strict rules against students or employees using, being under the influence of, manufacturing, distributing, dispensing, possessing, cultivating, purchasing or selling alcohol or illicit drugs on college property or during college activities. Any student or employee convicted of any such drug violation is subject to criminal penalties under local, state, and federal law, as well as disciplinary action by the college. These penalties can range in severity from a fine of \$100 or less, to \$8 million and/or life imprisonment. The exact penalty assessed depends upon the nature and severity of the individual offense. Federal and state laws govern the use and possession of controlled substances.

Although possession and use of marijuana in limited quantities is consistent with the requirements of the Colorado Constitution and is no longer a crime in the State of Colorado, the possession and use of marijuana remains illegal under federal law.

Consistent with federal law, including the Controlled Substances Act and the Drug Free Schools and Communities Act, the use and/or possession of marijuana continues to be prohibited while a student is on college owned or college controlled property, and/or any function authorized or supervised by the college and/or in state owned or leased vehicles.

Drug and alcohol violations are prohibited under the CCCS Student Code of Conduct. Students who violate the CCCS Student Code of Conduct will be subject to college disciplinary procedures. Sanctions, include but are not limited to, warnings, probation, suspension or expulsion from the college, termination of employment and referral to authorities for prosecution, as appropriate.

Alcohol and Drug Related Programs on Campus

Each semester, the Student Life offices of Front Range Community College offer information to students, faculty, and staff on the effects of drug and alcohol use. Programs include access to education, training, and treatment resources in the community.

Health Risks of Alcohol and Drug Use

Alcohol

Alcohol goes directly into the bloodstream, physically affecting the whole body. Some illnesses and health problems caused by alcohol include:

- Hangovers. Headaches, nausea, vomiting, aches and pains all result from drinking too much. Drinking to the point of drunkenness makes you sick.
- Weight gain. Alcohol is not water. A beer has about 150 "empty" calories that provide few if any nutrients.
- High blood pressure. Along with being overweight, high blood pressure is associated with many serious health problems.
- Depressed immune system. Impaired immunity makes you more likely to contract viral illnesses such as flu and infections.
- Cancer. 2-4% of all cancer cases are related to alcohol. Upper digestive tract cancers are the most common, hitting the esophagus, mouth, larynx, and pharynx. Women who drink prior to menopause are more likely to develop breast cancer. Your risk of skin cancer doubles if you drink slightly more than "moderate levels". Some studies implicate alcohol in colon, stomach, pancreas and lung cancer.
- Liver disease. Heavy drinking can cause fatty liver, hepatitis, cirrhosis and cancer of the liver. The liver breaks down alcohol at the rate of only one drink per hour.
- Alcohol poisoning. Drinking large amounts can result in alcohol poisoning, which causes unconsciousness and even death. Breathing slows, and the skin becomes cold and may look blue. Don't let a person in this condition "sleep it off". Call 911.
- Heart or respiratory failure. Excessive drinking can have serious results. Heart or respiratory failure often means death.

Other long-term effects of heavy alcohol use include loss of appetite, vitamin deficiencies, stomach ailments, sexual impotence, central nervous system damage, and memory loss.

Drugs

Like many prescription drugs, "recreation" drugs come with potentially harmful side effects that can have serious and long-term effects on your health. High doses of many of the drugs, or impure or more dangerous substitutes for these drugs, can cause immediate life-threatening health problems such as heart attack, respiratory failure, and coma. Combining drugs with each other or with alcohol is especially dangerous.

- Barbiturates and tranquilizers are commonly abused prescription drugs. They can cause hangover-like symptoms, nausea, seizures, and coma. Overdose or mixing these drugs with alcohol can be fatal.
- Cocaine can cause such long-term problems as tremors, seizures, psychosis, and heart or respiratory failure.
- LSD can cause nausea, rapid heart rate, depression, and disorientation. Long-term effects include paranoia and psychosis.
- Marijuana and hashish can cause rapid heart rate and memory impairment soon after use. Long-term effects include cognitive problems, infertility, weakened immune system, and possible lung damage.
- Narcotics such as heroin can bring on respiratory and circulatory depression, dizziness, impotence, constipation, and withdrawal sickness. Overdoses can lead to seizures and death.
- PCP, in addition to triggering unpredictable and violent behavior, can cause dizziness, numbness, high heart rate and blood pressure, convulsions, and in high amounts fatal heart and lung failure or ruptured blood vessels.
- Stimulants such as amphetamines have health effects that include high heart rate and blood pressure, headache, blurred vision, dizziness, impotence, skin disorders, tremors, seizures, and psychosis.
- *Information on Health Risks of Alcohol and Drug Use adapted from the Bowles Center for Alcohol Studies: University of North Carolina Chapel Hill.*

Resources for Students and Employees

Use of drugs and alcohol often come with legal, personal, and academic consequences. If a student or employee has questions about alcohol or drug use and is in need of counseling, treatment, or rehabilitation programs, visit <http://www.frontrange.edu/being-a-student/campus-safety> or one of these community resources:

<http://drugabuse.com>

Westminster/Denver

www.uch.edu/conditions/addictions

Boulder/Longmont

www.bouldercounty.org/family/addiction/pages/default.aspx

Fort Collins

<http://summitstonehealth.org/mental-health-addiction-crisis-services>

Animals on Campus

Except for service dogs for people with disabilities or those dogs being trained to work with people with disabilities, animals being used by an instructor for educational purposes, and K-9 police

units, animals are not allowed on campus. At no time should animals be left in vehicles. Animals on campus should be reported to Campus Security and/or the local Animal Control authority.

Attendance

All students enrolled at Front Range Community College are expected to be punctual and to attend class regularly. Students who are not in attendance during the first two scheduled class sessions* may be dropped from the course due to non-attendance. For online students, simply logging into the course does **not** count as attendance unless also participating in an academically-related activity such as submitting an assignment or participating in an online discussion about the course content. Students who are dropped for non-attendance will not be permitted to re-enroll.

*Short-term courses may report non-attendance after the first class period.

College Records

It is the responsibility of each student to:

1. Present a valid picture ID when conducting any service related transactions, including but not limited to financial aid inquiries, registration transactions, transcript releases and requests, cashier transactions, testing services, release of any part of the student record as defined by FERPA, or issuance of a college ID card.
2. Update your record with address, phone number, and other contact information.
3. Submit legal documentation for any name change. This documentation may include a marriage certificate, a divorce decree, valid Colorado Driver's License or a court order.

Report Your Concern

If you or someone you know has a problem with drugs, alcohol, cheating, stealing, sexual harassment, etc., don't worry in silence. Tell someone. You don't have to know all the facts. You don't have to give your name. And you don't have to fear any consequences. We're here to help.

Visit <http://www.frontrange.edu/being-a-student/campus-safety> for support and guidance today.

HEOA Peer to Peer File Sharing Requirements and Digital Millennium Copyright Act

Purpose: H.R. 4137, the Higher Education Opportunity Act (HEOA), is a reauthorization of the Higher Education Act. It includes provisions that are designed to reduce the illegal uploading and downloading of copyrighted works through peer-to-peer (P2P) sharing. This Guideline outlines FRCC's plan to comply with these requirements.

Scope: All members of the FRCC Community including students, faculty and staff are subject to the terms and conditions of this Guideline.

Guideline

A. HEOA has stipulated a number of provisions designed to reduce the illegal uploading and downloading of copyrighted works through peer-to-peer (P2P) file sharing. These provisions include requirements that:

1. Institutions make an annual disclosure that informs students that the illegal distribution of copyrighted

materials may subject them to criminal and civil penalties and describes the steps that institutions will take to detect and punish illegal distribution of copyrighted materials.

2. Institutions certify to the Secretary of Education that they have developed a plan to "effectively combat" the unauthorized distribution of copyrighted material. The plan must include the use of technology-based deterrents.

3. Institutions, "to the extent practicable," offer alternatives to illegal file sharing.

4. Institutions identify procedures for periodically reviewing the effectiveness of the plans to combat the unauthorized distribution of copyrighted materials.

B. Annual Disclosure

Consistent with our educational principles, we view education as the most important element in combating illegal sharing of copyrighted materials at FRCC. We use a wide variety of methods to inform our community about the law and FRCC's response to copyright infringement claims:

1. In order to use college computing resources, all members of the FRCC Community must comply with the CCCS Policy SP3-125f.
2. FRCC's Compliance with HEOA Peer-to-Peer File Sharing Guidelines is published annually by the Registrar in the College catalog. Published information includes links to alternative downloading sites.
3. Each year, FRCC sends out an email to all students, faculty and staff regarding illegal distribution of copyrighted materials and the importance of adhering to appropriate copyright laws.
4. Computing support staff is regularly trained on the College position with respect to copyright issues.

C. Plan

1. FRCC utilizes Audible Magic's CopySense Compliance Service, employing the CopySense Appliance to provide network-based peer-to-peer content identification and graduated response services to identify unauthorized distribution of copyrighted works. The solution:

- a. Identifies unauthorized distribution of copyrighted works;
- b. Allows legitimate P2P activity to continue unfettered;
- c. Provides real-time detection and communication with students to help build better digital citizens;
- d. Provides a warning message with legal alternatives when it detects illegal downloading.

2. The network appliance and servers hosted at Audible Magic facilities are used to detect unauthorized distribution of copyrighted works. Audible Magic's patented fingerprint technology uses metadata filters and/or uniform file identifiers of previously identified copyrighted content for detection.

3. Audible Magic manages and maintains a global registry of fingerprints of copyrighted works, which are used to match content shared over peer-to-peer file sharing. Audible Magic works with copyright owners to submit fingerprints of copyrighted content for inclusion in the global registry.

4. The network appliance includes a dashboard to administer FRCC's graduated response rules and use policies.

5. Audible Magic hosts a graduated response website for customer configuration of the graduated response system.

D. Violations of Guidelines

Copyright violations on FRCC networks will result in: 1) unsuccessful download of material; 2) warning message; 3) education about legal alternatives; and 4) loss of internet access.

1. First offense:

- a. The user will be required to review FRCC's HEOA Peer-to-Peer File Sharing Guidelines, which will be presented in a pop-up window on the computer screen;
- b. The user will be required to acknowledge that he/she will adhere to the guidelines and the Digital Millennium Copyright Act (DMCA) by selecting the "I Will Comply" button in the pop-up window; and,
- c. Internet access to the offending device will be suspended for 15 minutes.

2. Subsequent offenses:

- a. The user will have his/her network access immediately suspended, and a message will advise the user to contact Information Technology Services (ITS) in person;
- b. The violator will need to appear in person, and identify himself/herself to a permanent ITS representative (not a student worker);
- c. The ITS Helpdesk will initiate an incident report, which identifies the student;
- d. The ITS Helpdesk will identify the specific activity that triggered the violation and include this information in the incident report;
- e. The ITS Helpdesk will send the incident report to the campus Dean of Student Services;
- f. The office of the Dean of Student Services will inform the ITS Helpdesk when internet access can be restored;
- g. The Dean of Student Services will pursue disciplinary action if more than one such incident report is created for the same student, or if the specific activity that triggered the violation warrants disciplinary action.

E. Offering Alternatives to Illegal File Sharing

1. When illegal downloading is detected by the CopySense appliance, a warning message with legal alternatives to illegal downloading is presented to the offender.

2. In addition, FRCC publishes links to a website which describes legal alternatives for downloading copyrighted materials (<http://www.educause.edu/legalcontent>).

F. Reviewing Effectiveness

1. At the end of each fiscal year, the Director of Information Technology will review the DMCA cases and the plan. The plan and policies will then be reviewed to strengthen any gaps or areas of concern.
2. The Director of Financial Aid annually certifies, by virtue of submitting the FRCC federal student financial aid report, that FRCC is meeting its obligations with regard to illegal file sharing.

Computer Use Procedure and Electronic Communication Policy

All students must have access to a computer with internet connection to fulfill class requirements, conduct research, review college-issued email, and perform other activities associated with being a college student. Each FRCC campus provides computers and internet access for student use during posted hours.

The Computer Use Procedure contains the governing philosophy for regulating faculty, student, and staff use of the System's computing resources. It spells out the general principles regarding appropriate use of equipment, software, networks and data. In addition to this policy all members of the CCCS community are also bound by local, state, and federal laws relating to copyrights, security, and other statutes regarding electronic media. The CCCS has the right to monitor any and all aspects of its computer and telecommunications systems including employee email, voice mail, and file structures on any CCCS system. CCCS's right to monitor its computer system and telecommunications equipment includes, but is not limited to, monitoring sites users visit on the internet, monitoring chat groups and newsgroups, reviewing material downloaded or uploaded by users, and reviewing email sent and received by users.

Students should be aware that due to the nature of their use, computers in FRCC's computer labs and on FRCC campuses are susceptible to computer viruses, which could be passed to other computers via files saved on flash drives or shared with other users. FRCC is committed to reducing the virus threat to computers in its purview, including providing virus-checking software in the labs, continuous upgrades to this software, and procedures for students on its use. This does not ensure that these computers will always be virus-free; as quickly as upgrades are created to deal with viruses, new viruses are being created. Therefore, FRCC cannot be held liable for any loss that may be caused due to a computer virus. The procedures to check for viruses on student work are available in the computer labs on each campus.

To help ensure the security and operations of FRCC's computer network, the connection of personally owned or non-FRCC computers and peripherals to the FRCC non-student wireless network is restricted. Student wireless networks are accessible on each campus.

To read the Computer Use Procedure and Electronic Communication Policy in full, go to <https://www.cccs.edu/bp-3-125-electronic-communication-policy>

P2P file sharing can violate copyright laws

Using P2P file-sharing software that copies and distributes music, videos, software, games, or other copyrighted works without permission of the copyright holder is a violation of U.S. copyright law. If you have P2P file-sharing applications installed on your computer, you may be sharing copyrighted works without even realizing it. Even if you do not intend to engage in illegal activity, installing P2P software on a computer can easily result in you unintentionally sharing files (copyrighted music or even sensitive documents) with other P2P users, and you may then be personally responsible for the legal and financial consequences.

Content owners, such as the recording industry, movie studios, and game and software companies, specifically target unauthorized file sharing on college networks. The Recording Industry Association of America (RIAA) has employed aggressive legal strategies to address unauthorized file sharing. Since September 2003, the RIAA has filed lawsuits against more than 20,000 individuals using P2P software worldwide. Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense.

You can listen to music and watch entertainment online without running the risks involved with downloading or sharing networks that operate outside copyright law. This link maintains a listing of known sites that provide free and legal entertainment: www.educause.edu/legalcontent.

Summary of Civil and Criminal Penalties for Violation of Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than \$750 and not more than \$30,000 per work infringed. For "willful" infringement, a court may award up to \$150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys' fees.

For details, see Title 17, United States Code, Sections 504, 505. Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense.

For more information, please see the web site of the U.S. Copyright Office at www.copyright.gov, especially their FAQ's at www.copyright.gov/help/faq.

Student Email

The Colorado Community College System (System) assigned student email account (@student.cccs.edu) shall be the primary

official means of communication with students. The System expects that students sign in and check their college issued email account on a frequent and consistent basis as students are responsible for all information sent to them via their system-assigned email account. This account is free of charge and currently is active for life. The use of student email is a privilege, not a right; and the System maintains the right to limit access. Email is subject to disclosure to third parties through subpoena or other processes.

Acceptable Use

It is acceptable to use the System's student email for purposes relating directly to education. Email should be considered the same as printed communication and should meet the same standards of taste, professionalism, accuracy and legality that are expected in printed communication.

Examples of unacceptable use are listed, but not limited to, below:

- Fraudulent, harassing, threatening or libelous messages and inclusion of personal or sensitive information about individuals without their consent
- Junk mail (e.g. random mail, chain letters, etc.,)
- Distributing unsolicited advertising
- Obscene, profane, abusive, defamatory, derogatory, threatening, or sexually explicit language or graphic representation
- Statements or graphic representations that may be construed as discriminatory or offensive by reference to race, national origin, gender, religion, age, disability, sexual orientation, or other legally protected criteria
- Propagation of computer worms or viruses
- Commercial activities and other activities conducted for personal gain
- Religious causes
- Solicitations not approved by the System
- Political fundraising or lobbying
- Violating any federal, state, or local law/regulation, or System policy/procedure

Email Harassment

If a student is being harassed via email, the student should immediately notify the Dean of Student Affairs. It is also the responsibility of all students to report any potential misuse of the college email communications services. Inquiries and concerns can be reported to the Dean of Student Affairs.

Consequences for Violation

Violations of this policy may result in disciplinary action in accordance with student code of conduct policy and may include any appropriate legal action.

Monitoring

System and network administrators and their authorized employees may monitor the use of email resources to help ensure that uses are secure and in conformity with this policy. Administrators reserve the right to examine, use, and disclose any data found on the system's information networks in order to further the health, safety, discipline, or security of any student or other person, or to protect property.

Student Rights and Freedoms

In addition to rights extended to members of the FRCC student body, individuals also have rights and freedoms under federal, state and local law. Some of those college-related rights and freedoms include:

Freedom of access to the college and to college facilities, services and programs, in accordance with: The Civil Rights Act of 1964; Title IX, Section 504 of the Rehabilitation Act; Americans with Disabilities Act of 1990; Colorado statutes; and college policies and procedures.

Freedom in the classroom, including the right to:

- Ask questions, discuss any views, provided such activity does not infringe on the rights of others.
- Expect professional conduct from faculty.
- Be informed of the academic standards expected in each course.
- Be evaluated solely on the basis of academic performance.
- Privacy in regard to personal or scholastic information.
- Have access to faculty members during their posted office hours.
- Receive reasonable academic assistance from the institution.

Freedom on campus, including the right to:

- Be free from harassment or discrimination based on race, national origin, gender, religion, disability, age, or sexual orientation.
- Expect an environment free of drug and alcohol abuse.
- Discuss and express in an orderly way any view in support of any cause, while not disrupting college operations or infringing on the rights of others.
- Dress in any way that personal taste dictates and that does not interfere with the educational process or with health and safety requirements.
- Expect that possessions not be opened or searched without consent or unless probable cause exists or under urgent circumstances.
- Be informed of institutional procedures and other expectations.
- Have access to services without unreasonable delays.
- Expect professional conduct from college employees.

Freedom in student affairs, including the right to:

- Have a student government.
- Organize and join campus clubs for educational, political, social, religious or cultural purposes. The function and structure of student clubs is determined by the FRCC club guidelines.
- Use meeting rooms and other campus facilities, as well as bulletin boards, throughout the campus in compliance with college policies and procedures.
- Expect compliance with college contractual agreements.
- Assemble, select speakers and guests, discuss issues of choice, and have the same rights as other citizens to hear differing points of view and to draw conclusions.
- Distribute written materials on campus in a manner consistent with other rights and freedoms, after obtaining the prior approval required of any individual or organization (please contact Student Services).

Freedom in academic affairs, including the right to:

- Serve as members of committees that study such issues as: course scheduling, the instructional calendar, library policy and development, grading systems, course and curriculum development, search committees, and standards and procedures for student discipline.
- Appeal academic decisions regarding completion of program, graduation requirements, academic dismissal from a program, or final grades.

Freedom to grieve, including the right to:

- Use grievance procedures and to seek redress when they believe that either their rights or their freedoms have been violated. See the college catalog or your campus Dean of Student Affairs for grievance procedures.

CCCS Common Student Code of Conduct Statements

Conduct that violates student rights and freedoms and is subject to disciplinary action includes, but is not limited to:

1. Academic Misconduct:

Plagiarizing, cheating, or committing any other form of academic misconduct including, but not limited to, unauthorized collaboration, falsification of information, and/or helping someone else violate reasonable standards for academic behavior. Students who engage in any type of academic dishonesty are subject to both academic consequences as determined by the instructor and to disciplinary action as outlined in the Front Range Community College disciplinary procedures.

2. Disruptive Behavior:

Engaging in any disruptive behavior that negatively affects or impedes teaching or learning (regardless of mode of delivery or class setting); or disrupts the general operation of the college.

3. Deceitful Acts:

Engaging in deceitful acts, including, but not limited to: forgery, falsification, alteration, misrepresentation, non-disclosure, or misuse of documents, records, identification and/or educational materials.

4. Conduct that is Detrimental to College or to Safety:

Conduct that is deemed detrimental, harmful and/or damaging to the college and/or that jeopardizes the safety of others as determined by the Dean of Student Affairs. Examples include, but are not limited to, slamming doors, throwing chairs, and/or defacing of college property, or property of others.

5. Physical/Non-physical Abuse:

- Physical abuse or conduct that threatens or endangers another person's health or safety.
- Non-physical abuse, threats, intimidation, coercion, influence, or any unwelcome conduct in any form that is sufficiently severe, pervasive or persistent that it alters the conditions of the learning environment or employment.
- Knowingly falsifying, publishing or distributing, in any form, material that tends to impeach the honesty, integrity, virtue or reputation of another person.

1. Harassment and/or Discrimination:

Discrimination or harassment on the basis of sex/gender, race, color, age, creed, national or ethnic origin, physical or mental

disability, veteran status, pregnancy status, religion or sexual orientation.

2. Sexual Misconduct:

- Sexual Misconduct offenses include, but are not limited to Sexual Harassment, Non-Consensual Sexual Contact (or attempts to commit same), Non-Consensual Sexual Intercourse (or attempts to commit same), and/or Sexual Exploitation.
- For more information see SP 4-120a: <http://www.frontrange.edu/being-a-student/campus-safety/sexual-harassment>.

1. Weapons:

Possession or distribution of any unauthorized firearms, ammunition, explosives, fireworks and/or other dangerous weapons (or chemicals/ flammable liquids) or use/threat of use of any instrument (including, but not limited to paint ball guns, pellet guns, air soft guns, bow and arrows, knives) as a weapon to intimidate, harass, or cause harm to others.

2. Narcotics/Alcohol:

Use, being under the influence, manufacturing, possession, cultivating, distribution, purchase or sale of alcohol and/or drugs (illegal and/or dangerous or controlled substance) and/or alcohol/drug paraphernalia while on college owned or college controlled property, and/or at any function authorized or supervised by the college and/or in state owned or leased vehicles.

Note: Although possession and use of marijuana in limited quantities is consistent with the requirements of the Colorado Constitution and is no longer a crime in the State of Colorado, the possession and use of marijuana remains illegal under federal law. Consistent with federal law, including the Controlled Substances Act and the Drug Free Schools and Communities Act, the use and/or possession of marijuana continues to be prohibited while a student is on college owned or college controlled property, and/or any function authorized or supervised by the college and/or in state owned or leased vehicles.

3. Dress Code:

Dress or personal hygiene that fails to meet the established safety or health standards of specific classes or activities offered by the college.

4. Leaving Children Unattended:

Leaving children unattended or unsupervised in campus buildings or on campus grounds unless enrolled or participating in authorized campus activities.

5. Violation of Laws, Directives, and Signage:

- Violating any municipal, county, state or federal law that adversely impacts the conditions of the educational or employment environment.
- Violations of college traffic and parking rules, regulations, or signage.
- Damage to or falsely using fire alarms and/or fire extinguishers.
- Creating an intentional obstruction that unreasonably interferes with freedom of movement, either pedestrian or vehicular. This includes, but is not limited to leading or inciting to disrupt college activities.
- Failure to comply with the lawful directives of College employees acting within the scope of their duties, including

those directives issued by a College administrator to ensure the safety and wellbeing of others.

- Violations of college policies, protocols, or procedures or signage.

1. **Illegal Gambling:**

Participation in illegal gambling activities on college owned or college controlled property, and/or any function authorized or supervised by the college and/or in state owned or leased property.

2. **Unauthorized Entry and/or Unauthorized Possession:**

Entry into, or use of any building, room, or other college-owned or college-controlled property, grounds, or activities without authorized approval. This also includes, but is not limited to the unauthorized possession, duplication or use of college keys, lock combinations, access codes, and access cards and/or credentials and/or propping open or tampering with doors/windows.

3. **Unacceptable Use of College Equipment, Network or System:**

Unacceptable uses of any college-owned or operated equipment, network or system including, but not limited to: knowingly spreading computer viruses; reposting personal communications without author's consent; copying protected materials; using the network for financial or personal gain, commercial activity, or illegal activity; accessing the network using another individual's account; unauthorized downloading/uploading software and/or digital video or music; downloading/uploading, viewing or displaying pornographic content, or any other attempt to compromise network integrity.

4. **Unauthorized Pets/Animals:**

Possession of any unauthorized pet or animal, excluding trained service animals while on college-owned or college-controlled property.

5. **Tampering with Student Organization or Election:**

Tampering with the process of any college recognized student organization, election or vote.

6. **Group or Organization Conduct:**

Students who are members of a college recognized student organization or group and commit a violation of Student Code of Conduct may be accountable both as an individual and as a member of the student organization.

7. **Abuse of the Student Disciplinary and/or Grievance Procedure:**

Abuse of the Student Disciplinary and/or Grievance Procedure includes, but is not limited to the following:

- Disruption or interference with the orderly conduct of the student disciplinary / grievance procedure.
- Falsification, distortion, or misrepresentation, or knowingly pursuing malicious, frivolous, or fraudulent charges.
- Attempting to discourage an individual's proper participation in, or use of, the student disciplinary / grievance procedure.
- Attempting to influence the impartiality of a participant and/or the student disciplinary / grievance procedure.
- Harassment (verbal or physical) and/or intimidation of a participant in the student disciplinary / grievance procedure.
- Failure to comply with directives and/or sanctions imposed under student disciplinary / grievance procedure.

- Influencing or attempting to influence another person to commit an abuse of the student disciplinary / grievance procedure.
- Engaging in retaliatory acts in any form against any person or person(s) involved in the student disciplinary / grievance procedure.

1. **Unauthorized Entry into College Events:**

Entering or attempting to enter any college-sponsored activity without proper credentials for admission.

Please note: In most circumstances, college will treat attempts to commit code of conduct violations as if those attempts had been completed.

Violations of the above may result in, but are not limited to, fines, restitution, community service, and/or disciplinary procedures.

The following person has been designated to handle allegations regarding nondiscrimination policies: Paul M. Meese, Executive Director, Organizational Development and Human Resources, 303-678-3707, 2190 Miller Drive, Longmont, CO 80501 or paul.meese@frontrange.edu. Grievance procedures for Title IX, Section 504, and ADA have been established for students and employees who believe that discrimination has occurred.

Disciplinary Procedures

Students are expected to adhere to the Student Code of Conduct and policies and procedures of the college. If a student is charged with violating the College Code of Conduct, these are the procedures to be used in resolving the charge.

Definitions

Code of Conduct: A document developed and published by each college which defines prescribed conduct of students.

Complainant(s): A person(s) who is subject to the alleged misconduct or related retaliation. For purposes of this procedure, a complainant can be a CCCS employee(s), student(s), authorized volunteer(s), guest(s), or visitor(s).

Student: All persons taking courses at or sponsored by the College(s), pursuing either credit or non-credit courses (or both), including those concurrently attending secondary or post-secondary institutions and College. Persons who are not officially enrolled for a specific term, but who have a continuing relationship with the college are considered students.

Jurisdiction: Applies to behaviors that take place on the campus, at System or College sponsored events; and may also apply off-campus and to online activity when the Chief Student Services Officer (CSSO), or designee, determines that the off-campus conduct affects a substantial System or College interest. A substantial College interest is defined to include the following:

- Any action that constitutes criminal offense as defined by federal or Colorado law. This includes, but is not limited to, single or repeat violations of any local, state or federal law committed in the municipality where the System or the College is located;
- Any situation where it appears that the accused individual may present a danger or threat to the health or safety of self or others;

- Any situation that significantly impinges upon the rights, property or achievements of self or others or significantly breaches the peace and/or causes social disorder; and/or
- Any situation that is detrimental to the educational interests of the System or the College.
- Any online postings or other electronic communication by students, including cyber-bullying, cyber-stalking, cyber-harassment, etc. occurring completely outside of the System or the College's control (e.g., not on System or College networks, websites or between System or College email accounts) will only be subject to this procedure when those online behaviors can be shown to cause a substantial on-campus disruption. Otherwise, such communications are considered speech protected by the First Amendment to the Constitution.

Chief Student Services Officer (CSSO): The individual designated by the college president to administer student affairs and be responsible for administering the college's Student Conduct Code and this procedure. The CSSO may delegate student discipline to another individual (designee).

Notice: Notices which are required to be given by this procedure shall be considered served upon the student when given by personal delivery, mailing by certified mail, or emailing the student to their official college email address requesting a delivery receipt notification. If notice is mailed, student shall be given three (3) additional days to respond.

Retaliatory Acts: Include but not limited to intimidation, verbal or physical threats, harassment, coercion, or other adverse action(s) against a person who reports an incident of misconduct.

Day: Refers to working day unless otherwise noted below.

Student: All persons currently taking courses at or sponsored by the College(s), pursuing either credit or non-credit courses (or both), including those concurrently attending secondary or post secondary institutions and College. Persons who are not officially enrolled for a specific term, but who have a continuing relationship with the College are considered students.

Continuing Relationship: A student registered for an upcoming term or has indicated intent via a transaction such as a financial aid application to register for an upcoming term. A continuing relationship also includes students who are first time enrollees who engage in misconduct prior to the time of enrollment. For students in a continuing relationship status, jurisdiction and the reasonable person standard must be considered in pursuing disciplinary charges. The Student Conduct Code shall apply to a student's conduct even if the student withdraws from school while a disciplinary matter is pending.

Title IX Coordinator(s) and Title VI and VII Coordinator(s) (EO Coordinator): Designated by the College President to oversee all civil rights complaints.

Training: All College officials involved with the investigation and discipline process will be trained annually on the issues related to domestic violence, dating violence, sexual assault, and stalking.

Sanctions: One or more of the following may be imposed when there is a finding that a student has violated the college's Code of Conduct.

1. **Warning:** A Notice served upon the student advising him/her that he/she is violating or has violated college regulations.
2. **Probation:** After a finding of violation of the Code of Conduct, restriction of student's privileges for a designated period of time including the probability of more severe disciplinary sanctions if the student is found to be violating any college regulations during the probationary period.
3. **Other disciplinary sanction:** Fines, restitution, denial of privileges (including extra-curricular activities or holding office in student organizations), assignment to perform services for the benefit of the college or community; educational sanctions such as mediation, letter of reflection, attendance at a workshop, seminar, or training writing a letter of apology seeking academic advising; re-assignment or eviction from campus housing, substance abuse screening, re-assignment to another class section, including a potential online section, or other sanction that doesn't result in the student being denied the right of attending classes.
4. **College suspension or expulsion:** An involuntary separation of the student from the College for misconduct not based on academic performance for a specified period of time.
 - **Suspension** is a separation that shall not exceed three academic terms (including summer term) per suspension for any singular offense or situation. While a student is suspended, he or she is not eligible for admission or re-admission at any of the community colleges within CCCS. Once the suspension is lifted at any of the community colleges within the System, the student may be eligible for admission or re-admission. Examples of suspension include, but are not limited to the following: the college, a department or program, a class, use of a college facility or an activity. Students may be suspended from one class period by the responsible faculty member or adjunct instructor. Longer suspensions can only be implemented by the CSSO or designee in accordance with this procedure.
 - **Expulsion** is an indefinite separation from the college. The expelled student is not eligible for admission or re-admission at any of the community colleges within the System.
 - In exceptional cases where a student wants to be considered for admission or re-admission after an expulsion has been implemented, the student bears the burden to prove the behavior that resulted in the expulsion has been resolved. It is within the college's discretion to admit or deny the student.
1. **Interim Action:** An immediate action taken by the CSSO to ensure the safety and well-being of members of the college community; preservation of college property; or if the student poses a definite threat of disruption or interference to others or the normal operations of the System or College. In the event of an interim action, the hearing before the CSSO or designee shall occur as soon as possible following the interim action. If the college issues a permanent sanction, the student shall be afforded appeal rights as discussed below. If the college does not implement a permanent sanction, the interim action will be removed from the student's record.
2. The College may issue a "Cease Communications", "No Contact", and/or "No Trespass" directive, also referred to as a persona non grata.

Procedures

Decision

The CSSO or designee shall receive all allegations of student misconduct, investigate the complaints, which includes meeting with the student to give him/her the opportunity to respond to the allegations of misconduct. If the allegations of misconduct are discrimination and/or harassment based on federal or state civil rights laws, the college will investigate those incidents through the Civil Rights Grievance and Investigation Process, System President's Procedure (SP) 3-50b and (SP) 4-31a via the following link: <https://www.cccs.edu/about-cccs/state-board/policies-procedures/>.

Once the investigation is complete, either through this process or the Civil Rights Grievance and Investigation Process, the CSSO or designee shall render a sanction decision.

The CSSO or designee may decide that the charges can be disposed of administratively by mutual consent of the parties involved on a basis acceptable to them. If an administrative resolution is not achieved, the CSSO or designee shall issue a decision which determines whether the alleged conduct occurred; whether the conduct violated the Code of Conduct or College procedures; and impose a sanction(s) if appropriate.

In cases of domestic violence, dating violence, sexual assault and stalking, the complainant and the respondent will be notified simultaneously in writing of the outcome of any disciplinary proceeding, as well as any changes to those results or disciplinary actions prior to the time that such results become final and shall be given the rationale for the discipline decision.

The student shall receive written notice of the decision and be advised of his/her right to appeal the decision, subject to the grounds below, by filing a written appeal with the CSSO or designee within seven (7) days of service of the decision.

Appeal

In the event of an appeal, the CSSO or designee shall give written notice to the other party (e.g., if the accused student appeals, the appeal is shared with the complainant who may also wish to file a response), and then the CSSO or designee will draft a response memorandum (also shared with all parties). All appeals and responses are then forwarded to the appeals officer or committee for initial review to determine if the appeal meets the limited grounds and is timely. The original finding and sanction will stand if the appeal is not timely or substantively eligible, and the decision is final. If the appeal has standing, the documentation is reviewed. Because the original finding(s) and sanction(s) are presumed to have been decided reasonably and appropriately, the party appealing the decision must specifically cite the error(s) in the original determination on which the appeal is based. The ONLY grounds for appeal are as follows:

1. A material procedural or substantive error occurred that significantly impacted the outcome of the hearing (e.g. substantiated bias, material deviation from established procedures); which must be explained in the written appeal; or
2. To consider new evidence, unavailable during the investigation or hearing that could substantially impact the original finding or sanction. A summary of this new evidence and its potential impact must be included in the written appeal, as well as the reasons the new evidence was not available during

the original proceeding. Failure to participate in the initial process does not constitute as new information for the appeal process.

If the appeals officer or committee determines that a material procedural or substantive error occurred, it may return the complaint to the CSSO or designee with instructions to reconvene in order to cure the error. In rare cases of bias, where the procedural or substantive error cannot be cured by the CSSO or designee in cases of bias, the appeals officer or committee may order a new hearing be held by a different individual acting in the place of the designated CSSO or designee. The results of a reconvened hearing cannot be appealed. The results of a new hearing can be appealed, once, on (either or both of) the two applicable grounds for appeals.

If the appeals officer or committee determines that new evidence should be considered, it will return the complaint to the CSSO or designee to reconsider in light of the new evidence, only. If the subject matter pertains to civil rights violations pursuant to SP 4-31a, the appeals officer or committee will return the complaint to the Title IX/EO Coordinator to reconsider in light of the new evidence only. The reconsideration of the CSSO, designee, or Title IX/EO Coordinator is not appealable.

The procedures governing the hearing of appeals include the following:

- All parties should be timely informed of the status of requests for appeal, the status of the appeal consideration, and the results of the appeal decision
- If the appeals officer or committee determines there is new evidence or error in the original proceeding, every opportunity to return the appeal to the CSSO or designee for reconsideration (remand) should be pursued
- Appeals are not intended to be a full rehearing of the complaint (de novo). In most cases, appeals are confined to a review of the written documentation or record of the original hearing, and pertinent documentation regarding the grounds for appeal
- An appeal is not an opportunity for an appeals officer or committee to substitute their judgment for that of the CSSO or designee merely because they disagree with its finding and/or sanctions
- Appeals decisions are to be deferential to the original decision, making changes to the findings only where there is clear error and a compelling justification to do so
- Sanctions imposed are implemented immediately unless the CSSO or designee stays their implementation in extraordinary circumstances, pending the outcome of the appeal
- The appeals officer or committee will render a written decision on the appeal to all parties within seven (7) days from receiving the appeal request. The committee's decision to deny appeal requests is final

Additional Process Provisions

- The student may have the opportunity to be advised by a personal advisor of their choice, at their expense, at any stage of the process and to be accompanied by that advisor at any meeting or hearing. An advisor may only consult and advise her/his advisee, but not speak for the advisee at any meeting or hearing. These procedures are entirely administrative in nature and are not considered legal

proceedings. The CSSO may remove or dismiss an advisor who becomes disruptive or who does not abide by the restrictions on their participation.

- The student is responsible for presenting his/her own case and, therefore, advisors are not permitted to speak or to participate directly in any hearing except when the student is under the age of eighteen (18) or incapacitated.
- Student shall have the right to identify documents, witnesses and other material he/she would like the CSSO or designee to review before making a final decision.
- Any hearing held shall be conducted in private unless all parties agree otherwise.
- A record of the hearing should be maintained by the CSSO or designee.
- Audio and/or Video Recording - the College, at its discretion, may audio or video record any meeting throughout the process. Should a recording exist, the student may request a copy at the end of the process. No other audio or video recording will be allowed.
- If student has a disability and would like to request an accommodation to assist him/her through the discipline process they may do so by informing the CSSO or designee. The CSSO or designee will then work with disability support services to accommodate the request.
- Proceedings under this procedure may be carried out prior to, simultaneously with, or following civil or criminal proceedings off-campus.
- Standard of proof-the college will use the preponderance of evidence standard in the disciplinary proceedings, meaning, the college will determine whether it is more likely than not a conduct code was violated.
- All sanctions imposed by the original decision maker will be in effect during the appeal. A request may be made to the CSSO or designee for special consideration in exigent circumstances, but the presumptive stance of the institution is that the sanctions will stand. Graduation, study abroad, internships/externships/clinical placements, etc. do not, in and of themselves, constitute exigent circumstances, and students may not be able to participate in those activities during their appeal. In cases where the appeal results in reinstatement to the institution or of privileges, all reasonable attempts will be made to restore the student to their prior status, recognizing that some opportunities lost may be irretrievable in the short term.
- The procedural rights afforded to students above may be waived by the student.
- All timelines may be extended as agreed upon by both parties.

Retaliatory Acts

It is a violation of this procedure to engage in retaliatory acts against any employee or student who reports an incident(s) of code of conduct violations or any employee or student who testifies, assists or participates in the discipline proceeding, investigation or hearing related to such allegation(s) of code of conduct violations.

Revising this Procedure

CCCS reserves the right to change any provision or requirement of this procedure at any time and the change shall become effective immediately.

Student Complaint/Grievance Procedure

This Student Grievance Procedure is intended to allow students an opportunity to present an issue which they feel warrants action, including the right to secure educational benefits and services.

If the basis of the claim is discrimination and/or harassment based on federal or state civil rights laws, the student must file a grievance under the Civil Rights Grievance and Investigation Process (see the Legal Notices section of the catalog). If the accused (respondent) is a student, please refer to SP 4-31a. If the respondent is an FRCC Administrator/Professional Technical employee(s), Faculty or Adjunct Instructor(s), Classified employee(s), hourly employee(s), which would include student hourly and workstudy (FRCC employee(s)), authorized volunteer(s), guest(s) or visitor(s), please refer to SP3-50b.

Definitions

Complainant(s) is a person who is subject to alleged inequity as it applies to Board Policies, System President's Procedures, or College Procedures. For purposes of this procedure, a complainant is student who was enrolled at the time of the alleged incident.

Respondent(s) is a person whose alleged conduct is the subject of a complaint. For purposes of this procedure, a respondent can be an FRCC employee(s), student(s) who was enrolled at the time of the alleged incident, authorized volunteer(s), guest(s), visitor(s), or college.

Grievance: A grievable offense is any alleged action which violates or inequitably applies State Board Policies, System President's Procedures, and College Procedures. The complainant must be personally affected by such violation or inequitable action.

Non-grievable matters: The following matters are not grievable under this procedure except as noted: matters over which the college is without authority to act; grades and other academic decisions unless there is an allegation that the decision was motivated by discrimination and/or harassment which should be filed under the appropriate Civil Rights Grievance and Investigation Process.

Chief Student Services Officer (CSSO): The college employee designated by the college president to administer student grievances. The CSSO may delegate the responsibility over student grievances to another person.

Notice: Notices which are required to be given by this procedure shall be considered served upon the student when given by personal delivery, mailing by certified mail, or emailing the student to their official college email address requesting a delivery receipt notification. If notice is mailed, student shall be given three (3) additional days to respond.

Day: Refers to calendar day unless otherwise noted below.

Remedy: The relief that the Grievant is requesting.

Filing a Complaint

All complaints shall be made as promptly as possible after the occurrence. A delay in reporting may be reasonable under some circumstances; however, an unreasonable delay in reporting is an appropriate consideration in evaluating the merits of a complaint or report. To file a complaint or grievance go to

https://publicdocs.maxient.com/reportingforms.php?FrontRangeCC&layout_id=24

Procedures

Students must timely submit all grievances in writing to the CSSO. The grievance should clearly and concisely describe the alleged incident(s), when and where it occurred, and the desired remedy sought. The grievance should be signed by the initiator or, in the case of an email submission, sent as an email attachment, in letter format and should contain the name and all contact information for the grievant. Any supporting documentation and evidence should be referenced within the body of the formal grievance. Additionally, the initiator of a formal grievance should submit any supporting materials in writing as quickly as is practicable. The complainant's supporting documentation should clearly demonstrate all informal efforts, if any, to resolve the issue(s) with the person involved and the person's supervisor. This includes names, dates and times of attempted or actual contact along with a description of the discussion and the manner of communication made in the course of each effort. If contacting the person involved and/or the supervisor is impracticable, the complainant should state the reasons why. The FRCC community benefits from informal and formal procedures that encourage prompt resolution of complaints and concerns students may have about the implementation of policies and procedures that govern the institution.

Informal Grievance Process

Complainant is encouraged to resolve the issue with the Respondent through the informal process. The CSSO shall facilitate the informal process. If the informal grievance process is unsuccessful, or if FRCC or the complainant chooses not to pursue the informal process, the CSSO will open a formal grievance case.

Formal Grievance Process

Complainant must timely file a written statement of the actions complained of and describes the remedy, she/he is seeking with the CSSO. A matter could also be referred to this process by the College President or his/her designee. Once a written grievance is filed or referred, the CSSO or designee will determine whether or not the situation states a grievable offense. The matter will be closed if the situation is determined not grievable and the Complainant will be notified of the reasons.

If the matter is determined to be grievable, the CSSO will request a meeting (hearing) with both the complainant and respondent. Both parties will be given the opportunity to discuss the allegations of the grievance and may offer any documentation, witnesses, or other materials in support of the complaint.

During this hearing, neither party may have a representative, including attorneys or law students (legal counsel). The only exception to this rule is if there is a civil or criminal action(s) pending specifically related to this grievance, both parties may be represented by legal counsel during these proceedings. Under those limited exceptions, the legal counsel's role shall be advisory only. The party represented by legal counsel must notify the CSSO forty-eight (48) hours in advance of any scheduled meeting so that the CSSO can notify the other party. These procedures are entirely administrative in nature and are not considered legal proceedings.

No audio or video recording of any kind other than as required by institutional procedure is permitted.

The CSSO may also contact or request a meeting with relevant college staff, students, or others as part of the investigation.

At the CSSO's discretion, the CSSO may discontinue meetings with anyone that is causing a disruption to the process or is being uncooperative, and will proceed to make a determination based on the information known at that time. Based on the preponderance of evidence, the CSSO shall issue a decision, in writing, to both the complainant and respondent. The decision shall reject or grant the grievance and make recommendation(s) to resolve the issue(s). The complainant and respondent shall be advised of his/her right to appeal the decision, subject to the grounds below, by filing a written appeal with the CSSO within seven (7) days of service of the Decision.

In the event of an appeal, the CSSO shall give written notice to the other party to allow him/her the opportunity to submit a response in writing. The CSSO will also draft a response memorandum (also shared with all parties). All appeals and responses are then forwarded to the appeals officer or committee for initial review to determine if the appeal meets the limited grounds and is timely. The original finding will stand if the appeal is not timely or substantively eligible, and the decision is final. If the appeal has standing, the documentation is forwarded for consideration. The party requesting appeal must show error as the original finding is presumed to have been decided reasonably and appropriately. The ONLY grounds for appeal are as follows:

1. A procedural or substantive error occurred that significantly impacted the outcome of the hearing (e.g. substantiated bias, material deviation from established procedures); or
2. To consider new evidence, unavailable during the original hearing or investigation, that could substantially impact the original finding. A summary of the new evidence and its potential impact must be included in the written appeal.

If the appeals officer or committee determines that new evidence should be considered, it will return the complaint to the CSSO to reconsider in light of the new evidence, only. If the appeals officer or committee determines that a material procedural or substantive error occurred, it may return the complaint to the CSSO with instructions to reconvene the hearing to cure the error. In rare cases, where the procedural or substantive error cannot be cured by the CSSO in cases of bias, the appeals officer or committee may order a new hearing be held by a different individual acting in the place of the designated CSSO. The results of a reconvened hearing cannot be appealed. The results of a new hearing can be appealed, once, on the two applicable grounds for appeals.

Special Grievance Process Provisions

- In the event that the student is under the age of eighteen or incapacitated, he/she may have an advisor present to assist him/her in presenting his/her case.
- The Parties do not have the right to be represented by legal counsel during these proceedings except in the case where civil or criminal actions concerning the grievance are pending and in that case the legal counsel's role shall be advisory only. The party represented by legal counsel must notify the CSSO forty-eight (48) hours in advance of any scheduled meeting so that the CSSO can notify the other party.

- The student is responsible for presenting his/her own case and, therefore, advisors are not permitted to speak or to participate directly in any hearing except when the student is under the age of eighteen or incapacitated.
- Student shall have the right to identify documents, witnesses and other material he/she would like the CSSO to review before making a final decision.
- Any hearing held shall be conducted in private unless all parties agree otherwise.
- A record of the hearing should be maintained by the CSSO.
- If student has a disability and would like to request an accommodation to assist him/her through the grievance process they may do so by informing the CSSO. The CSSO will then work with disability support services to accommodate the request.
- If the grievance is against the CSSO, the Chief Academic Officer or other person designated by the president shall perform the duties of the CSSO.
- Jurisdiction-college grievance proceedings may be instituted over incidences that occur or are related to college or college-sanctioned activities or was of such a nature to impact upon the college.
- Proceedings under this procedure may be carried out prior to, simultaneously with, or following civil or criminal proceedings off-campus.
- Standard of proof-the college will use the preponderance of evidence standard in the grievance proceedings, meaning, the college will determine whether it is more likely than not the complainant was subjected to inequity as it applies to Board Policies, System President's Procedures, or College procedures.
- False Reports-college will not tolerate intentional false reporting of incidents. False reporting could lead to disciplinary action, up to and including termination for employees, and expulsion for students

For FRCC employees, false reports will be considered a violation of BP 3-70, Code of Ethics.

For students, false reports will be considered a violation of the college student code of conduct.

- The procedural rights afforded to students above may be waived by the student.

Retaliatory Acts

If a person who files a grievance, or any person who testifies, assists or participates in a proceeding, investigation or hearing relating to such grievance, feels they are being subjected to retaliatory acts may report such incidences to the CSSO. It is a violation of the grievance procedure to engage in retaliatory acts against any person who files a grievance or any person who testifies, assists or participates in the grievance proceeding, investigation or hearing relating to such grievance. Such act will be subject to discipline, up to and including expulsion for students, termination for CCCS employees, and dismissal for authorized volunteers, guests or visitors.

Revising this Procedure

CCCS reserves the right to change any provision or requirement of this procedure at any time and the change shall become effective immediately.

If you believe that you have been subjected to alleged inequity as it applies to Board Policies, System President's Procedures, or

College Procedures, you are required to fill out an incident report form. The College can only base its findings and take actions based on the information provided by you. Incident report forms are available in the office of the Dean of Student Affairs. [Click here for the online civil rights grievance form.](#)

LEGAL NOTICES

Rights Reserved

The college reserves the right to change any provision or requirement of this catalog, including academic calendar dates, tuition, and fees, pursuant to law, the rules of the State Board for Community Colleges and Occupational Education, or the Colorado Community College and Occupational Educational System, or college policy.

The college reserves the right to cancel any course or program described in this catalog, at any time, without notice, and to change any other aspect of any course or program.

The college reserves the right to require a student to withdraw at any time for health or other reasons, pursuant to appropriate policies and procedures, and to impose sanctions, according to established policy. Any admission based on false statements or documents may be grounds for dismissal and loss of all credit for work that may have been completed.

Student Services Transaction Identification

For each student services transaction, students are required to verify their identification before any service is provided. Examples of identification can be:

- A series of questions unique to that particular student
- Producing a college identification card
- Producing a high school identification card, or
- Producing some other form of identification that is considered a "secure and verifiable document" which means it must be issued by a state or federal jurisdiction or recognized by the United States Government, and that it is verifiable by federal or state law enforcement, intelligence, or homeland security agencies.

For more information about Student Transaction policies and procedures click [here](#).

Higher Education Opportunity Act (Consumer Information)

The Higher Education Opportunity Act (HEOA) requires Front Range Community College provide specific consumer information to prospective and current students. FRCC will provide a paper copy of the information related to these disclosures upon request.

Please click [here](#) for a list of FRCC required consumer information disclosures.

Your Right to Know

FRCC provides information about completion and graduation rates on the FRCC website. Information about crimes on campus and campus security programs are published on the website each semester and are available from the Campus Security and Preparedness Office. This is in compliance with the Federal Student Right to Know and Campus Security Act of 1990. Individuals interested in knowing about FRCC's financial status are assured that FRCC is subject to the State's Open Records Act, as an agency of the State of Colorado. The audited financial statements of the CCCOES System, including those for FRCC, are

available to the public in the libraries of the Westminster and Larimer Campuses.

Academic Freedom

FRCC believes that education should help students function well in a dynamic society. To do so, students must gain knowledge and cultivate critical thinking skills. FRCC faculty believes that no restrictions should hamper the spirit of investigation, free inquiry, and open discussion in the classroom. Faculty exercises professional judgment in selecting and interpreting ideas. They have the freedom to choose the methods of instruction, guidance, tutoring, testing, and evaluation to achieve these goals.

Campus Security and Preparedness

In compliance with the Crime Awareness and Campus Security Act of 1990, also known as the Jeanne Clery Act, campus crime statistics and information on campus security policies are available to current and potential students through the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics. The complete Annual Security Report can be found on the FRCC website at <http://www.frontrange.edu/docs/default-source/Being-a-Student/safety-security/campus-security-report.pdf?sfvrsn=4>

For further information about the Clery Act or campus security in general, please contact the Administration Office for Campus Security and Preparedness at 303-404-5794.

Equal Opportunity

Since its beginning in 1968, FRCC has had a policy of nondiscrimination in employment and education. FRCC's Equal Opportunity and commitment to diversity reflects the college's continued commitment to implementing that policy.

Front Range Community College prohibits all forms of discrimination and harassment including those that violate federal and state law, or the State Board for Community Colleges and Occupational Education Board Policies 3-120 and 4-120. The College does not discriminate on the basis of sex/gender, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, genetic information, gender identity or sexual orientation in its employment practices or educational programs and activities. Front Range Community College will take appropriate steps to ensure that the lack of English language skills will not be a barrier to admission and participation in vocational education programs.

The College has designated Paul M. Meese, Executive Director, Organizational Development and Human Resources with the responsibility to coordinate the college's civil rights compliance activities and grievance procedures under Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and Title II of the Americans with Disabilities Act. If you have any questions, please contact 303-678-3707, or paul.meese@frontrange.edu or mail to 2190 Miller Drive, Longmont, CO, 80501.

FACTA Notification to Students

In accordance with the Fair and Accurate Credit Transactions Act (FACTA) of 2003, FRCC adheres to the Federal Trade Commission's (FTC) Red Flag Rule (A Red Flag is any pattern, practice, or specific activity that indicates the possible existence of identity theft.), which implements Section 114 of the FACTA and to the Colorado Community College System's Identity Theft Prevention and Detection Program, which is intended to prevent, detect and mitigate identity theft in connection with establishing new covered accounts or an existing covered account held by the Colorado Community College System (System or CCCS) or one of its thirteen (13) community colleges, and to provide for continued administration of the Program. If a transaction is deemed fraudulent, appropriate action will occur. Action may include, but is not limited to, cancelling of the transaction, notifying and cooperating with law enforcement, reporting to the Student Code of Conduct Office, and notifying the affected parties. For more information on FACTA, Red Flag Rules, and Identity Theft Consumer Information, please see the links provided below.

Federal Trade Commission Statute: <https://www.ftc.gov/about-ftc>

Red Flag

Rules: <http://www.ftc.gov/bcp/edu/microsites/redflagrule/index.shtml>

Identity Theft Consumer

Information: <http://www.consumer.ftc.gov/features/feature-0014-identity-theft>

Family Education Rights and Privacy

Front Range Community College Notification of Rights Under FERPA

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. FERPA rights are afforded to the students at the time of admission. These rights include:

1) The right to inspect and review the student's education records within 45 days of the day Front Range Community College receives a request for access. A student should submit to the Office of the Registrar, a written request that identifies the record(s) the student wishes to inspect. The Registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the Office of the Registrar, they shall advise the student of the correct official to whom the request should be addressed.

2) The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or otherwise in violation of the student's privacy rights. A student who wishes to ask Front Range Community College to amend a record should write the Registrar who will notify the college official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed. If the College decides not to amend the record as requested, the College will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment using the Student Grievance Procedure SP 4-31. Additional information regarding

the hearing procedures will be provided to the student when notified of the right to a hearing.

3) The right to provide written consent before Front Range Community College discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent.

One exception which permits disclosure without consent is disclosure to College officials with legitimate educational interests. A College official is a person employed by the College in an administrative, supervisory, academic or research or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted as its agent to provide a service instead of using college employees or officials (such as an attorney, auditor, or collection agent); a person serving on the College Board; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. Front Range Community College has designated the National Student Clearinghouse as a College official. A College official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the College. Upon request, the College discloses education records, without a student's consent, to officials of another school, in which a student seeks or intends to enroll, or after enrollment.

The college may share educational records to parents in the following circumstances: for a student who is dependent under I.R.S. tax code; a student under 21 years old who has violated a law or the schools rules or policies governing alcohol or substance abuse; and when the information is needed to protect the health or safety of the student or other individuals in an emergency.

FERPA Annual Notice to Reflect Possible Federal and State Data Collection and Use. As of January 3, 2012, the U.S. Department of Education's FERPA regulations expand the circumstances under which your education records and personally identifiable information (PII) contained in such records — including your Social Security Number, grades, or other private information — may be accessed without your consent. First, the U.S. Comptroller General, the U.S. Attorney General, the U.S. Secretary of Education, or state and local education authorities ("Federal and State Authorities") may allow access to your records and PII without your consent to any third party designated by a Federal or State Authority to evaluate a federal- or state-supported education program. The evaluation may relate to any program that is "principally engaged in the provision of education," such as early childhood education and job training, as well as any program that is administered by an education agency or institution. Second, Federal and State Authorities may allow access to your education records and PII without your consent to researchers performing certain types of studies, in certain cases even when we object to or do not request such research. Federal and State Authorities must obtain certain use-restriction and data security promises from the entities that they authorize to receive your PII, but the Authorities need not maintain direct control over such entities. In addition, in connection with Statewide Longitudinal Data Systems, State Authorities may collect, compile, permanently retain, and share without your consent PII from your education records, and they may track your participation in education and

other programs by linking such PII to other personal information about you that they obtain from other Federal or State data sources, including workforce development, unemployment insurance, child welfare, juvenile justice, military service, and migrant student records systems.

The Colorado Community College System considers the following to be directory information and Front Range Community College staff may disclose this information, without prior consent, to anyone inquiring in person, by phone, or in writing: Student name; Major field of study; Dates of student attendance; Degrees / certificates and awards student has earned; Most recent educational institution attended by the student; enrollment status (full time, part time, etc.), Participation in officially recognized activities and sports; and if participating in an officially recognized activity or sport, height, weight, and high school attended.

Addresses (including mail and e-mail) are considered PII and are not released as Directory Information except for the following:

- Graduation lists released to news media, which may include the student's city of residence.
- Other listings to the news media and college personnel for special awards, honors, and events.
- Notification to Phi Theta Kappa Honor Society and other academic honor societies for students who are eligible to be considered for membership.

Additionally, name, address, phone number, date and place of birth, level of education, most recently attended college, field of study, and degree(s) received of students may be released to military recruiters upon request in accordance with the Solomon Amendment. All other information contained in student records is considered private and not open to the public without the student's written consent. Students who do not want their directory/public information released to third parties or students who do not want to be listed in the College online e-Directory should complete a form to suppress directory information available online or at the Office of the Registrar by the first day of the semester.

4) The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-5901

Notice of Non-Discrimination Statement

Front Range Community College prohibits all forms of discrimination and harassment including those that violate federal and state law, or the State Board for Community Colleges and Occupational Education Board Policies 3-120 or 4-120. The College does not discriminate on the basis of sex/gender, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, genetic information, gender identity or sexual orientation in its employment practices or educational programs and activities. Front Range Community College will take appropriate steps to ensure that the lack of English language skills will not be a

barrier to admission and participation in vocational education programs.

The College has designated Paul M. Meese, Executive Director, Organizational Development and Human Resources with the responsibility to coordinate the college's civil rights compliance activities and grievance procedures under Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and Title II of the Americans with Disabilities Act. If you have any questions, please contact 303-678-3707, or paul.meese@frontrange.edu or mail to 2190 Miller Drive, Longmont, CO, 80503.

You may also contact the Office for Civil Rights, U.S. Department of Education, Region VIII, Federal Office Building, 1244 North Speer Boulevard, Suite 310, Denver, CO 80204, telephone (303) 844-3417.

If a recipient's service area contains a community of national origin minority persons with limited English language skills, public notification materials must be disseminated to that community in its language.

FRCC Civil Rights Grievance and Investigation Process Basis

Board Policy BP 3-120 and BP 4-120 provides that employees and students shall not be subjected to unlawful discrimination and/or harassment on the basis of sex/gender, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, genetic information, gender identity or sexual orientation in its employment practices or educational programs and activities.

Procedure

This FRCC procedure, adapted from the National Center for Higher Education Risk Management (NCHERM) and the Association of Title IX Administrators (ATIXA), should be applied to all civil rights grievances.

Definitions

Complainant(s) is a person who is subject to alleged protected class discrimination, harassment or related retaliation. For purposes of this procedure, a complainant can be an FRCC Employee(s), student(s), authorized volunteer(s), guest(s), or visitor(s).

Respondent(s) is a person whose alleged conduct is the subject of a complaint. For purposes of this procedure, a respondent can be an FRCC employee(s), student(s), authorized volunteer(s), guest(s) or visitor(s).

Title IX Coordinator(s) and Title VI and VII Coordinator(s) (EO Coordinator) is the employee(s) designated by the college president to oversee all civil rights complaints for both employees and students.

Appointing Authority/Disciplinary Authority is the individual with the authority or delegated authority to make ultimate decisions concerning a particular student. A Disciplinary authority is the individual who or office that has the authority or delegated authority to impose discipline upon a particular employee or student. The Chief Student Services Officer (CSSO) is the individual designated by the College President to administer student affairs and be responsible for administering the college's Student discipline, including student discipline.

Investigator(s) is the person(s) charged to investigate the civil rights grievance by the Title IX and/or the EO Coordinator. This person can be referred to as the "Deputy Title IX and/or EO Coordinator(s)".

Discrimination is:

- any distinction, preference, advantage for or detriment to an individual compared to others that is:
- based upon an individual's actual or perceived sex/gender, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, genetic information, gender identity, or sexual orientation, that is so severe, persistent or pervasive, and
- that unreasonably interferes with or limits:
 - Employee's employment conditions or deprives the individual of employment access or benefits.
 - Student's ability to participate in, access, or benefit from the college's educational program or activities.
 - Authorized volunteers' ability to participate in the volunteer activity.
 - Guests and visitors' ability to participate in, access, or benefit from the college's programs.

Discriminatory Harassment is:

- detrimental action based on an individual's actual or perceived sex/gender, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, genetic information, gender identity or sexual orientation, which is
- severe, persistent or pervasive that it unreasonably interferes with or limits:
 - Employee's employment conditions or deprives the individual of employment access or benefits.
 - Student's ability to participate in, access, or benefit from the college's educational program or activities.
 - Authorized volunteers' ability to participate in the volunteer activity.
 - Guests and visitors' ability to participate in, access, or benefit from the college's programs.

Retaliatory Harassment is:

any adverse employment or educational action taken against a person because of the person's perceived participation in a complaint or investigation of discrimination and/or harassment based on federal or state civil rights laws.

- It is a violation of this procedure to engage in retaliatory acts against any person who reports an incident of discrimination and/or harassment, or any person who testifies, assists or participates in a proceeding, investigation or hearing relating to such allegation of discrimination and/or harassment. Such act will be subject to discipline, up to and including expulsion for students, termination for FRCC employees, and dismissal for authorized volunteers, guests or visitors.\

Sexual Misconduct offenses include, but are not limited to:

- Sexual Harassment
- Non-Consensual Sexual Contact (or attempts to commit same)
- Non-Consensual Sexual Intercourse (or attempts to commit same)
- Sexual Exploitation
- For more information on sexual misconduct please refer to the System President's Policy SP 3-120a and SP 4-120a.

Complaint Procedures Concerning Discrimination and/or Harassment

FRCC does not permit discrimination or harassment in our work environment, educational programs and activities. FRCC can respond to discrimination and/or harassment only if it is aware of the allegations made. Further, FRCC can more effectively investigate the sooner the allegation is brought to its attention. Any employee or student who believes they have been subjected to discrimination and/or harassment based on federal or state civil rights laws should follow this procedure to report these concerns.

Reporting an Incident of Discrimination and/or Harassment

Employee's Obligation to Report

FRCC employees have an ethical obligation to report any incidences they are aware of concerning discrimination and/or harassment. If the employee is unsure, s/he may direct their questions to Human Resources at the college. Failure to report will be considered a violation of BP 3-70, Colorado Community College System Code of Ethics, and may result in discipline, up to and including termination.

To Report a Complaint Confidentially

If one desires that details of the incident be kept confidential, they should speak with on-campus mental health counselors or off-campus rape crisis resources who can maintain confidentiality. On-campus mental health counselors are available to help you free of charge, and can be seen on emergency basis. In addition, you may speak off-campus with members of the clergy and chaplains, who will also keep reports made to them confidential. There are additional resources available here. If you want to file a confidential complaint to be investigated, please click here. No names are required to complete this form.

Reporting a Complaint

In order to take appropriate corrective action, FRCC must be aware of discrimination, harassment and related retaliation that occurs in FRCC employment and educational programs or activities. Therefore, anyone who believes s/he has experienced or witnessed discrimination, harassment or related retaliation should promptly report such behavior to the Title IX/EO Coordinator by clicking here or call 303-678-3707.

Clery Act-Federal Statistical Reporting Obligations

Certain campus officials have a duty to report criminal misconduct for federal statistical reporting purposes (Clery Act). All personally identifiable information is kept confidential, but statistical information must be passed along to campus law enforcement regarding the type of incident and its general location (on or off-campus, in the surrounding area, but no addresses are given) for publication in the annual Campus Security Report. This report helps to provide the community with a clear picture of the extent and nature of campus crime, to ensure greater community safety. Mandated federal reporters include: student affairs/student conduct officers, campus law enforcement, local police, student activities staff, human resources staff, advisors to student organizations and any other official with significant responsibility for student and campus activities. The information to be shared includes the date, the location of the incident (using Clery location categories) and the

Clery crime category. This reporting protects the identity of the victim and may be done anonymously.

Clery Act-Federal Timely Warning Reporting Obligations

Victims of criminal misconduct should also be aware that college administrators must issue immediate warnings for incidents reported to them that are confirmed to pose a serious or continuing threat to students and employees. The college will make every effort to ensure that a victim's name and other identifying information is not disclosed, while still providing enough information for community members to make safety decisions in light of the danger. The reporters for timely warning purposes are the same as detailed at the end of the above section.

For more information on Clery Act reporting requirements please contact Gordon Goldsmith, Director of Campus Security and Preparedness, 303-404-5799.

Filing a Complaint

All complaints shall be made as promptly as possible after the occurrence. A delay in reporting may be reasonable under some circumstances; however, an unreasonable delay in reporting is an appropriate consideration in evaluating the merits of a complaint or report.

Who to Report to

Report all concerns or complaints relating to discrimination, harassment, or sexual misconduct to: Paul M. Meese, Executive Director, Organizational Development & Human Resources, Title IX/EO Coordinator, 2190 Miller Drive, Longmont, CO 80501, 303-678-3707. To report anonymously please go to: https://cm.maxient.com/reportingform.php?FrontRangeCC&layout_id=40

Employees who wish to report a concern or complaint relating to discrimination or harassment by/towards a student may do so by reporting the concern to the Title IX Coordinator(s).

Students with complaints of this nature also have the right to file a formal complaint with the United States Department Education:

Office for Civil Rights (OCR)

U.S. Department of Education, Region VIII

Federal Office Building

1244 North Speer Boulevard, Suite 310

Denver, CO 80204-3582

Telephone: (303) 844-3417

Facsimile: (303) 844-4303

Email: OCR.Denver@ed.gov

Web: <http://www.ed.gov/ocr>

For employees with complaints of this nature also have the right to file a formal complaint with the Colorado Department of Regulatory Agencies

Colorado Civil Rights Division

1560 Broadway #1050

Denver, CO 80202

Telephone: (303) 894-2997

Facsimile: (303) 894-7830

Web: <https://www.colorado.gov/dora/civil-rights>

Or

United States Equal Employment Opportunity Commission

303 E. 17th Avenue

Suite 410

Denver, CO 80203

Telephone: (800) 669-4000

Facsimile: (303) 866-1085

Web: <http://www.eeoc.gov/field/denver/index.cfm>

All other grievances where the complainant is a student(s) and the basis of the complaint is not discrimination and/or harassment based on federal or state civil rights laws will be addressed pursuant to SP 4-31: <https://www.cccs.edu/sp-4-31-student-grievance-procedure/>

All other grievances by an employee(s) and the basis of the complaint is not discrimination and/or harassment based on federal or state civil rights laws will be addressed pursuant to SP 3-50a. <https://www.cccs.edu/sp-3-50a-employee-grievances/>

The Complaint

Notice of a formal complaint can be made in person or orally to the Title IX or the EO Coordinator(s), but the college strongly encourages submission of grievances involving employee and students to be in writing, or by going to https://cm.maxient.com/reportingform.php?FrontRangeCC&layout_id=40

The grievance should clearly and concisely describe the alleged incident(s), when and where it occurred, and the desired remedy sought. The grievance should be signed by the initiator or, in the case of an email submission, sent as an email attachment, in letter format and should contain the name and all contact information for the grievant. To report anonymously please go to:

https://cm.maxient.com/reportingform.php?FrontRangeCC&layout_id=40. Any supporting documentation and evidence should be referenced within the body of the formal grievance.

Preliminary Steps

This complaint process involves an immediate initial inquiry to determine if there is sufficient evidence to believe a violation has occurred. If so, the college will initiate a prompt, thorough and impartial investigation. This investigation is designed to provide a fair and reliable determination about whether policies or procedures have been violated. If so, FRCC will implement a prompt and effective remedy designed to end the discrimination, prevent its recurrence and address its effects.

Timeline of Process (Informal and Formal)

FRCC shall make every effort to complete the informal process no later than 30 days from the date of notice of complaint.

If the complainant chooses to file a formal complaint, or the informal process was unsuccessful, FRCC shall make every effort to complete the investigation and implement remedies, if any,

no later than 60 days from the date the complaint is filed or informal resolution is concluded.

If the college cannot resolve the formal complaint within these timeframes, the college may extend the deadline when necessary to properly investigate the complaint.

Formal and Informal Grievance Procedure for Student and Employee Complaints

The FRCC community benefits from informal and formal procedures that encourage prompt resolution of complaints and concerns that employee and students may have about the implementation of policies and procedures that govern the institution.

Informal Grievance Process

Before pursuing the formal complaint process, every reasonable effort should be made to constructively resolve issues with FRCC employees and students at the informal level. Whenever possible and safe, the problem or complaint should first be discussed with the individual involved in the complaint. If satisfactory resolution is not reached after discussion with the individual, the employee or student should contact the individual's direct supervisor to attempt to resolve the complaint. If these efforts are unsuccessful, the formal complaint process may be initiated. The college does not require an employee or student to contact the person involved or that person's supervisor if doing so is impracticable, or if the employee or student believes that the conduct cannot be effectively addressed through informal means.

If the incident involves an alleged sexual assault, the college will not enter into the informal process.

Formal Grievance Process

If the informal grievance process is unsuccessful, or if FRCC or the complainant chooses not to pursue the informal process, upon receipt of the grievance the Title IX/EO Coordinator(s) will open a formal case, file and assign an investigator(s) who will direct the investigation, confer with the Title IX Coordinator/EO Coordinator(s) on interim action, accommodations for the alleged victim, and take any other necessary remedial short-term actions.

The college has the right to assign more than one investigator per incident.

The investigator(s) will then take the following steps:

- In coordination with the Title IX/EO Coordinator(s), initiate any necessary remedial actions;
- Determine the identity and contact information of the complainant(s) (whether that be the initiator, the alleged victim, or a college proxy or representative);
- Identify the policies and procedures allegedly violated;
- Conduct an immediate initial investigation to determine if there is sufficient evidence to charge the respondent(s), and what policy and procedure violations should be alleged as part of the complaint;
 - If there is insufficient evidence to support the complaint, the grievance should be closed with no further action;
- Meet with the complainant to finalize the complaint and
- Prepare the notice of charges on the basis of the initial investigation;

- Commence a thorough, reliable and impartial investigation by developing a strategic investigation plan, including a witness list, evidence list, intended timeframe, and order of interviews for all witnesses and the accused individual, who may be given notice prior to or at the time of the interview;
- Complete the investigation promptly, and without unreasonable deviation from the intended timeline;
- Make a finding, based on a preponderance of the evidence (whether a policy violation is more likely than not);
- Present the findings to the respondent, who may accept the findings, accept the findings in part and reject them in part, or may reject all findings;
- Share the findings and update the complainant on the status of the investigation and the outcome.

Elaboration on Employee and Student Participation in the Grievance Process

The investigator(s) will contact or request a meeting with the complainant(s), the alleged victim (if different people), and the respondent(s). The investigator(s) may also contact or request a meeting with relevant college staff, students, or others as part of the investigation. The complainant(s) and respondent(s) may offer any documentation, witnesses, or other materials in support of the complaint.

The complainant(s) and the respondent(s) have the option to have an advocate during a meeting with the case officer to discuss the documentation submitted in support of the grievance; however, the complainant(s) or respondent(s) cannot be represented by an attorney or law student (legal counsel) unless civil or criminal actions concerning the particular incident in question are pending. Under those limited exceptions, an attorney or law student may be present but his or her role shall be advisory only. The party represented by legal counsel must notify the investigator(s) forty-eight (48) hours in advance of any scheduled meeting so that the investigator(s) can notify the other party. These procedures are entirely administrative in nature and are not considered legal proceedings.

The complainant(s) and respondent(s) must advise the investigator(s) of the identity of an advocate or witness at least two (2) business days before the date of the meeting with the investigator(s).

No audio or video recording of any kind other than as required by institutional procedure is permitted.

At the investigator's discretion, the investigator(s) may remove anyone who is causing a disruption to the meeting or is being uncooperative.

All these same opportunities and privileges extend to all parties to the complaint.

Findings

Investigator shall issue the findings in the form of an investigation report. Both parties shall be informed of the findings.

Where the respondent accepts the finding that s/he violated the non-discrimination, anti-harassment, or retaliation policy, the CSSO will then proceed with disciplinary action, after consultation with the Title IX/EO Coordinator(s), in accordance with the applicable policies and procedures that govern.

Filing an Appeal Request

In the event that a respondent accepts the findings of the investigation, those findings cannot be appealed during the student discipline process.

All sanctions imposed by the original decision maker will be in effect during the appeal. A request may be made to the CSSO for special consideration in exigent circumstances, but the presumptive stance of the institution is that the sanctions will stand. Graduation, study abroad, internships/externships, etc. do not in and of themselves constitute exigent circumstances, and students may not be able to participate in those activities during their appeal. In cases where the appeal results in reinstatement to the institution or of privileges, all reasonable attempts will be made to restore the employee, student, authorized volunteer, guest or visitor to their prior status, recognizing that some opportunities lost may be irretrievable in the short term.

Special Grievance Process Provisions

Attempted violations. In most circumstances, college will treat attempts to commit discrimination, harassment, or retaliation as if those attempts had been completed.

College as Complainant. As necessary, college reserves the right to initiate a complaint, to serve as complainant, and to initiate conduct proceedings without a formal complaint by the victim of misconduct.

Standard of proof -the college will use the preponderance of evidence standard in the civil rights investigation proceedings, meaning, the college will determine whether it is more likely than not a violation occurred.

Jurisdiction -College grievance proceedings may be instituted over incidences that occur or are related to College or college-sanctioned activities or was of such a nature to impact upon the college.

False Reports. College will not tolerate intentional false reporting of incidents. False reporting could lead to disciplinary action, up to and including termination for employees, and expulsion for students.

For FRCC employees, false reports will be considered a violation of BP 3-70, Code of Ethics.

For students, false reports will be considered a violation of the college student code of conduct.

False reporting may also be a violation of state criminal statutes and civil defamation laws.

The Parties do not have the right to be represented by legal counsel during these proceedings except in the case where civil or criminal actions concerning the grievance are pending and in that case the legal counsel's role shall be advisory only. The party represented by legal counsel must notify the investigator(s) forty-eight (48) hours in advance of any scheduled meeting so that the investigator(s) can notify the other party.

Immunity for Victims and Witnesses that are Students. FRCC encourages the reporting of violations and crimes by victims and witnesses. Sometimes, victims or witnesses are hesitant to report to FRCC officials or participate in grievance processes because they fear that they themselves may be accused of policy and procedure violations, such as underage drinking at the time of the incident. It is in the best interests of this community that

as many victims as possible choose to report to college officials, and that witnesses come forward to share what they know. To encourage reporting, FRCC pursues a policy of offering victims of crimes and witnesses limited immunity from policy violations related to the incident. This is not immunity from criminal prosecution.

Bystander Engagement for Students. The welfare of students in our community is of paramount importance. At times, students on and off-campus may need assistance. FRCC encourages students to offer help and assistance to others in need. Sometimes, students are hesitant to offer assistance to others, for fear that they may get themselves in trouble (for example, as student who has been drinking underage might hesitate to help take a sexual misconduct victim to the Campus Police or Security). The college pursues a policy of limited immunity for students who offer help to others in need. This is not immunity from criminal prosecution. While policy and procedure violations cannot be overlooked, the college will provide educational options, rather than punishment, to those who offer their assistance to others in need.

Parental Notification when Students are involved in an incident. The college reserves the right to notify parents/guardians of dependent students regarding any health or safety risk, change in student status or conduct situation, particularly alcohol and other drug violations. The college may also notify parents/guardians of non-dependent students who are under age 21 of alcohol and/or drug policy violations. Where a student is not-dependent, college will contact parents/guardians to inform them of situations in which there is a significant and articulable health and/or safety risk. The college also reserves the right to designate which college officials have a need to know about individual conduct complaints pursuant to the Family Educational Rights and Privacy Act.

Notification of Outcomes. Complainant(s) and Respondent(s) have an absolute right to be informed of the outcome, essential findings, the sanctions imposed if any, unless the college has a legitimate concern for the health, safety, or welfare of the college.

The outcome of a campus investigation is part of the educational record of the accused student, and is protected from release under a federal law, FERPA. However, FRCC observes the legal exceptions as follows:

- Specifically, Complainant(s) in non-consensual sexual contact/intercourse, sexual exploitation, sexual harassment, stalking, and relationship violence incidents have an absolute right to be informed of the outcome, essential findings, and sanctions of the hearing, in writing, without condition or limitation.

- The college may release publicly the name, nature of the violation and the sanction for any student who is found in violation of a college policy that is a "crime of violence," including: arson, burglary, robbery, criminal homicide, sex offenses, assault, destruction/damage/vandalism of property and kidnapping/abduction. The college will release this information to the complainant in any of these offenses regardless of the outcome.

Alternative Testimony Options for Employees and Students. For sexual misconduct complaints, and other complaints of a sensitive nature, whether the alleged victim is serving as the complainant or as a witness, alternative testimony options will

be given, such as placing a privacy screen in the hearing room, or allowing the alleged victim to testify outside the physical presence of the accused individual, such as by Skype. While these options are intended to help make the alleged victim more comfortable, they are not intended to work to the disadvantage of the accused student.

Past Sexual History/Character of Employees and Students. The past sexual history or sexual character of a party will not be admissible by the other party in the investigation or hearing unless such information is determined to be highly relevant by the investigator. All such information sought to be admitted will be presumed irrelevant, and any request to overcome this presumption by the parties must be included in the complaint/response or a subsequent written request, and must be reviewed in advance of the hearing by the CSSO. While previous conduct violations by the accused student are not generally admissible as information about the present alleged violation, the CSSO may supply previous complaint information to the investigators, the conduct board, or may consider it him/herself if s/he is hearing the complaint, only if:

1. The accused was previously found to be responsible;
2. The previous incident was substantially similar to the present allegation;
3. Information indicates a pattern of behavior and substantial conformity with that pattern by the accused student.

Retaliatory Acts

If any person who reports an incident of discrimination and/or harassment, or any person who testifies, assists or participates in a proceeding, investigation or hearing relating to such allegation of discrimination and/or harassment, feels they are being subjected to retaliatory acts may report such incidences to the Title IX Coordinator.

It is a violation of this procedure to engage in retaliatory acts against any person who reports an incident of discrimination and/or harassment, or any person who testifies, assists or participates in a proceeding, investigation or hearing relating to such allegation of discrimination and/or harassment. Such act will be subject to discipline, up to and including expulsion for students, termination for FRCC employees, and dismissal for authorized volunteers, guests or visitors.

Revising this Procedure

This procedure defines and prohibits harassment on the basis of federal and state law as interpreted by the courts. If statutory provisions, regulatory guidance, or court interpretations change or conflict with this policy, the college's procedure can be deemed amended as of the time of the decision, ruling or legislative enactment to assure continued compliance.

CCCS reserves the right to change any provision or requirement of this procedure at any time and the change shall become effective immediately.

Persons Convicted of Rioting Offenses

Under Colorado law, no person shall be enrolled in a state supported institution of higher education for a period of twelve months following the date of a guilty verdict, guilty plea, no contest plea, or a deferred judgment and sentence for inciting riot, arming rioters, or engaging in a riot.

Policy on Exclusionary Orders

FRCC, acting through its President, any Vice President, or Director of Campus Security and Preparedness ("College Representatives") hereby reserves the right to exclude any person not authorized to engage in work, study, or other activities ("Unauthorized Persons") from all or any part of its campuses or facilities to the extent that such person's conduct: (i) materially disrupts, or presents a significant threat of material disruption to FRCC's academic mission; or (ii) constitutes a substantial threat to the safety and well-being of persons lawfully present on any such campuses or in any such facilities. Such reserved right shall be in addition to all rights of FRCC's to exclude persons in connection with the imposition of internal discipline. Additional information can be obtained from the Department of Campus Security and Preparedness.

Sexual Harassment

Title IX of the Education Amendments of 1972 prohibits sex discrimination in educational programs. FRCC, by virtue of its commitment to the ideals of dignity, equality, and mutual respect for all people, deplores, and condemns any form of sexual harassment. It is the intent of FRCC to comply with both the letter and the spirit of Title IX to make certain discrimination does not occur or adversely affect the educational environment. FRCC has a legitimate and compelling interest in prohibiting sexual harassment. Further, FRCC has an obligation to discipline those who do engage in sexually harassing behavior.

Sexual harassment in the educational environment may occur among students, administrators, faculty, staff, visitors, or other persons on campus or at college-related activities. The range of unwelcome, unwanted, and inappropriate behaviors may include, but are not limited to:

- An attempt to coerce an unwilling person into a sexual relationship.
- To repeatedly subject a person to egregious, unwelcome sexual attention.
- To punish a refusal to comply with a sexual based request.
- To condition a benefit on submitting to sexual advances.
- Sexual violence which is defined as threatening or causing physical harm, extreme verbal abuse, or other conduct which threatens or endangers the health or safety of any person.
- Violence between those in an intimate relationship.
- Stalking that is gender-based which is defined as repetitive and/or menacing pursuit, following, harassment and/or interference with the peace and/or safety of a member of the community; or the safety of any of the immediate family of members of the community.
- Gender-based bullying which is defined as repeated and/or severe aggressive behavior likely to intimidate or intentionally hurt, control or diminish another person, physically or mentally (excluding speech or conduct otherwise protected by the 1st Amendment).
- Gender expression/stereotyping which is defined as simplistic generalizations about gender attributes, differences, and roles of individuals and/or groups. Stereotypes rarely communicate accurate information about others. When people automatically apply gender assumptions to others regardless of evidence to the contrary, they are perpetuating gender stereotyping.

- Hazing which is defined as acts likely to cause physical or psychological harm or social ostracism to any person within the college community on the basis of gender, when related to the admission, initiation, pledging, joining, or any other group-affiliation activity.
- Discrimination which is defined as actions that deprive other members of the community of educational or employment access, benefits or opportunities on the basis of gender.
- Intimidation that is gender-based which is defined as implied threats or acts that cause a reasonable fear of harm in another.

Sexual harassment will not be tolerated at FRCC because it creates an unacceptable educational environment. Some situations may be resolved informally. Students who feel that they have been subjected to sexual harassment by other students should contact the Dean of Student Affairs or Human Resources at the Boulder County, Larimer, or Westminster Campuses. Complaints against FRCC employees should be filed with the Human Resources Office. Please go to https://cm.maxient.com/reportingform.php?FrontRangeCC&layout_id=40.

The College prohibits and will not tolerate discrimination or harassment that violates federal, state law, or Board Policy 3-120 or Board Policy 4-120. The College does not discriminate on the basis of gender, sex, race, color, age, creed, national or ethnic origin, physical or mental disability, veteran status, pregnancy status, religion, genetic information, gender identity or sexual orientation. The College complies with Titles VI and VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, the Education Amendments of 1972 (Title IX), the Age Discrimination in Employment Act, the Rehabilitation Act of 1973, the Americans with Disabilities Act Amendments Act (2008), Pregnancy Discrimination Act of 1978, Vietnam Era Veterans Readjustment Assistance Act of 1974; Executive Order 11246, and sections 24-34-301, C.R.S. et seq. **For the proper procedures regarding sexual misconduct, please refer to the System President's Procedures SP 3-120a and SP 4-120a, or contact Paul Meese, Executive Director for further information at 303-678-3707.**

Colorado Department of Higher Education Appeal

In addition to hearing appeals regarding the state guaranteed general education program, a student may appeal directly to the Colorado Department of Higher Education (CDHE) <http://higher.ed.colorado.gov/Academics/Complaints/> when the issue involves one of the following areas:

- Violation of the Student Bill of Rights (see Student Bill of Rights (p. 271))
- Noncompliance with Colorado Department of Higher Education (CDHE) policies pertaining to transfer, student fees, etc.
- Failure of an institution to follow its established policies and procedures
- Failure of an institution to respond to a student's written appeal within 30 days

The Colorado Department of Higher Education (CDHE) appeal process is not designed to resolve disputes between an individual and an institution that involves grades, billing, terms of employment or athletic eligibility. Front Range Community

College tuition classification decisions cannot be appealed to the Colorado Department of Higher Education (CDHE).

Procedures:

To initiate an appeal with the Colorado Department of Higher Education (CDHE), submit a written request (letter or email) describing the issue(s) and steps taken to resolve the issue with Front Range Community College. Eligible appeals, as indicated above, will follow the full appeal process. Appeals to FRCC will be referred to the appropriate college authority. For more information regarding Colorado's Student Appeal Process, go to <http://higher.ed.colorado.gov/Academics/Appeals/>.

Storm Water Notice

Front Range Community College cares about our campus storm water. The college has a Non-Standard MS4 Storm Water Permit through the Colorado Department of Public Health and Environment and has an active storm water management program. For more information on the storm water management program and how you can help us keep our campus storm water clean, please visit or call our Larimer Campus Facilities Services Department at 970-204-8255 or Westminster Campus Facilities Services Department at 303-404-5400.

Voter Registration Information

Front Range Community College supports the National Voter Registration Act by providing students access to voter registration information. The State of Colorado - Voter Registration Application Form is available at www.elections.colorado.gov or at the local County Clerk and Recorder's office. Students with disabilities can access the Voter Registration Application in the office of Disability Support Services. To access the Vote.Org registration form go to <https://www.vote.org/register-to-vote/?gclid=CMLx8vKb7s0CFQcfhgodQP4OVQ>

COURSES

This section describes credit courses offered by FRCC. Courses are grouped by subject area and are listed in alphabetical order.

- Each course title begins with a three-letter subject area and the course number (e.g., ENG 121).

- Each course includes a brief course description, credits, contact hours, and prerequisite(s) and/or corequisite(s) if required for the course.

- A prerequisite must be taken before entering a course.

- A corequisite must be taken prior to, or concurrently with, a course.

- Contact Hours indicate the total number of class hours during the term.

- Some courses require a course fee.

- All courses included in this catalog may apply to program requirements of specified certificates and/or degrees (e.g. AAS, AGS, AA, or AS) with the exception of courses listed on the courses not applicable to any degree or certificate (p. 249) section of this catalog.

- Specialized courses must be specified as allowable to apply toward degree/certificate requirements. You can learn more about specialized courses such as internship, capstone, clinical, etc. by viewing the Specialized Courses (p. 249) section of this catalog.

- Courses with an * have been identified by the Colorado Department of Higher Education as being the State Guaranteed General Education courses. You can learn more about each designation by viewing the GT Pathways General Education Curriculum (p. 246) & GT List (p. 248) sections of this catalog.

To view Programs offered at FRCC by location (p. 238), requirements (p. 136) or by MAPs (p. 11), view our Programs (p. 11) section of this catalog.

AAA - Advancement of Academic Achievement

AAA 050 - Academic Achievement Strategies (2)

Emphasizes basic study skills in order to bolster their chances of successfully completing the current semester.

Contact Hours: 30.

AAA 090 - Academic Achievement Strategies (3)

Develops personalized approaches to learning and succeeding for easier transition into college. Topics include goal-setting, time management, textbook reading strategies, note-taking, test-taking, listening techniques, concentration and memory devices, and critical thinking for student success.

Contact Hours: 45.

AAA 091 - Online Learning Strategies (1)

Introduces specific skills and strategies to successfully use online instruction and college e-services. Through videos and practice assignments, students will learn how to use the Learning Management System (LMS) and become familiar with college support services and other online resources.

Contact Hours: 15.

AAA 101 - College : Student Experience (1)

Introduces students to college culture and prepares them for the challenges they will face in higher education. Through a series of interactive seminars, students discover learning in a multicultural environment and how to use college and community resources to attain education and career goals.

Contact Hours: 15.

**AAA 101 is not currently specified as a certificate or degree requirement and cannot be applied to any certificate, AA, AS, or AAS degree.*

AAA 109 - Advanced Academic Achievement (3)

Examines theories and practices associated with successful learning to enhance college success. Areas of study include education and career planning, effective communication, personal management, critical and creative thinking, development of community and awareness of diversity, leadership, and techniques for successful academic performance. Recommended for new and returning students.

Contact Hours: 45.

**AAA 109 is not currently specified as a certificate or degree requirement and cannot be applied to any certificate, AA, AS, or AAS degree.*

ACC - Accounting

ACC 101 - Fundamentals of Accounting (3)

Presents the basic elements and concepts of accounting with emphasis on the procedures used for maintaining journals, ledgers, and other related records, and for the completion of end-of-period reports for small service and merchandising businesses.

Prerequisite: None. Contact Hours: 45.

ACC 115 - Payroll Accounting (3)

Studies federal and state employment laws and their effects on personnel and payroll records. The course is non-technical and is intended to give students a practical working knowledge of the current payroll laws and actual experience in applying regulations. Students are exposed to computerized payroll procedures.

Prerequisite: ACC 101 or ACC 121. Contact Hours: 45.

ACC 121 - Accounting Principles I (4)

Introduces the study of accounting principles for understanding of the theory and logic that underlie procedures and practices. Major topics include the accounting cycle for service and merchandising companies, special journals and subsidiary ledgers, internal control principles and practices, notes and interest, inventory systems and costing, plant assets and intangible asset accounting, and depreciation methods and practices.

Contact Hours: 60.

Recommended Preparation for AAS Accounting Students: ACC 101

ACC 122 - Accounting Principles II (4)

Continues the study of accounting principles as they apply to partnerships and corporations. Major topics include stocks and bonds, investments, cash flow statements, financial analysis, budgeting, and cost and managerial accounting.

Prerequisite: ACC 121. Contact Hours: 60.

ACC 131 - Income Tax (3)

Studies basic concepts of federal income taxation; including gross income, deductions, accounting periods and methods, and property transactions, with emphasis on taxation of individuals and sole proprietorships.

Prerequisite: ACC 121. Contact Hours: 45.

ACC 132 - Tax Help Colorado (2)

This course prepares the students for preparation of federal and state income tax returns for individuals. Emphasis is placed on form preparation with the use of tax software.

Contact Hours: 30.

ACC 133 - Tax Help Colorado Practicum (1)

This course allows students to prepare actual federal and state income tax returns for individuals in the real time environment.

Contact Hours: 30.

Recommended Preparation: ACC 122 (p. 294) and CIS 155 (p. 312)

ACC 135 - Spreadsheet Applications for Accounting (3)

Introduces spreadsheets as an accounting tool. Using an accounting perspective, the student applies fundamental spreadsheet concepts. The spreadsheet is used as a problem solving and decision making tool.

Prerequisite: ACC 122 and CIS 155.. Contact Hours: 45.

ACC 138 - Payroll and Sales Tax (3)

Acquaints students with laws pertaining to payroll and sales taxes including record keeping rules. Students prepare various federal, state and local forms for reporting payroll taxes and sales taxes. A computerized payroll simulation is included in the course.

Prerequisite: ACC 101 or ACC 121. Contact Hours: 45.

ACC 211 - Intermediate Accounting I (4)

This course focuses on comprehensive analysis of generally accepted accounting principles (GAAP), accounting theory, concepts, and financial reporting principles for public corporations. It is the first of a two-course sequence in financial accounting and is designed primarily for accounting and finance majors. This course also focuses on the preparation and analysis of business information relevant and useful to external users of financial statements. Explores the theories, principles and practices surveyed in Accounting Principles and critically examines "real-world" financial analysis and reporting issues.

Prerequisite: ACC 122. Contact Hours: 60.

ACC 212 - Intermediate Accounting II (4)

This course focuses on the theoretical and practical aspects of accounting for long-term liabilities, stockholders' equity, investments, pensions and leases. This includes income tax allocation, financial statement analysis, cash flow statements and accounting method changes.

Prerequisite: ACC 211. Contact Hours: 60.

ACC 216 - Govt & Not-for-profit Accounting (3)

Addresses concepts of budgetary control as a matter of law and public administration theory. Accounting principles and procedures necessary to implement budgetary controls for governmental units and other not-for-profit institutions and organizations are presented.

Prerequisite: ACC 122. Contact Hours: 45.

ACC 226 - Cost Accounting (3)

Studies cost accumulation methods and reports. Focuses on the concepts and procedures of job order, process, standard, and direct cost systems, budgeting, planning, and control of costs.

Prerequisite: ACC 122. Contact Hours: 45.

ACC 231 - Business Taxation (3)

Introduces student to taxation of business entities and transactions. Topics include taxation of property transactions, various tax issues that apply to different tax entities, tax administration and practice, and the taxation effects of formation, operation, and dissolution of corporations, partnerships, S corporations, trusts and estates.

Prerequisite: ACC 121 & ACC 131. Contact Hours: 45.

ACC 245 - Computerized Accounting with a Professional Package (3)

Integrates accounting principles and practices with a computerized accounting package such as Peachtree, DacEasy, or other professional package. Emphasizes computerized functions of the general ledger and integrated accounts payable, accounts receivable, invoicing and payroll systems.

Prerequisite: ACC 101 or ACC 121. Contact Hours: 45.

ACC 255 - Vita - Volunteer Income Tax Assistance (3)

This course prepares students in preparation of federal and state income tax returns in order to participate in the Volunteer Income Tax Assistance program offered to low income and elderly persons in their communities.

Prerequisite: ACC 131. Contact Hours: 45.

Permission from instructor is recommended

ACC 265 - Enrolled Agent Exam Review Course (3)

Reviews concepts learned in study of accounting, individual and business income tax and ethical decision making as they relate to passing the IRS Enrolled Agent Exam.

Prerequisite: ACC 231. Contact Hours: 45.

ACC 280 - Internship (1)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business locations and with the direct guidance of the instructor.

Prerequisite: To be determined by the instructor. Contact Hours: 45.

ACC 285 - Independent Study (1)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Students are reminded that no more than six (6)

credit hours of independent study may be applied to any associate degree program.

Contact Hours: 30.

ACC 289 - Capstone: Company Financial Overview (1)

Provides pending accounting graduates with the opportunity to evaluate their analysis skills, both during the application process and afterwards when considering the viability of the company. Using the knowledge acquired from their academic studies, the student prepares the computerized records and evaluates the financial standing for one company. Financial analysis using spreadsheet capabilities and written report skills are included. The student works independently of a traditional classroom setting.

Prerequisite: ACC 122 and ACC 135 and ACC 245. Contact Hours: 15.

Semester of graduation

ACC 294 - Service Learning (1)

Allows the student to provide a service to the community utilizing knowledge and skills acquired from a course in which the student is currently enrolled or has previously taken at the student's respective college.

Contact Hours: 45.

See the list of Specialized Accounting Courses on the first page of this Course Offerings section.

AEC - Architectural Engineering and Construction Technology

AEC 101 - Basic Architectural Drafting (4)

Introduces the student to basic architectural drafting techniques. Topics explored in lecture and through project work include: use of instruments, geometric construction, multiview, oblique and isometric projections, and basic construction drawings.

Contact Hours: 90.

AEC 102 - Residential Construction Drawing (4)

Covers an investigation of light frame construction techniques and the production of residential construction drawings. The course covers residential construction materials, components and systems related to wood frame structures. Students produce a professional set of construction drawings of a residential structure.

Prerequisite: AEC 101 and CAD 101. Recommended Preparation: AEC 121.. Contact Hours: 90.

AEC 121 - Construction Materials and Systems (3)

Examines building materials and construction techniques. Topics include a study of soils, concrete, brick, masonry, steel, timber, and plastics and a study of types of building structural systems and components. Principles of interpreting light commercial construction drawings (blueprints) for structural and trade information are also introduced.

Contact Hours: 67.5.

AEC 122 - Construction Practices and Documents (2)

Investigates construction practices, specifications, contracts and other legal documents used in the building construction industry. The roles and responsibilities of design and construction team participants are also explored.

Prerequisite: Prerequisite or Corequisite: AEC 121.. Contact Hours: 45.

AEC 123 - Commercial Construction Drawings (4)

Examines the drawing of architectural plans, elevations, sections, details, and schedules. Students produce a portfolio of construction drawings of a multi-story skeleton structure.

Prerequisite: CAD 224. Corequisite: AEC 102. Contact Hours: 90.

AEC 200 - Building Design Development (3)

Acquaints the student with the process of building design development. Factors, which influence and dictate building design, are explored in lecture. Emphasis is placed upon interpretation and application of the building code. Students apply code and program requirements in generating and revising design development drawings of single and mixed occupancy buildings.

Prerequisite: AEC 102. Contact Hours: 67.5.

AEC 205 - Applied Statics and Strengths of Materials (3)

Provides an algebra-based investigation of concepts in statics and strengths of materials. Topics include a study of fundamental mechanical properties of materials, single planar forces, properties of sections, and two-dimensional free body, shear and bending moment diagrams.

Prerequisite: MAT 121 and AEC 121.. Contact Hours: 67.5.

AEC 208 - Building Environmental Systems I (3)

Introduces concepts in operation and design of mechanical and sustainable (green) building systems that provide a healthy, comfortable and productive indoor air environment. Major topics covered include thermal comfort, heat and moisture flow in buildings, indoor air quality, and mechanical (HVAC and solar thermal) systems for climate in buildings.

Prerequisite: AEC 102 and AEC 121.. Contact Hours: 67.5.

AEC 215 - Elementary Site Planning (3)

Acquaints the student with basic surveying principles, building site analysis and associated drawings. Emphasizes systems of land survey, topographical analysis, zoning and site requirements, and other factors that influence building site development. Students complete problems in building construction surveying.

Prerequisite: AEC 121. Corequisite: MAT 122. Contact Hours: 67.5.

AEC 216 - Construction Estimating (3)

Studies fundamental structural elements and building structures. Building forces, transfer of forces, and structural members and systems are investigated through computation and project work. Fundamental engineering theory related to steel, wood, reinforced concrete and masonry are introduced.

Prerequisite: AEC 101, AEC 121 and CIS 118. Contact Hours: 67.5.

AEC 218 - Sustainable Building Systems (3)

Investigates the technologies and strategies related to sustainable (green) materials and systems for buildings. Topics include: energy and environmental consciousness/regulations; the high performance building envelope; alternative construction techniques (adobe, cob, rammed earth, straw bale); microclimate/site factors; sustainable green materials; and passive solar, active thermal solar, photovoltaic energy, wind

energy conversion, on site water use/reuse and waste disposal systems.

Prerequisite: AEC 121. Contact Hours: 67.5.

AEC 280 - Internship (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

AEC 285 - Independent Study (3)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Students are reminded that no more than six (6) credit hours of independent study may be applied to any associate degree program.

AEC 289 - Capstone (3)

Focuses on a demonstrated culmination of learning within a given program of study.

Prerequisite: AEC 121, AEC 122 and AEC 123.. Contact Hours: 67.5.

AIR - Air Force ROTC

AIR 101 - Foundations of the U.S. Air Force I (1)

Introduces students to the U.S. Air Force and the U.S.A.F. officer profession. Uses instructor lectures, films and videos, and group activities to examine Air Force issues, officer qualities, and military customs and courtesies. Examines the communication skills necessary for an Air Force officer.

Contact Hours: 15.

AIR 102 - Foundations of the U.S. Air Force II (1)

Continues the topics of AIR 101.

Contact Hours: 15.

AIR 103 - Military Leadership Lab I (1)

Complements AIR 101 by providing cadets with leadership, management and followership experiences. Leadership Laboratory is for students who are members of AFROTC or are eligible to pursue a commission as determined by the Professor of Aerospace Studies. This course consists of physical fitness training and a hands-on practical leadership lab.

Contact Hours: 15.

AIR 104 - Military Leadership Lab II (1)

Complements AIR 102 by providing cadets with continuing leadership, management and followership experiences. Leadership Laboratory is for students who are members of AFROTC or are eligible to pursue a commission as determined by the Professor of Aerospace Studies. This course consists of physical fitness training and a hands-on practical leadership lab and builds upon the outcomes in AIR 103.

Contact Hours: 15.

AIR 201 - Evolution of USAF Air and Space Power I (1)

Includes airpower, the history of airpower and air doctrine from the World War II to present. The course also examines the role of airpower in the Berlin Airlift, Korean War, Mideast and Vietnam Conflict, as well as the evolution of airpower concepts and doctrine and the development of communicative skills.

Contact Hours: 15.

AIR 202 - Evolution of USAF Air and Space Power II (1)

Continues the topics discussed in AIR 201.

Contact Hours: 15.

AIR 203 - Military Leadership Lab III (1)

Complements AIR 201 by providing cadets with opportunities for higher level leadership, management and followership experiences. This course builds upon the competencies from AIR 103 and AIR 104. Leadership Laboratory is for students who are members of AFROTC or are eligible to pursue a commission as determined by the Professor of Aerospace Studies. This course consists of physical fitness training and a hands-on practical leadership lab.

Contact Hours: 15.

AIR 204 - Military Leadership Lab IV (1)

Complements AIR 202 by providing cadets with opportunities for increasingly higher level leadership, management and followership experiences. Leadership Laboratory is for students who are members of AFROTC or are eligible to pursue a commission as determined by the Professor of Aerospace Studies. This course consists of physical fitness training and a hands-on practical leadership lab and continues to build upon the learning outcomes from AIR 203.

Contact Hours: 15.

ALT - Animal Lab Technology

ALT 126 - Introduction to Lab Animal Science (3)

Provides students with an overview of the field of laboratory animal care in its many manifestations in biomedical and agricultural research and testing and teaching.

Prerequisite: BIO 111. Contact Hours: 45.

ALT 280 - Lab Animal Internship (3)

Provides students a minimum of 135 hours of work in a biomedical research facility as coordinated by the program. Students work under the immediate supervision of experienced personnel at the institution and with the direct guidance of the instructor. Hours completed will help fulfill AALAS certification work requirements.

Prerequisite: Instructor Approval. Contact Hours: 135.

ANT - Anthropology

ANT 101 - Cultural Anthropology (3)

Studies human cultural patterns and learned behavior. Includes linguistics, social and political organization, religion, culture and personality, culture change, and applied anthropology.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ANT 102 - Cultural Anthropology Lab (1)

Studies the art and science of ethnographic research methods. This course analyzes classic ethnographies, conducts field research projects, writes model ethnographies and ethnologies, and addresses ethical debates and controversies.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 15.

ANT 103 - Archaeology Laboratory (1)

Studies analytical methods in archaeological research including those employed in the field and in the laboratory. This course utilizes practical exercises to illustrate theoretical principles of archaeology, including methods of archaeological survey, excavation, artifact analysis, collection strategies, mapping strategies, and field interpretation.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 15.

ANT 104 - Physical Anthropology Laboratory (1)

Investigates the principles of physical/biological anthropology. This course addresses genetic and evolutionary processes, comparative skeletal anatomy, primate morphology and behavior, human evolution, modern human variation, and forensics through laboratory and/or online practicum exercises and analytical discussions.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 15.

ANT 107 - Introduction to Archaeology (3)

Introduces the science of recovering the human prehistoric and historic past through excavation, analysis, and interpretation of material remains. The course provides a survey of the archaeology of different areas of the Old and New Worlds and the works of selected archaeologists, and discusses major archaeological theories.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ANT 108 - Archaeology of World Rock Art (3)

Introduces the archaeology of new and old world rock art dating from the historic past to over 30,000 years ago using a scientific perspective. Presents classification, recordation, dating, analysis, management and conservation, research ethics and protocols, and symbolic and ethnographic interpretation and addresses other formal approaches and established as well as emerging theory.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ANT 111 - Biological Anthropology with Laboratory (4)

Focuses on the study of the human species and related organisms, and examines principles of genetics, evolution, anatomy, classification, and ecology, including a survey of human variation and adaptation, living primate biology and behavior, and primate and human fossil evolutionary history.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR

094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 75.

ANT 126 - Colorado Archaeology (3)

Identifies and evaluates distinct prehistoric cultures present in the region now known as Colorado since about 10,000 years ago, using specific archaeological techniques and terminologies.

Contact Hours: 45.

ANT 201 - Introduction to Forensic Anthropology (3)

Studies the basic principles of forensic anthropology, an applied field within the discipline of physical anthropology. The course includes the study of the human skeleton, practical application of physical anthropology and archaeology, and judicial procedure, as they relate to the identification of human remains within a medico-legal context.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ANT 215 - Indians of North America (3)

Studies the Indians of North America from the origins of native peoples in the New World, through the development of geographic culture areas, to European contact and subsequent contemporary Native American issues.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ANT 221 - Exploring Other Cultures I (3)

Provides an anthropological understanding of a selected culture including language, processes of enculturation, subsistence patterns and economics, kinship and descent, political organization, religion, art, history, and its reactions to the forces of globalization.

Contact Hours: 45.

ANT 225 - Anthropology of Religion (3)

Explores the culturally universal phenomenon of religion including cross-cultural varieties of beliefs in the supernatural and the religious rituals people employ to interpret and control their worlds.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ANT 250 - Medical Anthropology (3)

Studies the basic principles of medical anthropology, an applied field within the discipline of cultural anthropology including the cross-cultural study of practices and beliefs regarding illness, health, death, prevention and therapy, and the interaction of the medical systems between Western and other cultures.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ANT 280 - Southwest Field Experience (2)

Introduces the social, religious, economic, and cultural development of selected American Indian societies and Hispanic settlements of the American Southwest. Major ruins, archaeological sites, museums, reservations, and/or pre-statehood communities are explored by field trip.

Contact Hours: 90.

AQT - Aquaculture**AQT 102 - Fish Biology and Ichthyology (5)**

Introduces the study of fish. Focuses on fish anatomy and physiology, reproduction and development, behavior and activities, nomenclature and taxonomy, and evolution and adaptations. Covers the basic anatomy of fish and their organ systems and includes the laboratory dissection. The course also includes a survey of the important families of fishes with emphasis on species of aqua cultural significance. Students use taxonomic keys to identify individual species and become familiar with life histories and evolutionary adaptations.

Contact Hours: 113.

AQT 245 - Pond Management (4)

Study basic pond management of plants and animals to be able to design, install, and maintain a balanced pond ecosystem. Experience is gained in assessing and managing ponds through fieldwork and classroom instruction.

Contact Hours: 90.

ARA - Arabic**ARA 101 - Conversational Arabic I (3)**

Introduces beginning students to conversational Arabic and focuses on understanding and speaking Arabic. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

ARA 102 - Conversational Arabic II (3)

Continues the sequence for students who wish to understand and speak Arabic. Covers basic conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: ARA 101 or equivalent.

ARA 111 - Arabic Language I (5)

Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the Arabic language.

Contact Hours: 75.

ARA 112 - Arabic Language II (5)

Continues Arabic Language I in the development of functional proficiency in listening, speaking, reading and writing the Arabic language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

Contact Hours: 75.

Recommended Preparation: ARA 111 or equivalent.

ARA 211 - Arabic Language III (3)

Continues Arabic I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Arabic language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

Prerequisite: ARA 112. Contact Hours: 45.

CCR 092 (p. 310), CCR 093 (p. 310), or CCR 094 (p. 311) or equivalent testing scores. These courses may be taken concurrently.

ARM - Army ROTC**ARM 111 - Adventures in Leadership I (2)**

Introduces the fundamentals of leadership and the United States Army. Includes Army leadership doctrine, team-building concepts, time and stress management, and an introduction to cartography and land navigation, marksmanship, briefing techniques, and basic military tactics. Includes lecture and laboratory.

Contact Hours: 30.

ARM 112 - Adventures in Leadership II (2)

Investigates leadership in small organizations. Covers basic troop leading procedures, military first aid and casualty evacuation concepts, creating ethical work climates, an introduction to Army organizations and installations, and basic military tactics. Introduces students to effective military writing styles. Includes lecture and laboratory.

Prerequisite: ARM 111. Contact Hours: 30.

ARM 211 - Methods of Leadership and Management I (3)

Reviews leadership and management concepts including motivation, attitudes, communication skills, problem solving, human needs and behavior, and leadership self-development. Students refine written and oral communications skills and explore the basic branches of the Army, and officer and NCO duties. Students conduct practical exercises in small unit light infantry tactics and perform as mid-level leaders in the cadet organization. Includes lecture and laboratory.

Prerequisite: ARM 112. Contact Hours: 45.

ARM 212 - Methods of Leadership and Management II (3)

Focuses on leadership and management functions in military and corporate environments. Studies various components of Army leadership doctrine to include the four elements of leadership, leadership principles, risk management and planning theory, the be-know-do framework, and the Army leadership evaluation program. Continue to refine communication skills. Includes lecture and laboratory.

Prerequisite: ARM 211. Contact Hours: 45.

ART - Art**ART 107 - Art Education Methods (3)**

Focuses on a multimedia approach to teaching art. Emphasizes strong creative presence, philosophy and techniques in drawing, painting, printmaking and other media.

Contact Hours: 45.

ART 110 - Art Appreciation (3)

Introduces the cultural significance of the visual arts, including media, processes, techniques, traditions, and terminology.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

ART 111 - Art History Ancient to Medieval (3)

Provides the knowledge base to understand the visual arts, especially as related to Western culture. Surveys the visual arts from the Ancient through the Medieval periods.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

[Learn more about CCR courses here.](#) (p. 310)

ART 112 - Art History Renaissance to Modern (3)

Provides the knowledge base to understand the visual arts, especially as related to Western culture. Surveys the visual arts from the Renaissance through the Modern periods.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

ART 113 - History of Photography (3)

Surveys the history of photography from its beginnings to the present. Emphasizes individual photographers who have made significant contributions to the field. Includes technical, artistic, commercial and social development of photography as a form of visual communication.

Contact Hours: 45.

ART 117 - Fiber Design I (3)

Introduces basic fiber design. Explores basic studies and approaches to fiber design, ranging from the uses of dyes, prints, painting, and threads to an appreciation of the properties of various kinds of fiber and textiles.

Contact Hours: 90.

ART 121 - Drawing I (3)

Investigates the various approaches and media that students need to develop drawing skills and visual perception.

Contact Hours: 90.

ART 122 - Drawing for the Graphic Novel (3)

Introduces the drawing and fine art principles used in developing illustrations for the graphic novel. Students explore the graphic novel as a vehicle for a unique, personal venue for artistic expression. Students explore the history of the graphic novel as well as examine different artistic styles used in the development of graphic novel illustrations. The application of artistic concepts in the creation of an individual graphic work and thorough examination of course material in terms of style, design considerations and visual elements are the primary focus. Students will create images for a graphic novel, focusing on unity of style and techniques for creating images appropriate to story line using black and white or grayscale illustrations.

Contact Hours: 45.

Recommended Preparation: ART 121 (p. 299)

ART 124 - Watercolor I (3)

Provides an introduction to the basic techniques and unique aspects of materials involved in the use of either transparent or opaque water media or both. Color theory is included.

Prerequisite: ART 121 or ART 131. Contact Hours: 90.

ART 127 - Landscape Drawing I (3)

Emphasizes nature, particularly landscape. Drawing outside or in view of landscape using graphite, ink, prismacolor, pastel, and washes. Students concentrate on various approaches, viewpoints, and styles and acquire expertise and interpretation in a variety of media.

Prerequisite: ART 121 or ART 131. Contact Hours: 90.

ART 128 - Figure Drawing I (3)

Introduces the basic techniques of drawing the human figure.

Prerequisite: ART 121. Contact Hours: 90.

ART 129 - Printmaking I (3)

Introduces the basic techniques and skills of printmaking as a fine art media. Instruction includes an understanding of visual concepts as they relate to prints. May include introduction to relief, intaglio, lithography and screen-printing techniques.

Contact Hours: 90.

ART 131 - Visual Concepts 2-D Design (3)

Examines the basic elements of design, visual perception, and artistic form and composition as they relate to two-dimensional media.

Contact Hours: 90.

ART 132 - Visual Concepts 3-D Design (3)

Focuses on learning to apply the elements and principles of design to three-dimensional problems.

Contact Hours: 90.

ART 133 - Jewelry and Metal Work I (3)

Introduces the construction of jewelry designs in metals and small casting techniques.

Contact Hours: 90.

ART 138 - Film Photography I (3)

Introduces black and white photography as a fine art medium and develops skills necessary for basic camera and lab operations.

Contact Hours: 90.

ART 139 - Digital Photography I (3)

Presents the fundamentals of Fine Art digital photography, including camera equipment and software used for image capture, management and manipulation. Topics include camera settings and exposure control, composition, working with light and time, and creative image manipulation.

Contact Hours: 90.

ART 140 - Color Photography I (3)

Covers the fundamentals of color photography such as color theory and light, production, processing and printing color negatives.

Contact Hours: 90.

ART 141 - Studio Photography (3)

Explores the creative uses of studio lighting from the perspective of fine art photography with an emphasis on portraiture, three-dimensional object photography, and two dimensional collage photography.

Contact Hours: 90.

Recommended Preparation: ART 138 (p. 299) or ART 139 (p. 299)

ART 142 - Landscape Photography (3)

Focuses on traditional and contemporary approaches to landscape photography. Examines technical and aesthetic aspects of landscape photography through group discussions, a field study, lectures, and print and slide critiques.

Contact Hours: 90.

Recommended Preparation: ART 138 (p. 299) or ART 139 (p. 299)

ART 144 - Portrait Photography (3)

Teaches the technical and aesthetic aspects of studio and location portrait photography. This course explores the personal style of portraiture, history of the field and portraiture as a visual language and creative expression. This topic also includes lighting, composition, posing, and equipment selection.

Contact Hours: 90.

Recommended Preparation: ART 138 (p. 299) or ART 139 (p. 299)

ART 145 - Digital Darkroom (3)

Teaches computer aided photography and darkroom techniques. The emphasis of this course is image-editing software, which can be used to color correct, retouch and composite photographic images. Other topics include image acquisition, storage, file management, special effects, hard copy and web based image output.

Contact Hours: 90.

Recommended Preparation: ART 139 (p. 299)

ART 150 - Digital Art Foundations I (3)

Explores visual problem solving using digital tools for fine art. Students will learn to draw and paint in a variety of artistic modalities using color and grayscale. Two-dimensional to three-dimensional observation exercises in composition will be explored. Students will develop their skills in gesture and contour drawing, painterly expression and artistic elements while using the computer as an art tool. Use of systematic applications for development and presentation of ideas is practiced using vector and raster software. No computer experience is necessary.

Contact Hours: 90.

ART 151 - Painting I (3)

Explores basic techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting to depict form and space on a two-dimensional surface.

Prerequisite: ART 121. Contact Hours: 90.

Recommended Preparation: ART 131

ART 152 - Landscape Painting (3)

Focuses on specific landscape concerns in the painting media of the student's choice.

Prerequisite: ART 151. Contact Hours: 90.

ART 153 - Pastel Painting (3)

Approaches the pastel medium in an inventive manner and introduces students to soft pastels and their many approaches to painting with them. Color theory will be taught in practice and application.

Contact Hours: 90.

ART 154 - Figure Painting I (3)

Focuses on painting the human figure, and includes a brief survey of figure painting, and instruction in the fundamental methods of composition and expressions.

Contact Hours: 90.

Recommended Preparation: ART 128 (p. 299) and ART 151 (p. 300)

ART 155 - Portraiture (3)

Introduces portrait drawing using various media, such as pencil, charcoal, pastel, and watercolor. Head and hand structures and their individual features and composition (using art elements and principles) are emphasized.

Prerequisite: ART 121. Contact Hours: 90.

ART 161 - Ceramics I (3)

Introduces traditional and contemporary ceramic forms and processes including hand building and throwing on the potter's wheel.

Contact Hours: 90.

ART 162 - Hand Built Clay I (3)

Provides instruction in several methods of hand building and the study of functional and decorative design elements.

Contact Hours: 90.

ART 163 - Hand Built Clay II (3)

Provides continued instruction in various methods of hand building.

Prerequisite: ART 162. Contact Hours: 90.

ART 164 - Hand Built Clay III (3)

Provides instruction in several methods of hand building and the study of functional and decorative design elements.

Prerequisite: ART 163. Contact Hours: 90.

ART 165 - Sculpture I (3)

Introduces the fundamentals of sculpture such as modeling, casting, carving, and the processes of assemblage.

Contact Hours: 90.

Recommended Preparation: ART 132

ART 166 - Raku (3)

Studies the Japanese art of Raku pottery. Students may hand build or make wheel thrown pots and will be involved in the unique firing process.

Prerequisite: ART 161. Contact Hours: 90.

ART 167 - Sculpting the Figure (3)

Focuses on sculpting the human figure using modeling techniques in clay.

Prerequisite: ART 165. Contact Hours: 90.

ART 205 - Museum Studies (3)

Provides an overview of museum field including curatorial practice. Covers the museum as a business, its history and role in society, and planning and implementation of museum exhibitions.

Contact Hours: 45.

ART 207 - Art History - 1900 to Present (3)

Provides students with the knowledge base to understand the visual arts as related to Modern and Contemporary visual art. Surveys world art of the twentieth century, including Modernism to Post-Modernism.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

ART 217 - Fiber Design II (3)

Continues instruction in fiber design.

Prerequisite: ART 117. Contact Hours: 90.

ART 221 - Drawing II (3)

Explores expressive drawing techniques with an emphasis on formal composition, color media and content or thematic development.

Prerequisite: ART 121. Contact Hours: 90.

ART 222 - Drawing III (3)

Offers a continued study of expressive drawing techniques and development of individual style, with an emphasis on composition and technique variation.

Prerequisite: ART 221. Contact Hours: 90.

ART 223 - Drawing IV (3)

Explores advanced drawing problems with an emphasis on conceptual development and portfolio and/or exhibition quality presentation.

Prerequisite: ART 222. Contact Hours: 90.

ART 224 - Watercolor II (3)

Continues the study of watercolor techniques, emphasizing original compositions and experimentation with materials. Color theory is included.

Prerequisite: ART 124. Contact Hours: 90.

ART 225 - Watercolor III (3)

Provides an introduction to the basic techniques and unique aspects of materials involved in the use of either transparent or opaque water media or both. Color theory is included.

Prerequisite: ART 224. Contact Hours: 90.

ART 226 - Watercolor IV (3)

Concentrates on the advanced study of techniques, individual style or expression, and consistency of compositional problem solving in watercolor.

Prerequisite: ART 225. Contact Hours: 90.

ART 227 - Landscape Drawing II (3)

Focuses on drawing outdoors or in view of landscape (both rural and inner city) using graphite, ink, washes, pencils, pastels, and watercolor. Students concentrate on various approaches,

viewpoints and styles and acquire expertise in a variety of media. Each student presents finished pieces matted for critique.

Prerequisite: ART 127. Contact Hours: 90.

ART 228 - Advanced Figure Drawing (3)

Provides continuing study of the various methods of drawing the human figure, with emphasis on the description of form and individual style.

Prerequisite: ART 128. Contact Hours: 90.

ART 229 - Printmaking II (3)

Introduces more advanced techniques and skills of printmaking as a fine art media. Instruction includes an understanding of visual concepts as they relate to prints. May include introduction to relief, intaglio, lithography and screen-printing techniques.

Prerequisite: ART 129. Contact Hours: 90.

ART 230 - Color Theory (3)

Explores the properties and concepts of color for application in fine art, commercial art and/or applied arts using various traditional fine art techniques and materials.

Contact Hours: 90.

Recommended Preparation: Any previous studio ART class.

ART 231 - Advanced 2D Design (3)

Provides continued study of the principles and elements of two-dimensional design with an emphasis on visual communication for further application in fine art, commercial art, and/or applied arts.

Prerequisite: ART 131. Contact Hours: 90.

ART 232 - Advanced 3D Design (3)

Provides continued study of the principles and elements of three-dimensional design with an emphasis on visual communication for further application in fine art, commercial art, and/or applied arts.

Prerequisite: ART 132. Contact Hours: 90.

ART 233 - Jewelry and Metal Work II (3)

Emphasizes conceptual design development, using casting and specialized techniques.

Prerequisite: ART 133. Contact Hours: 90.

ART 234 - Jewelry and Metalwork III (3)

Focuses upon advanced work and emphasizes experimentation with materials and techniques, individual designs, and superior craftsmanship.

Prerequisite: ART 233. Contact Hours: 90.

ART 235 - Jewelry and Metalwork IV (3)

Provides continued study of the properties of metal and stone in creating decorative work. Students employ advanced design and techniques to explore original, personal expression. A variety of materials and approaches are used in discovering new and independently creative finished pieces.

Prerequisite: ART 234. Contact Hours: 90.

ART 238 - Film Photography II (3)

This course is a further exploration in film camera and lab operations with an emphasis on individual creativity. Includes the development of a comprehensive portfolio.

Prerequisite: ART 138. Contact Hours: 90.

ART 239 - Digital Photography II (3)

Expands upon the beginning digital photography class. Focuses on digital photography in terms of design and communication factors including color, visual design, lighting, graphics, and aesthetics.

Prerequisite: ART 139. Contact Hours: 90.

ART 240 - Color Photography II (3)

Designed for students who are approaching a personal style and aesthetic in the medium of color photography. It is an extension of Color Photography I. Personal expression is stressed through individual critiques.

Prerequisite: ART 140. Contact Hours: 90.

ART 241 - Large format Photography (3)

Introduces the visual aesthetics and techniques of view camera photography. Students receive hands-on photographic experience with the 4x5 view camera, process film, and produce prints.

Prerequisite: ART 138. Contact Hours: 90.

ART 245 - Digital Photo Studio (3)

Introduces digital photography as a fine art medium, and develops skills necessary for basic operation of a digital camera and production of digital imagery.

Contact Hours: 90.

Recommended Preparation: ART 138 (p. 299) and ART 139 (p. 299) or permission of the instructor

ART 250 - Digital Art Foundations II (3)

Reviews and further explores the process of generating design utilizing a variety of digital tools. In this course, students will develop their proficiency with the digital tools and learn more advanced techniques in drawing and painting. Students will develop and evaluate their design-oriented projects using the elements and principles. Portfolio development, strong content, and a blending of a variety of computer art applications will be emphasized.

Prerequisite: ART 150. Contact Hours: 90.

ART 251 - Painting II (3)

Further explores techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting, with emphasis on composition and content development.

Prerequisite: ART 151. Contact Hours: 90.

ART 252 - Painting III (3)

Provides continued exploration of techniques, materials, and concepts used in opaque painting processes in oil or acrylic painting, with emphasis on composition and content development.

Prerequisite: ART 251. Contact Hours: 90.

ART 253 - Painting IV (3)

Explores advanced techniques, materials, and concepts used in opaque painting processes, with emphasis on the development of themes and a cohesive body of work.

Prerequisite: ART 252. Contact Hours: 90.

ART 254 - Advanced Figure Painting (3)

Offers continued study of painting the human figure with advanced problem solving in composition and experimentation with materials and techniques.

Prerequisite: ART 154. Contact Hours: 90.

ART 255 - Mural Painting I (3)

Introduces the student to the history, techniques, materials and concepts of mural painting with an emphasis on composition and content development.

Prerequisite: Prerequisite ART 121. Contact Hours: 90.

ART 257 - Advanced Portraiture (3)

Expresses the exploration of portraiture through advanced drawing and painting techniques. Students will explore historical portraiture, contemporary attitudes of portraiture, a variety of drawing and painting media, and various support structures.

Prerequisite: ART 155. Contact Hours: 90.

ART 261 - Ceramics II (3)

A continuation of ART 161, this course emphasizes skill, technique and form.

Prerequisite: ART 161. Contact Hours: 90.

ART 262 - Ceramics III (3)

Encourages students to develop an individual style of wheel thrown and hand built ceramic forms with continuing involvement in surface treatment.

Prerequisite: ART 261. Contact Hours: 90.

ART 263 - Ceramics IV (3)

Continues advanced work with emphasis on various clay bodies, unique glazes and engobes, and combining different textures and shapes, and development of personal forms.

Prerequisite: ART 262. Contact Hours: 90.

ART 265 - Sculpture II (3)

Develops an understanding and focus on manipulation of three-dimensional form, with greater concentration on individual creativity and style.

Prerequisite: ART 165. Contact Hours: 90.

ART 266 - Sculpture III (3)

Focuses on advanced individual sculpture projects, emphasizing experimentation with materials, accomplished technique and conceptual significance.

Prerequisite: ART 265. Contact Hours: 90.

ASE - Auto Service Technology

ASE 101 - Auto Shop Orientation (2)

Provides students with safety instruction in the shop and on the automobile. Emphasis is placed on the proper use and care of test equipment, precision measuring and machining equipment, gaskets, adhesives, tubing, wiring, jacks, presses and cleaning equipment and techniques.

Prerequisite: minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 110 - Brakes I (2)

Covers basic operation of automotive braking systems. This includes operation, diagnosis and basic repair of disc, drum and basic hydraulic braking systems.

Prerequisite: ASE 101. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 111 - Automotive Brake Service II (2)

Teaches skills to perform service checks and procedures to automotive foundation braking system and to identify components and types of ABS and traction control systems.

Prerequisite: ASE 101 and ASE 110. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 120 - Basic Automotive Electricity (2)

Introduces vehicle electricity and includes basic electrical theory, circuit designs, and wiring methods. It also focuses on multimeter usage and wiring diagrams.

Prerequisite: ASE 101 (this course can also be taken concurrently), and minimum assessment scores to enroll in CCR 092 and MAT 050. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 123 - Starting and Charging System (2)

Covers the operation, testing and servicing of vehicle battery, starting and charging systems. Includes voltage testing of starter and generator, load testing and maintenance of a battery.

Prerequisite: ASE 101 and ASE 120 (this course can also be taken concurrently) and minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 130 - General Engine Diagnosis (2)

Teaches students how to perform basic engine diagnosis to determine condition of engine. This will include engine support systems.

Prerequisite: ASE 101 (this course can also be taken concurrently), and minimum assessment scores to enroll in CCR 092 and MAT 050. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 134 - Automotive Fuel and Emissions Systems I (2)

Focuses on lecture and laboratory experiences in the diagnosis and repair of automotive fuel emission control systems, filter systems and spark plugs. Course also includes maintenance to diesel (DEF) systems.

Prerequisite: ASE 101 and ASE 120 and ASE 123, and minimum assessment scores to enroll in CCR 092 and MAT 050. These courses can be taken concurrently.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 140 - Suspension and Steering I (2)

Focuses on lecture and related experiences in the diagnosis and service of suspensions and steering systems and their components.

Prerequisite: ASE 101. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 141 - Suspension and Steering II (2)

Covers design, diagnosis, inspection, and service of suspension and steering systems used on light trucks and automobiles. Course includes power steering and SRS service.

Prerequisite: ASE 101 and ASE 140. ASE 120 is recommended and can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 150 - Manual Drive Train and Axle Maintenance (2)

Studies the operating principles and repair procedures relating to axle-shaft and universal joints.

Prerequisite: ASE 101. Contact Hours: 45.

Recommended Preparation: ASE 120 (p. 303) (can be taken concurrently) and assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 151 - Automotive Manual Transmission/Transaxles and Clutches I (2)

Focuses on lecture and related laboratory experiences in the diagnosis and repair of automotive manual transmissions, transaxles and clutches and related components.

Prerequisite: ASE 101 and ASE 150. Contact Hours: 45.

Recommended Preparation: ASE 120 (p. 303) (can be taken concurrently) and minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 152 - Manual Transmission, Transaxles and Clutches II (2)

Focuses on lecture and related laboratory experiences in the diagnosis and repair of automotive differentials, four wheel and all wheel drive units.

Prerequisite: ASE 101, ASE 150 and ASE 151. These courses can be taken concurrently.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher. ASE 120 (p. 303) is recommended and can be taken concurrently.

ASE 160 - Automotive Engine Repair (2)

Focuses on lecture and laboratory experiences in the service of cylinder head, valve-train components and components of the cooling system. Course also includes engine removal and re-installation and re-mounting systems.

Prerequisite: ASE 101. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 161 - Engine Repair and Rebuild (3)

Focuses on lecture and laboratory experiences in the disassembly, diagnosis and reassembly of the automotive engine. Topics include the diagnostic and repair procedures for the engine block and head assemblies.

Prerequisite: ASE 101 and ASE 160. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 67.5.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 162 - Automotive Engine Repair (2)

Covers engine sealing requirements and repair procedures; engine fasteners, bolt torque and repair of fasteners. Course will also cover cooling system and basic engine maintenance.

Prerequisite: ASE 101, ASE 160 and ASE 161. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 210 - Automotive Power and ABS Brake Systems (2)

Covers the operation and theory of the modern automotive braking systems. Includes operation, diagnosis, service, and repair of the anti-lock braking systems, power assist units and machine operations of today's automobile.

Prerequisite: ASE 101, ASE 110 and ASE 111. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: ASE 120 (p. 303) and minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 221 - Automotive and Diesel Body Electrical (4)

Provides a comprehensive study of the theory, operation, diagnosis, and repair of vehicle accessories.

Prerequisite: ASE 101, ASE 120, and ASE 123. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 90.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 231 - Automotive Computers and Ignition Systems (2)

Focuses on lecture and laboratory experiences in the inspection and testing of typical computerized engine control systems.

Prerequisite: ASE 101, ASE 120, and ASE 123. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 233 - Auto Fuel Injection and Emissions Systems II (4)

Focuses on lecture and related laboratory experiences in the diagnosis and repair of electronic fuel injection systems and modern exhaust systems.

Prerequisite: ASE 101, ASE 120, ASE 123, ASE 134 and ASE 231. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 90.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 240 - Suspension and Steering III (2)

Covers operation of steering and power steering systems. It will also include different alignment types and procedures.

Prerequisite: ASE 101, ASE 140, and ASE 141. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 45.

Recommended Preparation: ASE 120 and minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 250 - Automatic Transmission/Transaxle Service (1)

Focuses on practical methods of maintaining, servicing, and performing minor adjustments on an automatic transmission and transaxle.

Prerequisite: ASE 101. This course can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 22.5.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher. This course is offered at the Westminster Campus only.

ASE 251 - Automotive Transmission and Transaxle Repair (3)

Covers diagnosis, principles of hydraulics, principles of electronic components, power flow, theory of operation, remove and re-install transmission/transaxle, and replacement of components.

Prerequisite: ASE 101 and ASE 250. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 67.5.

Recommended Preparation: ASE 120 (p. 303) and minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 264 - Introduction Automotive Heating and Air Conditioning (1)

Covers basic operation of the Heating and Air Conditioning components.

Prerequisite: ASE 101 and ASE 120. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 22.5.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 265 - Heating and Air Conditioning Systems (4)

Emphasizes lecture and related laboratory experiences in the diagnosis and service of vehicle heating and air conditioning systems and their components.

Prerequisite: ASE 101, ASE 120, and ASE 264. These courses can be taken concurrently. Students will also need to meet minimum assessment scores to enroll in CCR 092 and MAT 050.. Contact Hours: 90.

Recommended Preparation: minimum assessment scores to enroll in ENG 121 or ENG 131 and MAT 107 (p. 363) or higher.

ASE 285 - Independent Study (1-6)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

Contact Hours: 30.

ASL - American Sign Language

ASL 101 - Basic Sign Language I (3)

Provides students with the basic knowledge of communicating with the Deaf community. Students will develop basic vocabulary and conversational skills and will be introduced to aspects of the Deaf culture and community.

Contact Hours: 45.

The course does not meet the ASL requirement for admission to the Interpreter Preparation program.

ASL 102 - Basic Sign Language II (3)

Continues the sequence for students who want to learn basic conversational patterns to communicate with the Deaf community. The material covers basic vocabulary and conversational skills, and aspects of the Deaf culture and community.

Contact Hours: 45.

Recommended Preparation: ASL 101. The course does not meet the ASL requirement for admission to the Interpreter Preparation Program.

ASL 121 - American Sign Language I (5)

Exposes the student to American Sign Language. Readiness activities are conducted focusing on visual/receptive skills and basic communication. Utilizes the direct experience method.

Contact Hours: 75.

Students must complete this course with a grade of B or higher or pass the ASL proficiency test with a score of at least 80% or better prior to registering for ASL 122 if planning to enroll in the Interpreter Preparation Program.

ASL 122 - American Sign Language II (5)

Develops a basic syntactic knowledge of American Sign Language (ASL), basic vocabulary and basic conversational skills. Incorporates vital aspects of Deaf culture and community. The direct experience method is used to enhance the learning process.

Prerequisite: ASL 121. Note: Students must complete this course with a grade of B or higher or pass the ASL 121, ASL 122 proficiency test at 80% or better prior to acceptance into the Interpreter Preparation Program.. Contact Hours: 75.

The Westminster Campus offers a proficiency exam for both ASL 121 and ASL 122. A student must pass a proficiency exam with an 80% score or better to satisfy the applicable prerequisite requirement.

ASL 123 - American Sign Language III (5)

Provides the student an opportunity to develop a stronger grasp of American Sign Language (ASL), as well as the cultural features of the language. ASL vocabulary is also increased. The direct experience method is used to further enhance the learning process. This course is a continuation of ASL 122 with more emphasis on expressive skills in signing.

Prerequisite: ASL 122 or ASL 221. Corequisite: Fall Only: ASL 125. Contact Hours: 75.

The Westminster Campus offers a proficiency exam for both ASL 121 and ASL 122. A student must pass a proficiency exam with an 80% score or better to satisfy the applicable prerequisite requirement.

ASL 125 - Fingerspelling (3)

Provides the student an opportunity to develop expressive and receptive finger spelling through various class activities.

Prerequisite: ASL 122 or ASL 221. Contact Hours: 45.

ASL 221 - American Sign Language IV (3)

Continues from ASL 123 to provide further study of American Sign Language (ASL) and its grammar, syntax and cultural features. Helps students develop competency and fluency in the language. Variations in ASL are addressed.

Prerequisite: ASL 123 and ASL 125.. Corequisite: IPP 122 unless this class has already been taken.. Contact Hours: 45.

ASL 222 - American Sign Language V (3)

Continues ASL 221 with focus on assimilating previously acquired skills and knowledge and increase proficiency in understanding and using American Sign Language (ASL). Addresses debates in ASL.

Prerequisite: ASL 221. Contact Hours: 45.

ASL 244 - Linguistics (3)

Investigates the structural properties of ASL including phonology, morphology, syntax, semantics, and discourse with a focus on how visual languages differ and are similar to spoken languages.

Prerequisite: ASL 122. Corequisite: ASL 123. Contact Hours: 45.

AST - Astronomy

AST 101 - Astronomy with Lab: Planetary Systems (4)

Focuses on the history of astronomy, naked-eye sky observation, tools of the astronomer, contents of the solar system and life in the universe. Incorporates laboratory experience.

Prerequisite: MAT 050. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 75 (45 lecture hours, 30 lab hours).

AST 102 - Stellar Astronomy with Lab: Stars & Galaxies (4)

Emphasizes the structure and life cycle of the stars, the sun, galaxies, and the universe as a whole, including cosmology and relativity. Stellar phenomena including white dwarves, black holes will be explored. Incorporates laboratory experience.

Prerequisite: MAT 050. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently

with this course.. Offered: *(GT-SC1). Contact Hours: 75 (45 lecture hours, 30 lab hours).

AST 160 - Cosmology: The Big Bang the End of Time (3)

Explores the birth, large scale structure and eventual fate of the universe. The course will examine the evidence for, and science behind, the Big Bang and inflation, the expanding universe, dark matter and dark energy, and the possible futures of the universe as a whole. The rise of complex life in our universe, the anthropic principle and the theory of multiple universes will also be included. Unification theories may be covered. This course is approved as part of the Colorado Statewide Guaranteed Transfer curriculum: GT-SC2.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC2). Contact Hours: 45.

BIO - Biology

BIO 105 - Science of Biology with Lab (4)

Examines the basis of biology in the modern world and surveys the current knowledge and conceptual framework of the discipline. Explores biology as a science, a process of gaining new knowledge, and the impact of biological science on society. This course includes a laboratory experience. Designed for non-science majors. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (45 lecture hours, 45 lab hours).

BIO 106 - Basic Anatomy and Physiology (4)

Focuses on basic knowledge of body structures and function, and provides a foundation for understanding deviations from normal and disease conditions. This course is designed for individuals interested in health care and is directly applicable to the Practical Nursing Program, Paramedic Program, and the Medical Office Technology program.

Contact Hours: 60.

High school biology and chemistry recommended.

BIO 111 - General College Biology I with Lab (5)

Examines the fundamental molecular, cellular and genetic principles characterizing plants and animals. Includes cell structure and function, and the metabolic processes of respiration, and photosynthesis, as well as cell reproduction and basic concepts of heredity. The course includes laboratory experience. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

High school biology and chemistry recommended.

BIO 112 - General College Biology II with Lab (5)

Continues Biology I. Includes ecology, evolution, classification, structure, and function in plants and animals. Includes laboratory experience. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

Prerequisite: BIO 111. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

BIO 115 - Human Genetics (3)

Focuses on a study of the inheritance of human traits. It is a non-mathematical study for the non-science major. Includes Mendelian, non-Mendelian, sex-linked, blood type traits, inherited diseases and ethics.

Contact Hours: 45.

BIO 201 - Human Anatomy and Physiology I with Lab (4)

Focuses on an integrated study of the human body including the histology, anatomy, and physiology of each system. Examines molecular, cellular, and tissue levels of organization plus integuments, skeletal, articulations, muscular, nervous, and endocrine systems. Includes a mandatory hands-on laboratory experience covering experimentation, microscopy, observations, and dissection. This is the first semester of a two-semester sequence. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

Prerequisite: ENG 121 or ENG 122. These courses may be taken concurrently.. Offered: *(GT-SC1). Contact Hours: 90 (45 lecture hours, 45 lab hours).

Recommended Preparation: BIO 111 (p. 306).

BIO 202 - Human Anatomy and Physiology II with Lab (4)

Focuses on the integrated study of the human body and the histology, anatomy, and physiology of the following systems and topics: cardiovascular, hematology, lymphatic and immune, urinary, fluid and electrolyte control, digestive, nutrition, respiratory, reproductive, and development. Includes a mandatory hands-on laboratory experience involving experimentation, microscopy, observations, and dissection. This is the second semester of a two-semester sequence.

Prerequisite: BIO 201 and CCR 092, CCR 093, or CCR 094 or equivalent testing scores. CCR courses may be taken concurrently.. Offered: *(GT-SC1). Contact Hours: 90 (45 lecture hours, 45 lab hours).

BIO 203 - Advanced Human Anatomy (2)

Examines the gross anatomical structure of the human body and the relationship between form and function. Students will dissect a human cadaver. Systems covered will include integument, digestive, respiratory, skeletal, muscular, reproductive, endocrine, lymphatic, urinary, nervous and cardiovascular. This is a course designed for allied health, education, biology and other students who wish to obtain advanced knowledge of human anatomy. Requires hands-on laboratory experience.

Prerequisite: A or B in BIO 201 and BIO 202. Contact Hours: 60 Lab Hours.

BIO 204 - Microbiology with Lab (4)

Designed for health science majors. Examines microorganisms with an emphasis on their structure, development, physiology, classification, and identification. The laboratory experience includes culturing, identifying, and controlling microorganisms with an emphasis on their role in infectious disease. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

Prerequisite: ENG 121 or ENG 122. These courses may be taken concurrently.. Offered: *(GT-SC1). Contact Hours: 90 (45 lecture hours, 45 lab hours).

Recommended Preparation: BIO 111 (p. 306).

BIO 208 - General College Microbiology with Lab (5)

Designed for biology and health science majors. Surveys microorganisms with an emphasis on their structure, development, physiology, classification, and identification. Includes microbial diversity, functional anatomy, biochemistry, genetics, ecology, and disease. Mandatory hands-on laboratory experience covers sterile technique, microscopy, culture procedures, and biochemical and genetic analysis.

Prerequisite: CCR 092, CCR 093, or CCR 094 or equivalent testing scores. CCR courses may be taken concurrently.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

Recommended Preparation: BIO 105 OR BIO 111

BIO 211 - Cell Biology with Lab (5)

Provides an intensive study of the cell and its organelles. Emphasis will be on the molecular mechanisms involved in cell communication, metabolism, motility, genetics, growth, and reproduction. This course requires hands-on laboratory experience.

Prerequisite: BIO 111 and CHE 111.. Contact Hours: 105.

BIO 216 - Pathophysiology (4)

Focuses on the alterations in physiological, cellular, and biochemical processes, the associated homeostatic responses, and the manifestations of disease. Prior knowledge of cellular biology, anatomy, and physiology is essential for the study of pathophysiology.

Prerequisite: BIO 201 and BIO 202.. Contact Hours: 60.

BIO 221 - Botany with Lab (5)

Studies nonvascular and vascular plants, emphasizing photosynthetic pathways, form and function, reproduction, physiology, genetics, diversity, evolution, and ecology. This course requires mandatory hands-on laboratory and field experience. This course is designed for biology majors. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

Prerequisite: CCR 092, CCR 093, or CCR 094 or equivalent testing scores. These courses may be taken concurrently.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

BIO 222 - General College Ecology with Lab (4)

Studies the interrelationships between organisms and their environment. Covers composition and function of aquatic and terrestrial ecosystems, population biology, pollution and the effects of man on ecosystems. Includes laboratory and field experiences.

Contact Hours: 90 (45 lecture hours, 45 lab hours).

BIO 224 - Genetics (4)

Studies the fundamental laws of heredity and their application to living organisms. Covers the basics of genetics. Focuses on the laws of Mendel, linkage, mutation concept, molecular genetics, and the Hardy-Weinberg law. Includes a laboratory experience. This course is approved as part of the Colorado Statewide Guaranteed Transfer curriculum: GT-SC1.

Prerequisite: BIO 111. Offered: *(GT-SC1). Contact Hours: 90.

BUS - Business**BUS 102 - Entrepreneurial Operations (3)**

Covers the major aspects of small business management to enable the entrepreneur to successfully begin his/her own business. This course provides the basic concepts of marketing, principles of management and finance needed to manage a small business. Further it develops the business plan and suggests methods of obtaining the financing required to launch the business.

Contact Hours: 45.

BUS 115 - Introduction to Business (3)

Focuses on the operation of the American Business System. Covers fundamentals of the economy, careers and opportunities, marketing, management, production, governmental regulations, tools of business and social responsibilities.

Contact Hours: 45.

BUS 116 - Personal Finance (3)

Surveys the basic personal financial needs of most individuals. Emphasizes the basics of budgeting and buying, saving and borrowing money, the intricacies of home ownership, income tax and investments, and the wise use of insurance, wills and trusts.

Contact Hours: 45.

BUS 120 - Introduction to E-Commerce (3)

Provides an introduction to electronic commerce-business trend of the future. Covers definition of e-commerce, technology and software requirements, security issues, electronic payment and marketing strategies. Focuses on what to expect when creating a dot-com, as well as the business-to-business use of e-commerce.

Contact Hours: 45.

BUS 201 - Business Logistics Optimization (3)

Addresses and explores the principles of business logistics and optimization, utilizing database management systems and software. Students will construct and evaluate models of business systems for transportation, fleet and asset tracking, distribution and supply, and warehousing. Emphasizes decision analysis for logistics efficiency.

Contact Hours: 45.

BUS 202 - Purchasing, Supply, and Sourcing Logistics (3)

Assesses the skills and abilities needed for the processes and activities for sourcing materials necessary for a business to deliver goods and services. An emphasis on the ability to formulate and manage the sourcing activities of purchasing supply, and sourcing logistics. The skills and fundamental comprehension for evaluating the sourcing of materials will be applied to business processes. Emphasizes decision analysis for logistics efficiency of purchasing, supply and sourcing.

Contact Hours: 45.

BUS 203 - Introduction to International Business (3)

Provides students with an understanding of the interdisciplinary nature of international business. The course covers the development of international business; theories and methods of international trade; financing mechanisms and terms used in export documentation and export finance; the effects of economics, political and cultural environment on international business and trade; impact of geography in business transactions; legal aspects of international business; and developing an effective international marketing strategy.

Contact Hours: 45.

BUS 216 - Legal Environment of Business (3)

Emphasizes public law, regulation of business, ethical considerations, and various relationships existing within society, government, and business. Specific attention is devoted to economic regulation, social regulation, regulation and laws impacting labor-management issues, and environmental concerns. Students develop an understanding of the role of law in social, political, and economic change.

Contact Hours: 45.

BUS 217 - Business Communication and Report Writing (3)

Emphasizes effective business writing and covers letters, memoranda, reports, application letters, and resumes. Includes the fundamentals of business communication and an introduction to international communication.

Contact Hours: 45.

Recommended Preparation: CCR 093 Studio D

BUS 218 - Legal Environment of Business II (3)

Focuses on the legal system and how it applies to the regulation of business and the consumer. Examines the legal entities of business organizations and includes study of the Uniform Commercial Code as it applies to commercial paper and secured transactions. Emphasizes antitrust and trade regulations, consumer protection, employment law, environmental law, and securities regulations. Ethics and social responsibility are examined.

Contact Hours: 45.

BUS 226 - Business Statistics (3)

Focuses on statistical study, descriptive statistics, probability, and the binomial distribution, index numbers, time series, decision theory, confidence intervals, linear regression, and correlation. Intended for the business major.

Prerequisite: MAT 050 or higher with a grade of "C" or better or appropriate diagnostic scores.. Contact Hours: 45.

BUS 281 - Internship (2)

Provides continued instruction and the opportunity for students to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business locations and with the direct guidance of the instructor.

Prerequisite: BUS 115. Contact Hours: 45.

BUS 289 - Capstone (2)

Demonstrates the culmination of learning within a given program of study.

Prerequisite: BUS 115 and BUS 217. Contact Hours: 15-90.

CAD - Computer-Aided Drafting

CAD 100 - Print Reading for CAD (3)

Covers linetype identification, use of lineweights, file management, prototype/template creation using AutoCAD. Covers interpretation of industry standards in dimensioning, symbology, drawing notes, scales, and reading working drawings. Architecture, engineering, design related, civil/survey, manufacturing, HVAC, and welding are industries discussed in this course.

Contact Hours: 67.5.

CAD 101 - Computer-Aided Drafting/2D I (3)

Focuses on basic computer aided drafting skills using the AutoCAD software. Includes file management, Cartesian coordinate system & dynamic input, drawing templates, drawing aids, linetype and lineweights, layer usage, drawing & editing geometric objects, polylines & splines, array, text applications, creating tables, basic dimensioning, and Help access.

Contact Hours: 67.5.

Recommended Preparation: CAD 100 AEC 101, or EGT 101, or EGT 143

CAD 102 - Computer-Aided Drafting/2D II (3)

Focuses on intermediate 2D computer aided drafting skills using the AutoCAD software. Includes blocks, wblocks & dynamic blocks, hatching, isometric drawings, advanced dimensioning and dimension variables, layouts, paper space and viewports, templates, external references, attributes, raster images, and printing/plotting.

Contact Hours: 67.5.

Recommended Preparation: CAD 101

CAD 105 - AutoCAD for Interiors (4)

Focuses on basic to intermediate 2D computer aided drafting interior design skills using the AutoCAD software. Includes templates, linetype and lineweights, layer usage, drawing & editing geometric objects, text applications, basic to advanced dimensioning skills. Creating and editing blocks, hatching, layouts/paper space and multiple viewports, external references, attributes, raster images, and printing/plotting.

Contact Hours: 90.

Recommended Preparation: CAD 100 AEC 101, or EGT 101 or EGT 143

CAD 115 - Sketchup (3)

Introduces techniques and common practices of 3D modeling using Sketchup software. Focuses on the creation and editing of virtual three-dimensional forms and volumes and the organization of their elements through the various features of the software. Includes applying material and textures, changing the appearance of models with styles and shadows and introduces the basic techniques of presenting and sharing the 3D model.

Contact Hours: 67.5.

CAD 153 - Introduction to Creo Basics (3)

Introduces basic Creo software and its operations such as part, assembly, and drawing creation. The student learns to construct, modify, and manage complex parts in 3D space as well as to produce 2D drawings from the 3D models. Creo is a 3D Parametric Solid Modeling program.

Contact Hours: 67.5.

CAD 180 - Internship (1)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 45 contact hours per credit.

CAD 185 - Independent Study (1)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

Contact Hours: 30 contact hours per credit.

CAD 189 - Capstone (1)

Provides a demonstrated culmination of learning within a given program of study.

Contact Hours: 15-45 contact hours per credit.

CAD 201 - Computer-Aided Drafting/Custom (3)

Focuses on program customization of AutoCAD software. Includes the creation of Dynamic Blocks, customizing Shortcut Menus and Double Click Actions, customizing Tool Palettes, Ribbon Tabs and Panels, User Profiles and Workspaces, basic CAD programming, path options, Sheet Set Manager, and eTransmit.

Prerequisite: CAD 102. Contact Hours: 67.5.

CAD 202 - Computer-Aided Drafting/3D (3)

Focuses on construction of three-dimensional objects using the AutoCAD software. Includes mesh & surface modeling, solid modeling, extrusions, Boolean operations, 3D editing, 3D views, rendering, materials, advanced lighting, and walkthrough, flyby animations of 3D Solids to 2D Layouts.

Prerequisite: CAD 102. Contact Hours: 67.5.

CAD 216 - Advanced Sketchup (3)

Introduces students to advanced techniques and workflows of 3D modeling and explores various presentation techniques using SketchUp Pro. It includes solid tools, dynamic components, import and export of 2D and 3D data to other formats, extensions, integrated rendering programs, and generating animations and phased-assembly sequences using advanced software features.

Prerequisite: CAD 115. Contact Hours: 67.5.

CAD 219 - 3DS MAX (3)

Introduces 3D model creation and editing, rendering and animation using the AutoDesk 3DS Max software. Focuses on 3D geometry, texture mapping, lighting, camera placement, shading, photo-realistic rendering, animation techniques, and walk through animations.

Prerequisite: CAD 102. Contact Hours: 67.5.

CAD 220 - 3DS/MAX Advanced Character Modeling (3)

Focuses on advanced 3D geometry and character construction, animation and rendering techniques using Autodesk 3DS Max software. Emphasis will include 3D geometry manipulation, character/bone/biped constructions, animation and video post-production of 3D animations.

Prerequisite: CAD 219. Contact Hours: 67.5.

CAD 221 - 3DS/MAX Advanced Architectural Visualization (3)

Introduces techniques for architectural visualization using 3DS Max. Focuses include establishing workflows, advanced texturing, modeling, rendering, and animation techniques for architectural visualization.

Prerequisite: CAD 219. Contact Hours: 67.5.

CAD 222 - Autodesk Navisworks (3)

Introduces students to the BIM management software Autodesk Navisworks. Multiple BIM models will be combined for the purposes of scheduling and clash detection.

Prerequisite: CAD 224. Contact Hours: 67.5.

Recommended Preparation: AEC 123.

CAD 224 - Revit Architecture (3)

Introduces students to the AutoDesk Revit Architecture software. Examines the Building Information Modeling approach to 2D and 3D architectural construction documents. Covers the creation of floorplans, elevations, sections, 3D models, perspective renderings and walkthroughs with this software application.

Prerequisite: CAD 101 or CAD 105. Contact Hours: 67.5.

Recommended preparation: AEC 102 (p. 295)

CAD 225 - CAD Architecture (3)

Provides students with the Computer Aided Software (CAD) software application training in Architectural construction drawings using industry standards. Includes creating floor plans, sections, elevations and details necessary to produce 2D Architectural construction drawings.

Contact Hours: 67.5.

Recommended Preparation: AEC 102 and CAD 102

CAD 227 - Advanced Revit Architecture (3)

Focuses on the advanced applications of the AutoDesk Revit Architecture software. Includes Family Editing, Topographic Site Plans, Worksharing, Phases, Key Schedules, Custom Annotation, Templates, and Presentation Techniques.

Prerequisite: CAD 224. Contact Hours: 67.5.

CAD 229 - Revit Structure (3)

Introduces structural steel modeling and building information modeling (BIM). Steel Structures, Foundation, Framing Systems, Elevator Shafts, Stairs, Ramps, and Drawing Annotation including Details and Schedules are covered.

Prerequisite: AEC 123. Contact Hours: 67.5.

CAD 233 - Civil 3D (Software) (3)

Provides students with the basics to advanced software application necessary to produce 3D Civil models and 2D drawings using the Civil 3D software. This course will cover

topics including components and program interface, linework, geometry, 2D to 3D Civil CAD applications.

Prerequisite: EGT 143. Contact Hours: 67.5.

CAD 240 - Inventor I/Autodesk (3)

Introduces basic Inventor applications of non-parametric modeling, three-dimensional parametric modeling and visualization & animation of 3D modeling. The student learns to construct, modify, and manage complex models in 3D space. Produces 2D drawing assemblies from 3D models.

Prerequisite: EGT 101 & CAD 102. Contact Hours: 67.5.

CAD 244 - Advanced Inventor (3)

This course focuses on the advanced applications of the parametric software Inventor. Includes management of design data, advanced assembly and analysis of model creations and constraints, documentation of bill of materials and parts lists, rendering and animation and testing a model assembly.

Prerequisite: CAD 240. Contact Hours: 67.5.

CAD 255 - SolidWorks/Mechanical (3)

Introduces parametric feature-based solid modeling 3D concepts to build confidence in 3D thinking and progresses to three-dimensional parameters. The student learns to construct, modify, and manage complex parts in 3D space as well as to produce 2D drawings from the 3D models.

Prerequisite: EGT 101 and CAD 102, or MAC 102.. Contact Hours: 67.5.

MAC 102 (p. 359) Prerequisite applies to Machining students only.

CAD 259 - Advanced Solidworks (3)

Introduces advanced applications of the 3D parametric software SolidWorks. Focuses include management of design data, advanced assembly, analysis of model creations, documentation of bill of materials and parts lists, rendering, animation, and dynamic simulation and testing a model assembly.

Prerequisite: CAD 255. Contact Hours: 67.5.

See the list of Specialized Computer-Aided Drafting Courses on the first page of this Course Offerings section.

CAD 262 - 3D Printing (3)

Provides the student with the ability to blend the virtual and real design worlds together through the use of 3D CAD Modeling, and 3D Printing.

Prerequisite: CAD 202 or CAD 219 or CAD 255 or CAD 227. Contact Hours: 67.5.

CAD 264 - 3D Scanning and Modeling (4)

Exposes students to 3D scanning and modeling. Students will manipulate various types of 3D scanning technology and create CAD models using scanning software and other CAD programs.

Prerequisite: CAD 202 or CAD 219 or CAD 224 or CAD 255. Contact Hours: 90.

CAD 266 - Advanced 3D Printing (3)

Provides the student with the ability to create Advanced 3D solid models using 3D printing and 3D scanning technology and various CAD software programs.

Prerequisite: CAD 262. Contact Hours: 67.5.

CAD 280 - Internship (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Prerequisite: CAD 202 and CAD 219. Contact Hours: 135.

Recommended Preparation: CAD 220 or CAD 221 or CAD 224 or CAD 233 or CAD 240 or CAD 255

CAD 285 - Independent Study (3)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

Contact Hours: 90.

CAD 289 - Capstone (3)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: CAD 202 or CAD 219. Contact Hours: 22.5 contact hours per credit.

Recommended Preparation: CAD 220 or CAD 221 or CAD 224 or CAD 233 or CAD 240 or CAD 255

CCR - College Composition and Reading

College Composition and Reading (CCR) courses are preparatory English classes designed to help prepare students for college-level English coursework. For all Guaranteed Transfer (GT) courses, students are required to enroll in or successfully complete CCR 092 or CCR 093 or CCR 094 if test scores are below college-level English (e.g., ENG 121 or higher). Students who have successfully completed the preparatory English courses of ENG 060 or ENG 090 with a C or higher are not required to complete CCR coursework to enroll in GT courses.

CCR 091 - Composition and Reading Lab (1)

Supports skill development for students registered in CCR 092 College Composition. Topics covered in the course include those defined in CCR 092 and/or any foundational skills needed by the student. Any student enrolled in CCR 091 is required to co-enroll in CCR 092.

Corequisite: CCR 092. Contact Hours: 15.

CCR 092 - Composition and Reading (5)

Integrates and contextualizes college level reading and writing. Students will read and understand complex materials and respond to ideas and information through writing informative and/or persuasive texts.

Prerequisite: Appropriate diagnostic scores required.. Contact Hours: 75.

CCR 093 - Studio D (3)

Integrates and contextualizes reading and writing strategies tailored to a co-requisite 100-level course within one or more of the four discipline strands. The four discipline strands are defined as: Communications, Science, Social Science, and Arts and Humanities. Non-GT courses are not eligible for this consideration. Students will read and understand complex discipline-specific materials, and respond to ideas and information through writing informative and/or persuasive texts.

Prerequisite: Appropriate diagnostic scores required..
 Corequisite: 100-Level GT course as offered by campus/section..
 Contact Hours: 45.

CCR 094 - Studio 121 (3)

Integrates and contextualizes reading and writing strategies tailored to co-requisite ENG 121 coursework. Students will read and understand complex materials, and respond to ideas and information through writing informative and/or persuasive texts.

Prerequisite: Appropriate diagnostic scores required..
 Corequisite: ENG 121. Contact Hours: 45.

CHE - Chemistry

CHE 101 - Introduction to Chemistry I with Lab (5)

Includes the study of measurements, atomic theory, chemical bonding, nomenclature, stoichiometry, solutions, acid and base, gas laws, and condensed states. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively. Designed for non-science majors, students in occupational and health programs, or students with no chemistry background.

Prerequisite: MAT 050 OR MAT 055. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

CHE 102 - Introduction to Chemistry II with Lab (5)

Focuses on introductory organic and biochemistry (sequel to Introduction to Chemistry I). This course includes the study of hybridization of atomic orbitals for carbon, nomenclature of both organic and biochemical compounds, physical and chemical properties of various functional groups of organic chemistry, and physical and chemical properties of biochemical compounds along with their biochemical pathways. Laboratory experiments are included. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1.

Prerequisite: CHE 101 or higher. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

CHE 105 - Chemistry in Context with Lab (5)

Covers the study of measurements, matter, molecules, atoms, chemical bonding, nomenclature, energy, acids, bases, and nutrition. Course work examines chemistry in the modern world and surveys the current knowledge as well as the conceptual framework of the discipline. Chemistry as a science is explored, as is the impact of chemistry on society. This course includes laboratory experience and is designed for non-science majors.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90.

CHE 111 - General College Chemistry I with Lab (5)

Focuses on basic chemistry and measurement, matter, chemical formulas, reactions and equations, stoichiometry. This course covers the development of atomic theory culminating in the use of quantum numbers to determine electron configurations of

atoms, and the relationship of electron configuration to chemical bond theory. The course includes gases, liquids, and solids and problem-solving skills are emphasized through laboratory experiments.

Prerequisite: CHE 101 or equivalent within the last 7 years. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Corequisite: MAT 121 unless this class has already been taken.. Offered: *(GT-SC1). Contact Hours: 105 (60 lecture hours, 45 lab hours).

CHE 112 - General College Chemistry II with Lab (5)

Presents concepts in the areas of solution properties, chemical kinetics, chemical equilibrium, acid-base and ionic equilibrium, thermodynamics, and electrochemistry. This course emphasizes problem solving skills and descriptive contents for these topics. Laboratory experiments demonstrate qualitative and quantitative analytical techniques.

Prerequisite: CHE 111 within the last 7 years and MAT 121 within the last 7 years. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 105 (60 lecture hours, 45 lab hours).

CHE 205 - Introductory Organic Chemistry with Lab (5)

Focuses on compounds associated with the element carbon, their reactions, and synthesis. Includes structure, physical properties, reactivities, synthesis and reactions of aliphatic hydrocarbons and selected functional group families including alcohols, ethers, aromatics, aldehydes, ketones, amines, amides, esters, and carboxylic acids. Covers nomenclature, stereochemistry, and reaction mechanisms. Includes reactions and reaction mechanisms of aromatic compounds. Designed for students needing one semester of organic chemistry.

Prerequisite: CHE 101 or (CHE 111 and CHE 112) both within the last 7 years.. Contact Hours: 105 (60 lecture hours, 45 lab hours).

CHE 211 - Organic Chemistry I with Lab (5)

Focuses on compounds associated with the element carbon. Includes structure and reactions of aliphatic hydrocarbons and selected functional group families. Covers nomenclature of organic compounds, stereochemistry, reaction mechanisms such as SN1, SN2, E1 and E2. Laboratory experiments demonstrate the above concepts plus the laboratory techniques associated with organic chemistry.

Prerequisite: CHE 112 within the last 7 years.. Contact Hours: 105 (60 lecture hours; 45 lab hours).

CHE 212 - Organic Chemistry II with Lab (5)

Explores the chemistry of carbon-based compounds, their reactions and synthesis including the structure, physical properties, reactivities and synthesis of organic functional groups not covered in Organic Chemistry I. The course explores functional groups including alcohols, ethers, aromatics, aldehydes, ketones, amines, amides, esters, and carboxylic acids and the reactions and reaction mechanisms of aromatic compounds. An introduction to biochemical topics if time permits. Laboratory experiences demonstrate the above concepts and the laboratory techniques associated with organic chemistry.

Prerequisite: CHE 211 within the last 7 years.. Contact Hours: 105 (60 lecture hours; 45 lab hours).

CHI - Chinese

CHI 101 - Conversational Chinese I (3)

Introduces beginning students to conversational Chinese and focuses on understanding and speaking Chinese. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

CHI 102 - Conversational Chinese II (3)

Continues the sequence for students who wish to understand and speak Chinese. Covers basic conversational patterns, expressions, and grammar.

Contact Hours: 45.

CHI 111 - Chinese Language I (5)

Focuses on the development of functional proficiency in listening, speaking, reading and writing the Chinese language. Note: The order of the topics and methodology varies according to individual texts and instructors.

Contact Hours: 75.

CHI 112 - Chinese Language II (5)

Continues Chinese Language I in the development of functional proficiency in listening, speaking, reading and writing the Chinese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

Contact Hours: 75.

Recommended Preparation: CHI 111

CHI 211 - Chinese Language III (3)

Focuses on the further development of functional proficiency in listening to, speaking, reading and writing the Chinese language.

Prerequisite: CHI 112. Contact Hours: 45.

CIS - Computer Information Systems

CIS 109 - Management Software and Technical Applications: Veterinary Professionals (1)

Introduces the use of computer management software and the concepts of software applicable to various technology programs. Covers features of selected software, terminology related to hardware, software and online resources (which include PC, word processing, databases, spreadsheets and email). Provides opportunities for practical application of computer skills.

Corequisite: VET 102. This course can be taken concurrently.. Contact Hours: 15.

CIS 115 - Introduction to Computer Information Systems (3)

Focuses on an overview of the needs for and roles of computer information systems. Emphasizes computer requirements in organizations, history, hardware functions, programming, systems development, and computer operations. Introduces computer applications.

Contact Hours: 45.

CIS 118 - Introduction to PC Applications (3)

Introduces basic computer terminology, file management, and PC system components. Provides an overview of office application software including word processing, spreadsheets, databases, and presentation graphics. Includes the use of a web browser to access the Internet.

Contact Hours: 45.

CIS 120 - Technology for Career Development (1)

Prepares students to actively pursue a career path. This course will emphasize awareness of career opportunities through the use of career assessment tools, academic advising and career professionals. It will provide students with skills assessment tools, professional development activities, and information for creating and maintaining an electronic career portfolio.

Contact Hours: 15.

CIS 128 - Operating System: Using Microsoft Windows (3)

Introduces the functions and capabilities of an operating system, including configuring and modifying the operating system environment.

Contact Hours: 45.

CIS 135 - Complete PC Word Processing: Word (3)

Explores a complete array of word processing skills. The skills needed to create, edit, format, and printing documents are covered. Other topics include character, paragraph, and page formats, the use of spelling checkers and thesaurus, hyphenation, tables, mail merge, document design, and graphics.

Contact Hours: 45.

Recommended Preparation: CIS 118.

CIS 145 - Complete PC Database: ACCESS (3)

Explores a complete array of database skills. Includes table, query, form, and report creation and modification. Other topics include application integration and automation of database tasks within the database.

Contact Hours: 45.

Recommended Preparation: CIS 118

CIS 146 - Database Application Development: ACCESS (3)

Covers the PC database concepts necessary to create database applications. Includes programming, shared files, resource locking, and database recovery.

Prerequisite: Prerequisite/Corequisite: CIS 145 may be taken at the same time as CIS 146. Contact Hours: 45.

Recommended Preparation: CSC 220

CIS 155 - PC Spreadsheet Concepts: Excel (3)

Exposes the student to a wide range of uses of the electronic spreadsheet with special emphasis as a business tool. Includes fundamentals and terms, creating and saving workbooks, entering and using formulas, formatting, printing, multiple-page workbooks, creating charts, entering and using functions, managing lists, and simple macros.

Contact Hours: 45.

Recommended Preparation: CIS 118

CIS 167 - Desktop Publishing (3)

Introduces the concepts and applications for desktop publishing using word processing software. Emphasizes page layout and design with techniques for incorporating text and graphics and final production of printed documents.

Contact Hours: 45.

Recommended Preparation: Knowledge of word processing

CIS 202 - Automated Project Management: MS Project (3)

Provides an in depth exploration of project management techniques that use software to automate the project management processes. The course emphasizes project management strategies, goal setting and communication with team members, management and vendors. Critical thinking, discussion, and real world projects will be used to explore the creation of a task list, resource assignment and leveling. Students will learn to use GANTT charts, milestones, Critical Path Methodology, PERT, project tracking and reporting.

Contact Hours: 45.

Recommended Preparation: MAN 241 (p. 361)

CIS 218 - Advanced PC Applications (3)

Covers the advanced capabilities of a PC software applications suite. Emphasizes solving business problems by integrating data from all software applications that facilitate the production of useful information. Printed documents, reports, slides, and forms are produced to communicate information.

Contact Hours: 45.

Recommended Preparation: CIS 118

CIS 223 - Linux (3)

Introduces students to the concepts of installing, configuring, and managing the Linux operating system. Topics covered include working with various desktops, use of file system commands, and management of user and group permissions.

Contact Hours: 45.

Recommended Preparation: Completion of any two CIS, CNG, CSC, or CWB courses

CIS 240 - Database Design and Development (3)

Introduces the basic concepts of relational databases, data storage, and retrieval. Covers database design, data modeling, transaction processing and introduces the Structured Query Language for databases.

Prerequisite: CIS 145 may be taken concurrently. Contact Hours: 45.

CIS 243 - Introduction to SQL (3)

Introduces students to Structured Query Language (SQL). Students learn to create database structures and store, retrieve and manipulate data in a relational database. Students create tables and views, use indexes, secure data, and develop stored procedures and triggers.

Prerequisite: CIS 145 may be taken concurrently. Contact Hours: 45.

CIS 246 - Oracle Database Administration I (4)

Provides a foundation in basic Oracle architecture, storage structure and database administrative tasks. Emphasizes the knowledge and skills to create databases and data dictionary

views, and to manage Oracle instances, tables, table spaces, data files, control files, and redo log files and rollback segments.

Prerequisite: CIS 145 may be taken concurrently. Contact Hours: 60.

Recommended Preparation: CIS 240 (p. 313)

CIS 252 - Implement & Maintain MS SQL Svr (3)

Provides students with the knowledge and skills to implement and maintain a Microsoft SQL Server database. The course focuses on teaching students how to use SQL Server features and tools related to maintaining a database.

Contact Hours: 45.

Recommended Preparation CIS 244

CIS 254 - Oracle Forms (4)

Introduces students to the Oracle Developer suite of applications including Forms Builder, Graphics Builder, and Reports Builder. Students gain experience creating database applications while connected to an Oracle relational database. Skills learned include object navigation, layout editing, manipulating data block and layout wizards, working with property palettes, writing SQL triggers, incorporating Oracle built-in functions, creating input parameters, and linking applications through menus.

Prerequisite: CIS 145. Contact Hours: 60.

CIS 256 - Oracle Reports (3)

Introduces the Oracle Reports Developer. Covers building, retrieving, displaying and formatting data from different data sources in numerous report styles.

Prerequisite: CIS 145. Contact Hours: 45.

CIS 267 - Management of Information Systems (3)

Introduces the concepts and techniques of managing computer-based information resources. Includes hardware, software, personnel, control techniques, and the placement and integration of information systems resources within the organization.

Contact Hours: 45.

Recommended Preparation: Completion of any two CIS, CNG, CSC, or CWB courses

CIS 268 - Systems Analysis and Design I (3)

Introduces the student to the materials, techniques, procedures, and human inter-relations involved in developing computer information systems. Includes the systems approach, fact gathering techniques, forms design, input/output, file design, file organization, various charting techniques, system audits on controls, project management, implementation, and evaluation.

Contact Hours: 45.

Recommended Preparation: Completion of any two CIS, CNG, CSC, or CWB courses

CIS 280 - Internship (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business locations and with the direct guidance of the instructor.

Prerequisite: To be determined by the program director..
Contact Hours: 45 contact hours per credit.

CNG - Computer Networking

CNG 120 - A+ Certification Preparation (4)

Prepares students for the CompTIA A+ certification examination. PC hardware and operating system installation, configuration and troubleshooting are practiced and reviewed using A+ techniques.

Contact Hours: 60.

CNG 121 - Computer Technician I: A+ (4)

Provides students with an in-depth look at personal computer hardware, introduces O.S. features and security concepts, and covers interpersonal skills, all of which are necessary for a successful entry-level computer service technician position. Provides extensive hands-on work with computer systems, PC setup and configuration, and basic maintenance and troubleshooting. This course helps prepare you for the CompTIA A+ Essentials Exam.

Contact Hours: 60.

CNG 122 - Computer Technician II: A+ (4)

Provides students with an in-depth look at desktop and mobile Operating System support, maintenance, and troubleshooting, and an overview of security concepts, and interpersonal skills, all of which are necessary for a successful entry-level computer service technician position. Provides extensive hands-on work with current operating systems, including using common GUI and command line tools, registry editing, system backup and recovery, and advanced troubleshooting. This course helps prepare you for the second CompTIA A+ Exam.

Contact Hours: 60.

Recommended Preparation: CNG 121

CNG 124 - Networking I: Network + (3)

Provides students with the knowledge necessary to understand, identify and perform necessary tasks involved in supporting a network. Covers the vendor-independent networking skills and concepts that affect all aspects of networking, such as installing and configuring the TCP/IP. This course also prepares students for the Networking II: Network + course.

Corequisite: MAT 050. This course and CNG 124 may be taken at the same time. Contact Hours: 45.

Recommended Preparation: CNG 120 (p. 314) or CNG 121 (p. 314).

CNG 125 - Networking II: Network + (3)

Continues to provide students with the knowledge necessary to implement and support a network. Focuses on the vendor-independent networking skills and concepts that affect all aspects of networking. The Networking I and II: Network + courses prepare students for the Network + certification.

Prerequisite: Prerequisite/Corequisite: CNG 124. Contact Hours: 45.

CNG 129 - Wireless LAN Fundamentals (3)

Implement and troubleshoot Wireless Local Area Networks (WLANs). This course includes WLAN planning, design, installation, and configuration; WLAN security issues and vendor interoperability strategies; and mobile technology.

Prerequisite: CNG 124. Contact Hours: 45.

CNG 131 - Principles of Information Assurance (3)

Provides skills and knowledge required to survey key issues associated with protecting information assets, determine the levels of protections and responses to security incidents, and design a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. Students learn to inspect and protect information assets, detect and react to threats to information assets, and examine pre- and post-incident procedures, and technical and managerial responses. Students learn about information security planning and staffing functions.

Contact Hours: 45.

Recommended Preparation: CNG 132.

CNG 132 - Network Security Fundamentals (3)

Delivers a comprehensive overview of network security, including general security concepts. Communication Security is studied, including remote access, e-mail, the Web, directory and file transfer, and wireless data. Common network attacks are introduced. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity. Computer forensics is introduced.

Contact Hours: 45.

Recommended Preparation: CNG 124

CNG 133 - Firewalls/Network Security (3)

Teaches students the basics of network firewall security. It covers basic installation techniques, discusses how to make an intelligent choice of firewall technology, and presents basic firewall troubleshooting.

Prerequisite: Prerequisite/Corequisite: CNG 132. Contact Hours: 45.

CNG 136 - Guide to IT Disaster Recovery (3)

Presents methods to identify technology and communication infrastructure vulnerabilities and appropriate countermeasures to prevent and mitigate failure risks for an organization. The course will take an enterprise-wide approach to developing a disaster recovery plan.

Prerequisite: CNG 132. Contact Hours: 45.

CNG 142 - Intro to Cloud Computing Concepts (3)

Educates students on the differences between today's PC/server based networks and cloud computing. Students investigate the benefits of cloud computing, cloud models and solutions, and deployment methods. Students study hardware, storage, thin clients and virtualization in the cloud. The course also introduces students to cloud applications and cloud-based office productivity software. Students learn how they can apply cloud computing to address corporate information technology challenges.

Contact Hours: 45.

CNG 165 - Convergent Technologies (3)

Summarizes telecommunications with a survey of how data, voice, video technologies are converging for telecommunications systems. Covers wireless, ISDN, PCM, DSL, cable, IP voice, and computer networks.

Contact Hours: 45.

CNG 201 - Linux Configuration: (OS) (3)

Install a Linux operating system (OS). Configure and manage OS using command line interface (CLI) and text editor. Topics include installation and configuration of updates, services, file system, users and groups, file and folder permissions, networking, and remote access.

Contact Hours: 45.

Recommended Preparation: Completion of any two CIS, CNG, CSC, or CWB courses

CNG 202 - Unix/Linux Server Administration (3)

Provides students with the knowledge and skills required to configure, administer and secure data, users and services in a UNIX or Linux server environment. Emphasis will be on command-line interface (CLI). Topics will also include system monitoring, performance tuning, troubleshooting and interoperability with Windows servers and clients.

Prerequisite: CNG 201. Contact Hours: 45.

Recommended Preparation: CSC 119 (p. 318) or higher taken concurrently

CNG 203 - Advanced Linux Server Administration (3)

Administer a Linux multi-server environment by building on previous Linux server environment knowledge. Emphasizes remote access to servers, and automation of system administrative tasks using shell scripts with advanced features and higher level language (HLL).

Prerequisite: CNG 202 and CSC 119 or higher Programming Course. Contact Hours: 45.

CNG 211 - Windows Configuration (3)

Provides students with the knowledge and skills necessary to address the implementation and desktop support needs of customers who are planning to deploy and support Microsoft Windows client O.S. in a variety of network operating system environments.

Corequisite: CNG 124. Contact Hours: 45.

CNG 212 - Configuring Windows Server (4)

Provides students with the knowledge and skills that are required to install and configure a Microsoft Windows Server. This course helps prepare students for a MTA (Microsoft Technology Associate) and/or MCSA (Microsoft Certified Solutions Associate) exams.

Prerequisite: Prerequisite/Corequisite: CNG 124. Contact Hours: 60.

Recommended Preparation: CNG 211 (p. 315)

CNG 213 - Administering Windows Server (4)

Provides students with the knowledge and skills required to administer Microsoft Windows Servers. This course helps prepare students for the current MCSA (Microsoft Certified Solutions Associate) exam.

Prerequisite: CNG 212. Contact Hours: 60.

CNG 214 - Adv Windows Server Admin (4)

Provides students with advanced knowledge and skills to configure and administer Windows Server infrastructure. This course helps prepare students for the current MCSA (Microsoft Certified Solutions Associate) exam.

Prerequisite: CNG 212. Contact Hours: 60.

CNG 215 - Windows Automation (3)

Instructs students in Windows automation using command line or Powershell. Student will build on previous server environment knowledge to learn command line utility and/or Powershell cmdlets, and develop scripting skills for automating administrative tasks in a Windows environment.

Prerequisite: CNG 212 and CSC 119 or higher programming course. Contact Hours: 45.

CNG 220 - IT Service Management: Framework (3)

Provides the knowledge and skills of Information Technology (IT) service management with focus on aligning IT services with the needs of business. This course will cover the key elements, concepts and terminology used in the IT service lifecycle, including the links between lifecycle stages, the processes used and their contribution to service management practices.

Contact Hours: 45.

CNG 230 - Fast Track CCNA 1 and 2 (5)

Presents the first of two parts of the CCNA certification preparation course for students that already have a solid networking background. It will consist of internetworking, internet protocols, IP subnetting, introduction to the Cisco IOS, IP routing, EGRIP, and OSPF.

Prerequisite: CNG 124. Contact Hours: 75.

CNG 231 - Fast Track CCNA 3 and 4 (5)

Presents the second of two parts of the CCNA certification preparation course for students who have completed the CCNA I course. It will consist of VLSM, Layer 2 switching, VLANs, ACLs, PPP, Frame Relay, DDR and ISDN.

Prerequisite: Prerequisite/Corequisite CNG 230. Contact Hours: 75.

CNG 232 - Managing LAN Switches (3)

Prepares students to build, configure, and manage switches in a LAN with emphasis on vendor interoperability.

Prerequisite: CNG 124. Contact Hours: 45.

CNG 233 - Routers and Routing Protocols (3)

Prepares students to build, configure, and manage routers and routing protocols with emphasis on vendor interoperability.

Prerequisite: CNG 124. Contact Hours: 45.

CNG 240 - Virtual Environment Admin (3)

Build and administer a hypervisor environment. Includes building of virtual machine (VM) infrastructure and skills such as patching, backing up and securing of both hypervisor and virtual machines.

Prerequisite: Prerequisite/Corequisite: CNG 212 or CNG 201 or CIS 223 or CNG 142. Contact Hours: 45.

CNG 241 - Information Storage and Management (3)

Teaches students to configure, manage, and backup data using current information storage technologies.

Contact Hours: 45.

Recommended Preparation: CNG 212 (p. 315) or CNG 201 (p. 315) or CIS 223 (p. 313)

CNG 242 - Cloud Computing (3)

Installs, configures and manages a cloud environment. Builds on knowledge of hypervisor and virtual machine environments.

Prerequisite: CNG 212 or CNG 201 or CIS 223 or CNG 142.
Contact Hours: 45.

CNG 243 - Cloud Security and Cyber Law (3)

Introduces concepts of cloud architecture, cloud security, and the law as it pertains to cloud deployment. Focuses on the mechanics of security in the cloud service models: Infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS).

Prerequisite: CNG 132. Contact Hours: 45.

Recommended Preparation: CNG 240

CNG 254 - Data Encryption (3)

Exposes the student to data encryption models. Examines the differences between data storage including Microsoft, Novell Netware and UNIX. Includes encryption and data transmission. Covers encryption over various networks including the Internet.

Prerequisite: CNG 132. Contact Hours: 45.

CNG 256 - Vulnerability Assessment I (3)

Presents students with an introduction to vulnerability assessment. Vulnerability assessment skills are necessary to understand how companies address vulnerabilities in the business environment. Students gain a better understanding of how information technology security integrates into the corporate world and how a balance must be achieved between security and functionality.

Prerequisite: CNG 132.

CNG 257 - Network Defense & Counter Measures (3)

Examines the tools, techniques and technologies used in the technical securing of information assets. This course provides in-depth information of the software and hardware components of Information Security and Assurance. Topics include firewall configurations, hardening Unix and NT servers, Web and distributed systems security and specific implementation of security modes and architectures. The curriculum maps to the Security Certified Network Professional (SCP) Network Defense and Countermeasures exam.

Prerequisite: CNG 132. Contact Hours: 45.

CNG 258 - Digital Forensics (4)

Exposes the student to the field of digital computer forensics and investigation. This class provides the student with methods to properly conduct a digital forensics investigation including a discussion of ethics. Topics covered include fundamental concepts, history of computer forensics, file structures, data recovery techniques, computer forensic tools and analyses.

Prerequisite: CNG 132. Contact Hours: 60.

CNG 259 - Enterprise Security (4)

This course challenges students to combine the skills learned in previous coursework (or work experience) and apply them in whole to a mock business IT environment. Students will work in their own virtualized server environment, complete with servers, routers, firewalls, VPN, IDS/IPS, wireless and other current technologies to develop a security policy and framework using risk analysis and risk management techniques.

Prerequisite: CNG 133 and CIS 223 or CNG 201 or CNG 212.
Contact Hours: 60.

CNG 280 - Internship (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

COM - Communication**COM 115 - Public Speaking (3)**

Combines the basic theories of communication with public speech performance skills. Emphasis is on speech preparation, organization, support, audience analysis, and delivery.

Contact Hours: 45.

Recommended Preparation: CCR 092 (p. 310), CCR 093 (p. 310), or CCR 094 (p. 311) with appropriate diagnostic score to place into ENG 121 (p. 331). COM 115 (p. 316) or COM 125 (p. 316) is a CCCS requirement for A.A./A.S. degrees.

COM 125 - Interpersonal Communication (3)

Examines the communication involved in interpersonal relationships occurring in family, social, and career situations. Relevant concepts include self-concept, perception, listening, nonverbal communication, and conflict.

Contact Hours: 45.

Recommended Preparation: CCR 092 (p. 310), CCR 093 (p. 310), or CCR 094 (p. 311) with appropriate diagnostic score to place into ENG 121 (p. 331). COM 115 (p. 316) or COM 125 (p. 316) is a CCCS requirement for A.A./A.S. degrees.

COM 209 - Intrapersonal Communication (3)

Introduces the study of intrapersonal communication (communication with self) and emphasizes understanding of one's past experiences in learning how to set goals, accomplish life objectives, communicate with self, and plan for the future. This course includes individualized research, journaling, creativity explorations, lessons involving an individual's past and present hopes and dreams, goal setting for the future, positive self-exploration techniques and styles, networking, personal assessments, and creativity enhancement.

Contact Hours: 45.

COM 216 - Advanced Public Speaking (3)

Emphasizes the continued study of rhetorical theory and analysis as it relates to public speaking.

Prerequisite: COM 115. Contact Hours: 45.

COM 217 - Group Communication (3)

Examines group communication theories with an emphasis on leadership and group behaviors. The course provides opportunities for group participation.

Contact Hours: 45.

Recommended Preparation: COM 125 (p. 316).

COM 220 - Intercultural Communication (3)

Explores the link between culture and communication and will develop and/or enhance communication skills and the abilities appropriate to a multicultural society. Emphasis will be on

understanding diversity within and across cultures. Relevant concepts include perception, worldview, context, ethics, language, and nonverbal communication.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SS3). Contact Hours: 45.

Recommended Preparation: COM 125 (p. 316).

COM 225 - Organizational Communication (3)

Focuses on the role of communication theory and skills as they apply to business and organizational settings. Topics include organizational and leadership models, effective communication skills with peers, superiors, and subordinates, environmental factors impacting communication, and interviewing skills.

Contact Hours: 45.

Recommended Preparation: COM 115 (p. 316) or COM 125 (p. 316).

COM 226 - Oral Interpretation (3)

Exposes the student to the artistic, interpretive, and communicative potential to be found in the reading and performance of great literature and rhetoric such as is found in prose, poetry, and drama.

Contact Hours: 45.

Recommended Preparation: COM 115 (p. 316).

COM 230 - Argumentation and Debate (3)

Introduces the student to the theory of argumentation, including reasoning, evidence, refutation, critical thinking, and extemporaneous speaking. The course includes practice in preparation and oral analysis of selected arguments and styles of debating.

Prerequisite: COM 115. Contact Hours: 45.

CON - Construction Technology

CON 110 - Introduction to Construction, Part 1 (4)

Explores the expanding array of careers within the construction industry. Students will be exposed to the construction industry through job site tours, hands-on experience, and classroom activities. Math and science application will be established through the academic integration of jobsite technical skills and classroom theory.

Contact Hours: 90.

CON 111 - Introduction to Construction, Part 2 (4)

Explores additional careers within the construction industry. Students will be exposed to the construction industry through jobsite tours, hands-on experience, and classroom activities. Math and science application will be established through the academic integration of jobsite technical skills and classroom theory.

Contact Hours: 90.

CON 280 - Internship (2)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate

supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 90.

CON 289 - Capstone: Construction (2)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: CON 110 and CON 111. Contact Hours: 90.

CRJ - Criminal Justice

CRJ 110 - Intro to Criminal Justice (3)

Introduces students to the basic components of the criminal justice system in the United States. Concepts of crime, crime data, victimization, perspectives and views of crime, theory and law are discussed. Particular attention to the criminal justice process, interaction and conflict between criminal justice agencies, and current criminal justice issues are examined.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SS3). Contact Hours: 45.

CRJ 125 - Policing Systems (3)

Examines policing in the United States, including: historical foundations, emerging issues, and the relationship between law enforcement and the community. The various types of law enforcement agencies, their administrative practices, and the behavior of those involved in the delivery of police services are examined from the perspective of democratic values, racial and ethnic diversity, and societal perceptions of police effectiveness. Career requirements, including current and future trends, are also presented.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 127 - Crime Scene Investigation (3)

Focuses on basic procedure in crime scene management to include photography and preparing initial reports and sketches. Includes processing evidence and related criminalistic procedures. Covers interviewing suspects, witnesses and victims to include the recording of identifications and descriptions. Incorporates lab and lecture.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 135 - Judicial Function (3)

Provides an overview of the structure and function of the dual American judicial system and the behavior of actors (judges/justices, lawyers, law clerks, interest groups, etc.) within the system. Emphasis is placed on the organization and administration of state and federal courts, criminal court procedures, juries, selection of judges, decision-making behavior of juries, judges and justices, and the implementation and impact of judicial policies.

Prerequisite: CRJ 110 with a grade of "C" or better. Contact Hours: 45.

CRJ 145 - Correctional Process (3)

Examines the history and total correctional process from law enforcement through the administration of justice, probation, prisons, correctional institutions, and parole. Also examines the

principles, theories, phenomena and problems of the crime, society, and the criminal justice system from the perspective of criminology and the criminal justice system in general. Emphasizes the role of sociology and other interdisciplinary approaches to the field of corrections and society's response.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 201 - Emergency Dispatching (5)

Focuses on the unique knowledge, skills and abilities required for working in the Emergency Telecommunications industry. The course will focus on the basics of the emergency communication center, emergency telecommunication technology, caller management, call classification, legal aspects, and stress management.

Prerequisite: CRJ 110, CRJ 125, PSY 101, PSY 116, SOC 231 or COM 262 or PSY 226. Contact Hours: 75.

CRJ 205 - Principles of Criminal Law (3)

Focuses on common law and statutory law crimes, the Model Penal Code, elements defining crimes and penalties, defenses to criminal accusations, and definitions and distinctions between criminal and civil law.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 209 - Criminal Investigations I (3)

Covers the function of the preliminary investigation at a crime scene to include securing the scene, crime scene searches, police drawings, and recognition and collection of evidence.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 230 - Criminology (3)

Provides an introduction to the study of crime, understanding the causes of crime, and examines theoretical frameworks and theories to explain criminal behavior. Within a social context, consideration is given to how theories have emerged and understand how social context contributes to explanations of crime. Examination of the nature of crime, crime victimization, crime patterns, types of crime, crime statistics, and criminal behavior is also included.

Prerequisite: CRJ 110 with a grade of "C" or better. Contact Hours: 45.

CRJ 231 - Intro to Forensic Science & Criminalistics (3)

Exploration of the fundamentals of forensic science that are essential for gathering evidence at the crime scene and analyzing it in the crime laboratory.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 235 - Delinquent Behavior (3)

Focuses on the adolescent who violates social and legal norms and the consequences for the individual and society. Emphasizes the social and psychological factors influencing individual delinquent patterns.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 236 - Criminal Justice Research Methods (3)

Provides an introduction to research methods in criminal justice. Addresses foundations of research, analysis of findings, and ethical issues in researching criminal justice issues. This course will use an interactive approach in basic research concepts and practices. Students will obtain a thorough understanding of how research is conducted and how practitioners can benefit from this knowledge. Additionally, students will develop research proposals, conduct appropriate reviews of previously published research, and write a final research study.

Prerequisite: CRJ 110 with a grade of "C" or better. Contact Hours: 45.

CRJ 257 - Victimology (3)

Demonstrates to the student the role the crime victim plays in the criminal justice system. The traditional response that a crime victim receives from the system will be studied and the psychological, emotional and financial impact these responses have on victimization will be analyzed.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 268 - Criminal Profiling (3)

Examines theories of crime causation with respect to crimes committed by the most violent offenders in society. Identifies research done, and the history of Criminal Personality Profiling, beginning with the earliest explanations through the beliefs of modern science, as well as psychological and sociological explanations. Identifies various known offenders, examines their backgrounds, and explains how current research into homicide, sexual offenses and serial killers can provide clues to the identity of unknown offenders.

Prerequisite: CRJ 110 with a grade of "C" or above. Contact Hours: 45.

CRJ 280 - Internship (1)

Provides placement of the student into the criminal justice field to integrate theory with practice.

Prerequisite: Complete the Fundamentals of Public Safety Dispatch Certificate and pass the background check. Contact Hours: 45.

CSC - Computer Science

CSC 119 - Introduction to Programming (3)

Focuses on a general introduction to computer programming. Emphasizes the design and implementation of structured and logically correct programs with good documentation. Focuses on basic programming concepts, including numbering systems, control structures, modularization, and data processing. A structured programming language is used to implement the student's program designs.

Prerequisite: Equivalent testing score or successful completion of MAT 055 or higher. Contact Hours: 45.

CSC 160 - Computer Science I: (Language) (4)

Introduces students to the discipline of computer science and programming. Algorithm development, data representation, logical expressions, sub-programs and input/output operations using a high-level programming language are covered. Intensive lab work outside of class time is required.

Contact Hours: 60.

Recommended Preparation: CSC 119 (p. 318) or MAT 201 (p. 364)

CSC 161 - Computer Science II (4)

Continues the structured algorithm development and problem solving techniques begun in Computer Science I. Enables students to gain experience in the use of data structures and design of larger software projects. Requires intensive computer laboratory experience.

Contact Hours: 60.

Recommended Preparation: CSC 160 (p. 318) and MAT 121 (p. 363)

CSC 165 - Discrete Structures (4)

Prepares students for a fundamental understanding of computing and computer science. Includes set theory, boolean algebra, relations, functions, graph theory and techniques for formal reasoning.

Contact Hours: 60.

Recommended Preparation: CSC 161 (p. 319) and MAT 201 (p. 364)

CSC 217 - Advanced Python Programming (3)

Continues program development and problem solving not covered in CSC 119: Introduction to Programming. Students will create larger programs in the areas of advanced expression, iterator objects, parsing, and GUI applications.

Contact Hours: 45.

Recommended Preparation: CSC 119 (p. 318)

CSC 220 - Intro to Microsoft Visual Basic.NET (3)

Provides students with the knowledge and skills needed to develop applications in Microsoft Visual Basic .NET for the Microsoft .NET platform. Focuses on user interfaces, program structure, language syntax, and implementation details. This is the first course in the Visual Basic .NET curriculum and serves as the entry point for other .NET courses.

Prerequisite: CSC 119. Contact Hours: 45.

CSC 223 - Introduction to Discrete Structures (3)

Introduces the mathematical concepts from discrete structures that are directly applicable to computer science. Includes sets, functions, logic, counting and basic number theory, proofs and invariants, graphs, trees, recursion and iteration.

Contact Hours: 45.

CSC 225 - Computer Architecture/Assembly Language Programming (4)

Introduces concepts of computer architecture, functional logic, design, and computer arithmetic. Focuses on the mechanics of information transfer and control within a computer system. Includes symbolic programming techniques, implementing high level control structures, addressing modes and their relation to arrays, subprograms, parameters, linkage to high level languages and the assembly process.

Contact Hours: 60.

Recommended Preparation: completed or currently enrolled in CSC 161 (p. 319)

CSC 230 - C Programming: Platform (3)

Prepares students to be a better programmer using the C programming language. C is a mid-level language whose economy of expression and data manipulation features allows a programmer to deal with the computer at a low level. The goal is to learn skills that are usable in many languages and understand what is happening at the machine level. The student should already understand the control structures selection, iteration, and subroutines (functions/methods).

Contact Hours: 45.

Recommended Preparation: CSC 119 (p. 318) or CSC 160 (p. 318)

CSC 233 - Object-oriented Programming (Lang) (3)

Provides students with the skills in Programming in an OOP language at an Advanced Level. It covers all syntactical components of an Object-Oriented language. Emphasizes inheritance, overloading, and polymorphism. Focuses on writing clear, properly structured, and well documented programs using Object-Oriented methodology. Large programs using multiple data structures will be written, preferably working in large groups.

Contact Hours: 45.

Recommended Preparation: CSC 119 (p. 318) or CSC 160 (p. 318)

CSC 234 - C++ Programming (4)

Continues CSC 233 object-Oriented Programming in C++. This is an advanced level computer programming course. Although it teaches C++ as a computer language, it presumes knowledge of at least similar language of C or Pascal. It covers advanced object-oriented features such as standard string class, operator overloading, friends, references, namespaces, pointers and dynamic arrays, streams and file I/O, recursion, inheritance, polymorphism and linked data structures.

Contact Hours: 60.

Recommended Preparation: CSC 119 (p. 318) or CSC 160 (p. 318)

CSC 236 - C# Programming (4)

Introduces the C# programming language. This course covers all syntactical components of the language including arrays, structures, methods and classes. Content will focus on writing clear, properly structured, and well-documented programs using object-oriented methodology, .NET Framework, and the Visual Studio environment.

Prerequisite: CSC 119 or CSC 160. Contact Hours: 60.

CSC 240 - Java Programming (3)

Introduces the Java programming language and covers basic graphics, events/procedures, user interface, and libraries. Enables the student to write and execute a variety of Java programs. Incorporates Java Applets into HTML.

Prerequisite: CSC 119 or CSC 160. Contact Hours: 45.

CSC 241 - Advanced Java Programming (3)

Continues the study of the Java programming language. Covers advanced programming topics including multi-threading, network/Internet programming, database programming, and JavaBeans. Enables the student to write advanced, large, and complex programs.

Contact Hours: 45.

Recommended Preparation: CSC 240 (p. 319) or CSC 160 (p. 318) (Java) or CSC 233 (p. 319) (Java)

CSC 246 - Mobile App Development: (platform) (3)

Learn how to develop mobile apps using key features and frameworks. Students will learn application design and development using a mobile development platform software development kit (SDK) and corresponding programming language. Main features include: handling UI triggered and touch events, data management, simple and complex UI views, drawing, location and application settings.

Contact Hours: 45.

Recommended Preparation: CSC 240 (p. 319) or CSC 119 (p. 318) (Java) or CSC 160 (p. 318) (Java) or CSC 233 (p. 319) (Java)

CSC 252 - Database Program/Visual Basic (3)

Provides an in-depth look at Visual Basic as a database application development language. Topics may include ADO, multi-tier components, data bound controls, remote data access, SQL, and ASP.

Contact Hours: 45.

Recommended Preparation: CIS 145 (p. 312) or CSC 220 (p. 319)

CUA - Culinary Arts

CUA 101 - Food Safety and Sanitation (2)

Covers the basic rules of sanitation, food-borne illnesses, safe food temperatures, safe food handling techniques, the HACCP Program, pest control procedures, and local/state health rules and regulations for food service operations. At the completion of the course students take a nationally recognized test from the Education Foundation of the National Restaurant Association. If passed with a score of 75% or more, students receive a Certificate from the Education Foundation.

Contact Hours: 30.

CUA 120 - Wines and Spirits (2)

Enables students to examine types of beverages and equipment including wines, beers, spirits, bar equipment and staffing. Covers profitability, marketing, federal and local laws, and service. Focuses on the history of making and processing wines, spirits and beers.

Contact Hours: 30.

CUA 125 - Introduction to Foods (4)

Provides students with the fundamental principles and practices of a commercial kitchen, including safety and sanitation applications, use and care of equipment, tools, utensils and knives, recipe use and conversion, organization of work, and basic cooking methods. Focuses on the fundamental principles and production of stocks, soups, sauces, gravies, and thickening agents. Principles of cold food and non-alcoholic beverage preparation and production in a commercial kitchen. Basic cold food decorative work such as fruit and vegetable garnishes and carvings, terrines, and hors d'oeuvres. Emphasizes the effects of seasonings and cooking methods of vegetable products and basic hot food preparation. Students prepare breakfast orders similar to those ordered in restaurants with egg cookery and dairy products emphasized.

Corequisite: CUA 101. Contact Hours: 90.

CUA 129 - Center of the Plate (4)

Enables the student to plan and prepare a variety of complete meals in a commercial kitchen, focusing on center of the plate entrees including meat, poultry, seafood and vegetarian items. Meat, poultry and seafood handling and preparation, including basic forms and cuts, principles used for selecting products and appropriate cooking methods are emphasized. Vegetarian entrees are also covered, including methods of preparation and cooking of various types of potatoes, rice, legumes, pastas, casseroles and grain products with special attention give to complimentary proteins.

Prerequisite: CUA 101 and CUA 125. Contact Hours: 90.

CUA 145 - Introduction to Baking (4)

Provides the student with the fundamentals of baking terminology, principles of baking, and the characteristics of the functions of the main ingredients that are used in bakery production. Orients student to use commercial equipment, tools, and provides the student with the fundamentals of basic yeast-raised production and quick breads, white bread, rolls, variety grain breads, specialty breads, sweet yeast-raised products, and quick bread, fundamentals of basic cake, pie, pastry, and cookie production. Enables the student to produce a variety of cakes, pies, pastries, cookies, and assorted dessert items in a commercial kitchen.

Corequisite: CUA 101. Contact Hours: 90.

CUA 210 - Adv Cuisine and Garde Manger (4)

Focuses on the preparation of food display items for buffets and banquets such as fancy garnishes, fruit and vegetable carvings, canapes, party trays, etc. Includes pates, galantines, terrines, and choud froid items. Incorporates creation of food artistry show pieces meeting competition guidelines developed by the American Culinary Federation. Cover the preparation of a regional, ethnic or cultural culinary presentation based upon person research.

Prerequisite: CUA 101 and CUA 125. Contact Hours: 90.

CUA 261 - Cost Controls (3)

Provides students with the opportunity to learn the types of costs usually found in the food service industry. Students will learn to apply control techniques to a variety of costs and sales. They will also learn to interpret a variety of financial reports which reflect the relationship between costs and income. Students may take the national Cost Controls test from the National Restaurant Association Education Foundation. If they pass the test with 75% or higher, they will receive a national certificate for the course.

Contact Hours: 45.

Recommended Preparation: CIS 118

CUA 262 - Purchasing for the Hospitality Industry (3)

Emphasizes controlling costs as applied to the selection and procurement of food and supply items. Covers selection and procurement of food and supplies, supplier selection, and distribution systems including the forces affecting them. Students will take a nationally recognized test and may receive a certificate from the Educational Foundation, the educational arm of the National Restaurant Association.

Contact Hours: 45.

CUA 281 - Internship (3)

Contact Hours: 135.

Places students in an actual work situation where they participate in the operation of a foodservice establishment. Hours of work are arranged by the site supervisor and the intern. The number of hours required are determined by the number of credits the course carries.

CWB - Computer Web-Based**CWB 110 - Complete Web Authoring (3)**

Explores the complete set of web authoring skills using HTML and/or other scripting languages. Includes links, backgrounds, controlling text and graphic placement, tables, image maps, frames and forms.

Contact Hours: 45.

CWB 130 - Web Editing Tools: (Editor) (3)

Teaches the use of tools for Web page design and development. These tools are designed to make the creation of Web pages easy and consistent. With the use of editing tools, students will be able to build Web pages making use of forms, tables, frames, templates, Cascading Style Sheets (CSS), and layers. The student will also be able to easily publish and manage a Web site once it is created.

Contact Hours: 45.

CWB 205 - Client-Side Scripting: (Software) (3)

Explores the client-side programming skills necessary to create dynamic Web content using a markup embeddable and procedural scripting language executing on the client Web browser.

Contact Hours: 45.

Recommended Preparation: CWB 110, CSC 119 and CIS 243.

CWB 206 - Server-Side Scripting: (Software) (3)

Teaches the creation of dynamic web pages and applications using server-side scripting with database interactivity, server-based scripting languages, and database manipulation languages.

Prerequisite: CSC 119. Contact Hours: 45.

CWB 208 - Web Application Development: PHP (3)

Teaches students how to work in the server-side scripting environment. Students learn the basics of application development, and general principles that apply to most development environments. Students develop applications using two different server-side application development tools; PHP Hypertext Preprocessor (PHP), and Cold Fusion. Students also learn key application standards such as source and revision control, coding standards, code optimization and data integrity.

Contact Hours: 45.

Recommended Preparation: CIS 243, CSC 119 and CWB 110

CWB 209 - Web Content Management Systems (3)

Explores the use of open source Content Management Systems to simplify the creation and maintenance of web sites.

Contact Hours: 45.

Recommended Preparation: CWB 110 and concurrent or previous CWB 208

CWB 280 - Internship (2)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

DAN - Dance**DAN 105 - Hip Hop Dance I (1)**

Consists of basic concepts and skills of hip hop dance. Focuses on warm-up exercises, street dance footwork, ground moves, isolations and freezes. Explores hip hop dance as a high energy expression of hip hop culture. Students will learn combinations leading to hip-hop dance routines.

Contact Hours: 30.

DAN 106 - Hip Hop Dance II (1)

Continues Hip Hop I with an increased knowledge of Hip Hop dance. This course consists of more advanced and challenging footwork, techniques and combinations as they apply to this genre. Emphasis will be placed on increased technical skills.

Contact Hours: 30.

DAN 111 - Modern Dance I (1)

Introduces basic concepts and skills of modern dance. Focuses on technique work to increase strength, flexibility, endurance, coordination, rhythm and spatial awareness. Explores dance as a tool for communication and dance as an art form. May be repeated for no more than three credits.

Contact Hours: 30.

DAN 112 - Modern Dance II (2)

Includes a more in-depth study of modern dance concepts as well as more specific techniques of modern dance choreography. Focuses on more advanced technique work and more emphasis on improvisation. May be repeated for a total of three credits.

Contact Hours: 60.

Recommended Preparation: DAN 111 (p. 321)

DAN 115 - Country Swing I (1)

Includes many styles and various combinations of steps for Western dance music. Will also teach the students how to convert combinations of other dances of traditional and fad as they become popular.

Contact Hours: 30.

DAN 117 - Salsa I (1)

Introduces the beginning dancer to popular Salsa steps and dance combinations. This course includes basic partnering concepts and techniques. Dancers will explore rhythm, proper body alignment and music recognition. A partner is not required for this course.

Contact Hours: 30.

DAN 118 - Salsa II (1)

Continues Salsa I with an increased knowledge of Salsa dance. This course focuses on Salsa dancing in groups of couples with frequent partner exchanges. Dancers learn a more in-depth study of Salsa dance concepts and techniques. A partner is not required for this course.

Prerequisite: DAN 117. Contact Hours: 30.

DAN 119 - Salsa III (1)

Continues Salsa II with an increased knowledge of Salsa dance. This course focuses on more advanced dance technique as well as performance qualities and creative expression. Students engage in more challenging foot work with frequent partner exchanges. A partner is not required for this course.

Prerequisite: DAN 118. Contact Hours: 30.

DAN 121 - Jazz I (1)

Introduces the basic techniques and vocabulary of jazz dance and the basic elements of dance. Focuses on movement oriented dance, comprised of warm-up exercises, center combinations, traveling combinations and cool down. May be repeated for a maximum of three credits.

Contact Hours: 30.

DAN 122 - Jazz II (2)

Continues Jazz I with an increased knowledge of jazz dance. Enables the student to work at an intermediate level with a basic understanding of body alignment, balance and musicality. May be repeated for a maximum of three credits.

Prerequisite: DAN 121. Contact Hours: 60.

DAN 125 - History of Dance I (3)

Introduces the history of dance as a theatre or performing art. Examines dance from Classical Greece through the Renaissance, including court and classical ballet to modern dance with African and Caribbean influences.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

This is not a physical activity class. It is considered an arts and humanities elective.

DAN 126 - East/West Coast Swing I (1)

Teaches students to recognize, identify, and perform basic East Coast and West Coast swing dance movements utilizing a variety of music styles for recreational and/or pre-professional dance.

Contact Hours: 30.

DAN 127 - East/West Coast Swing II (1)

Teaches students to recognize, identify, and perform intermediate East Coast and West Coast swing including Lindy Hop movements to various types of music. Students will be able to dance with or without a partner. This course is a continuation of DAN 126 - East/West Coast Swing I, and trains students for recreational and/or pre-professional dance.

Contact Hours: 30.

DAN 129 - Introduction to Dance (1)

Introduces the art of dance and movement expression from a variety of viewpoints: historical, cultural, aesthetic, critical and

creative. Examines the art and craft of dance as an expression of culture and community while exploring personal expression, imagery, dance techniques and performance qualities.

Contact Hours: 30.

DAN 130 - Dance Sampler (1)

Introduces the beginning dancer to popular dances through a social dance sampler in Salsa, Swing, and Country Western Dance technique, footwork, body posturing, rhythms, and dance floor etiquette. Examines a variety of dances such as Salsa's Mambo, Cha-Cha, and Rumba; Swing's Lindy Hop (jitterbug); and Country Western's Two Step, Cowboy Waltz, Cotton-Eyed Joe and various Country Western line dances.

Contact Hours: 30.

DAN 131 - Ballet I (1)

Introduces the basic techniques of ballet, which are built upon knowledge of ballet terminology, fundamental exercises, and the basic elements of dance. Focuses on movement-oriented dance, comprised of stretching, barre warm-up exercises, simple terre à terre and jumping steps, and basic extended positions. May be repeated for a maximum of three credits.

Contact Hours: 30.

DAN 132 - Ballet II (2)

Continues Ballet I and emphasizes ballet terminology, fundamental exercises and the basic elements of dance. Focuses on an intermediate level within the basic structure of the ballet class. May be repeated for a maximum of three credits.

Contact Hours: 60.

DAN 141 - Ballroom Dance (1)

Introduces the basic terminology, techniques and routines of several dances from a specific country or region. Focuses on the music, costumes and customs related to the dances they study. Partners are not required. May be repeated for a maximum of three credits.

Contact Hours: 30.

DAN 142 - Ballroom Dance II (1)

Continues Dance 141 with focus on regional dances, customs and rhythms. Partners are not required. May be repeated for a maximum of three credits.

Contact Hours: 30.

DAN 143 - Tap I (1)

Introduces basic tap dance movements and techniques. The shuffle, ball change, brush, flap heel drop, stomp, and stamp step are covered.

Contact Hours: 30.

DEA - Dental Assisting**DEA 102 - Principles of Clinical Practice (3)**

Includes techniques used in four handed dentistry, instrument identification and armamentarium for tray set-ups. Covers sterilization and aseptic procedures.

Contact Hours: 67.5.

Recommended Preparation: DEA 120, DEA 121 and DEA 132.

DEA 104 - Specialties in Dentistry (2)

Focuses on armamentarium of specific tray set-ups for periodontics, endodontics, and fixed and removable prosthodontics. Examines pediatric dentistry, oral surgery, and implants. Includes diagnosis, treatment, and the dental assistant's role in each specialty.

Prerequisite: DEA 102 and DEA 120 and DEA 121. Contact Hours: 45.

DEA 111 - Dental Office Management (2)

Includes office management and clerical practices, scheduling appointments, completing daily records, insurance and tax forms, bookkeeping and recall systems, and ordering supplies.

Contact Hours: 30.

Recommended Preparation: DEA 120, DEA 121

DEA 120 - Introduction to Dental Practices (1)

Includes roles and responsibilities of the dental health team; educational background for the various specialties including general practitioner, hygienist, dental assistant; history, legal implications, ethical responsibilities and the role of professional organizations.

Contact Hours: 15.

DEA 121 - Dental Science I (3)

Includes fundamentals of the oral structures as they apply oral histology, embryology, morphology, pathology and dental anatomy.

Contact Hours: 45.

Recommended Preparation: DEA 120.

DEA 122 - Dental Science II (3)

Includes survey of human anatomy and physiology, the structure of the head and neck as applied to dental assisting, the function of the maxilla and mandible, processes, foramen, sutures, and major nerve and blood supply.

Contact Hours: 45.

Recommended Preparation: DEA 120

DEA 123 - Dental Materials I (3)

Includes fundamentals of dental materials as they apply to clinical and laboratory applications.

Contact Hours: 67.5.

Recommended Preparation: DEA 120 and DEA 121.

DEA 124 - Dental Materials II (3)

Includes type, compositions, and uses of elastomeric impression materials and the fabrication of custom impression trays and temporary crowns.

Prerequisite: DEA 120 and DEA 121 and DEA 123. Contact Hours: 67.5.

DEA 125 - Dental Radiography (3)

Focuses on the science of radiography and the application of radiographic techniques, and aseptic techniques. Students must be a minimum of 18 years of age.

Contact Hours: 67.5.

Recommended Preparation: DEA 120 and DEA 121.

DEA 126 - Infection Control (3)

Includes basic information concerning infection and disease transmission in the dental office. Emphasizes knowledge of micro-organisms, with an emphasis on aseptic techniques, sterilization, and hazardous communication management.

Contact Hours: 67.5.

Recommended Preparation: DEA 120 and DEA 121.

DEA 131 - Dental Radiography II (3)

Includes theory and techniques of exposing intra-oral and extra-oral radiographs on adults, children, edentulous, and special needs patients. Covers dental anatomy radiographic interpretation. Enables the student to expose radiographs on the x-ray mannequin and patients. Students must be a minimum of 18 years of age.

Prerequisite: DEA 120 and DEA 121 and DEA 125. Contact Hours: 67.5.

DEA 132 - Medical Emergencies in the Dental office (2)

Includes techniques for taking and reading vital signs. Emphasizes recognition, prevention and management of medical emergency situations in the dental office. Covers completing and updating patient health history. Addresses pharmacology.

Contact Hours: 30.

Recommended Preparation: DEA 120 and DEA 121

DEA 134 - Prevention and Nutrition in Dentistry (3)

Emphasizes techniques in preventive dentistry to include application of fluoride, pit and fissure sealants, oral home care instruction, diet counseling and nutrition as it applies to dental health. Covers techniques for coronal polishing, extra-oral and intra-oral examination, and dental charting.

Contact Hours: 67.5.

Recommended Preparation: DEA 102, DEA 120, DEA 121, DEA 126 and DEA 132

DEA 181 - Clinical Internship I (1)

Provides an opportunity to perform clinical dental assisting skills in a dental office or clinical setting and work toward completing clinical hours required by the Commission on Dental Accreditation (CODA).

Prerequisite: DEA 102 and DEA 120 and DEA 121 and DEA 123 and DEA 125 and DEA 126 and DEA 132 and DEA 134. Contact Hours: 45.

DEA 182 - Clinical Internship II (2)

Provides an opportunity to perform and advance clinical dental assisting skills in a general dental office, specialty office or clinical setting and work toward completing clinical hours required by the Commission on Dental Accreditation (CODA).

Prerequisite: DEA 102, DEA 111, DEA 120, DEA 121, DEA 123, DEA 125, DEA 126, DEA 132, DEA 134 and DEA 181. Corequisite: DEA 104, DEA 122, DEA 124 and DEA 131. Contact Hours: 90.

DEA 183 - Dental Clinical Internship III (6)

Explores specific responsibilities pertinent to the oral health team. Provides students with an opportunity to use and enhance dental assisting skills in general dentistry and the dental specialties and work toward completing clinical hours required by the Commission on Dental Accreditation (CODA).

Prerequisite: DEA 102, DEA 104, DEA 111, DEA 120, DEA 121, DEA 122, DEA 123, DEA 124, DEA 125, DEA 126, DEA 131, DEA 132, DEA 134, DEA 181 and DEA 182. Contact Hours: 270.

DEA 200 - Introduction to Expanded Functions (4)

Emphasizes techniques and concepts of expanded functions in dental assisting, including team management, placement and finishing of dental restorative materials, and adjunct procedures necessary to restorative dentistry.

Prerequisite: Graduate of an ADA accredited program, Certified Dental Assistant, or 2 years of documented experience.. Contact Hours: 90.

DPM - Diesel Power Mechanics

DPM 100 - Introduction to Diesel Mechanics (2)

Focuses on the student identifying and describing the many different types of diesel powered vehicles. Emphasis is placed on being able to research information in maintenance manuals and parts manuals along with demonstration of their abilities in properly identifying and selecting mechanical fasteners for a particular application. Specific coverage of precision fasteners, fuels and fluids as they relate to the diesel industry.

Prerequisite: ASE 101, ASE 120 and ASE 123. These courses can be taken concurrently.. Contact Hours: 45.

Recommended preparation: minimum assessment scores to enroll in ENG 131 and MAT 107 (p. 363).

DPM 103 - Diesel Engines I (4)

Covers the theory and operation of diesel engines with emphasis on cylinder heads and valve trains diagnosis and repair. Also introduces the cooling system's importance with diagnosis and repair. Enables students to diagnose, test and repair cylinder heads and cooling systems on diesel engines.

Prerequisite: DPM 100. Contact Hours: 90.

DPM 203 - Diesel Engines II (4)

Covers the theory of operation and repair of diesel engines with emphasis on the cylinder block in big bore engines. Enables students to disassemble, inspect and reassemble engines.

Prerequisite: DPM 103. Contact Hours: 90.

ECE - Early Childhood Education

Students enrolling in ECE 102, ECE 112, ECE 124 , ECE 180, ECE 188, ECE 280 and ECE 288 must pass a criminal background check before they are allowed to start their practicum hours with children. Contact your home campus ECE Program Director if you are enrolling in an on-campus section of a practicum course or the FRCC-ECE Online Lead if you are enrolling in an online section of a practicum course for information on how to complete the background check process.

ECE 101 - Introduction to Early Childhood Education (3)

Provides an introduction to the profession of Early Childhood Education (ECE). Course content includes eight key areas of professional knowledge related to working with young children and their families in early care and education settings: child growth and development; health, nutrition and safety;

developmentally appropriate practices; guidance; family and community relationships; diversity and inclusion; professionalism; and administration and supervision. This course addresses children ages birth through 8 years.

Contact Hours: 45.

ECE 102 - Introduction to Early Childhood Education Techniques (3)

Focuses on a classroom seminar and placement in a child care setting. The supervised placement provides the student with the opportunity to observe children, to practice appropriate interactions, and to develop effective guidance and management techniques. Addresses ages birth through age 8.

Prerequisite: ECE 101. ECE 101 can be taken concurrently.

Contact Hours: 75 (15 lecture hours, 60 lab hours).

ECE 103 - Guidance Strategies for Young Children (3)

Explores guidance theories, applications, goals, and techniques, as well as factors that influence behavioral expectations of children. This course includes classroom management and pro-social skills development of young children in early childhood (EC) program settings. This course addresses children ages birth through 8 years.

Contact Hours: 45.

ECE 111 - Infant and Toddler Theory and Practice (3)

Presents an overview of theories, applications (including observations), and issues pertinent to infant and toddler development in group and/or family settings. Includes state requirements for licensing, health, safety and nutrition. Focuses on birth through age three.

Contact Hours: 45.

ECE 112 - Introduction to Infant/Toddler/Lab Techniques (3)

Includes a classroom seminar and placement in an infant and/or toddler setting. The supervised placement provides the student with the opportunity to observe, to practice appropriate interactions and to develop effective guidance and nurturing techniques with infants and/or toddlers. Addresses ages prenatal through age 2.

Prerequisite: ECE 111. ECE 111 may be taken concurrently..

Contact Hours: 75 (15 lecture hours, 60 lab hours).

ECE 125 - Science, Math and the Young Child (3)

Examines theories of cognitive development as a framework for conceptualizing the way young children acquire scientific and mathematical skills, concepts, and abilities. Enables students to research and develop appropriate individual and group scientific and mathematical activities for young children.

Contact Hours: 45.

ECE 126 - ART and the Young Child (2)

Prepares students to plan and implement a comprehensive and developmentally appropriate art program for young children. Investigates the development of self-taught art techniques in young children.

Contact Hours: 30.

ECE 127 - Music/Movement for the Young Child (1)

Focuses on the purposes of incorporating music and movement into the early childhood curriculum. Through active participation with hands-on experiences, students work with the concepts of

age and developmental appropriateness when designing fun activities with both subjects.

Contact Hours: 15.

ECE 151 - Early Childhood Education Leadership Development (1)

Introduces concepts of leadership as an early childhood professional and provides opportunities to develop leadership skills. This course includes qualities, characteristics, and responsibilities of successful leaders, ethics, advocacy, collaboration and professional growth.

Contact Hours: 15.

ECE 155 - Family and Parenting Issues (1)

Explores the types of family organizations, functional roles of family members, different parenting styles and other issues impacting children's development that families and parents are experiencing in today's society.

Contact Hours: 15.

ECE 157 - Family Dynamics (1)

Enables the student to understand and develop partnerships with families who have children with special needs. Introduces the concept of family systems, the impact of children with special needs upon the family system, and the role of the paraeducator in collaborating with families of diverse cultural, socio-economic, and ethnic backgrounds.

Contact Hours: 15.

ECE 161 - The Team Process (1)

Enables the student to work effectively in team situations. Covers the interpersonal aspects of working in a team as well as specific skills in establishing good working relationships among personnel with differing roles and responsibilities.

Contact Hours: 15.

ECE 188 - Practicum (4)

Provides students with field experience in early childhood programs.

Prerequisite: ECE 102. Contact Hours: 105 Total Contact Hours.

ECE 195 - School Age Child in Child Care (2)

Explores important issues of before and after school care (school holiday and summer day camp), emphasizing child development, health, safety, and appropriate activities for school-age children in the child care setting.

Contact Hours: 30.

ECE 205 - ECE Nutrition, Health and Safety (3)

Focuses on nutrition, health, and safety as key factors for optimal growth and development of young children. This course includes nutrition knowledge, menu planning, food program participation, health practices, management and safety, appropriate activities, and communication with families for early childhood educators. This course addresses children ages birth through 12 years.

Contact Hours: 45.

ECE 209 - Observing Young Children (1)

Examines the current research on the continuous practice of observing children. Incorporates practice with a variety of

assessment instruments currently utilized in Colorado ECE programs.

Contact Hours: 15.

ECE 220 - ECE Curriculum Development: Methods and Techniques (3)

Provides an overview of early childhood curriculum development. This course includes processes for planning and implementing developmentally appropriate environments, materials, and experiences that represent best practices in early childhood (EC) program settings. This course addresses children ages birth through 8 years.

Prerequisite: ECE 101 or ECE 238. ECE 101 or ECE 238 may be taken concurrently. Contact Hours: 45.

ECE 228 - Language and Literacy (3)

Presents strategies for optimum language development, literacy, social and emotional development. Supports children's language and literacy in home, classroom and community settings. Provides appropriate teacher/child verbal interactions, classroom environments and activities. Addresses ages birth through age 8.

Contact Hours: 45.

ECE 236 - Child Growth/Development Laboratory (1)

Covers the growth and development of the child from conception through the elementary school years. Emphasizes physical, cognitive, language, social and emotional domains and the concept of the whole child and how adults can provide a supportive environment. Addresses ages from prenatal through age 12.

Prerequisite: Completion of ECE 238. ECE 238 may be taken concurrently.. Contact Hours: 30.

ECE 238 - ECE Child Growth and Development (3)

Covers the growth and development of the child from conception through the elementary school years. This course emphasizes physical, cognitive, language, social and emotional domains of development as they pertain to the concept of the whole child. It also includes ways adults can provide a supportive early childhood care and educational environment through teamwork and collaboration.

Contact Hours: 45.

ECE 240 - Administration of Early Childhood Care and Education Programs (3)

Provides foundational knowledge in early childhood program business operations, program development, and evaluation. This course covers administrative skills, ethical decision making, risk and resource management, and components of quality Early Childhood Education (ECE) programs serving children ages birth through 12 years.

Contact Hours: 45.

ECE 241 - Administration: Human Relations for Early Childhood Education (3)

Focuses on the human relations component of an early childhood professional's responsibilities. This course includes director-staff relationships, staff development, leadership strategies, family-professional partnerships, and community interaction.

Contact Hours: 45.

ECE 256 - Working with Parents, Families, and Community Systems (3)

Examines personal attitudes regarding families, family values systems, and how personal attitudes affect parent-professional partnerships in the early childhood education program. This course covers communication, problem-solving, and conflict resolution strategies. Effective activities and resources to support family involvement in the classroom will be created. This course addresses children ages birth through 8 years.

Contact Hours: 45.

ECE 260 - The Exceptional Child (3)

Presents an overview of critical elements related to educating young children with disabilities or special needs in the early childhood setting. Topics include: typical and atypical development; legal requirements; research-based practices related to inclusion; teaming and collaboration; and accommodations and adaptations. This course examines how a disability or special need may impact a young child's learning process. This course addresses children ages birth through 8 years.

Prerequisite: Prerequisite/Corequisite: ECE 238 or PSY 238 may be taken at the same time as ECE 260. Contact Hours: 45.

ECE 288 - Practicum: Early Childhood Education (4)

Provides students with advanced field experience opportunities in early childhood education programs.

Prerequisite: Prerequisite/Corequisite: ECE 188 may be taken at the same time as ECE 288. Contact Hours: 30 contact hours per credit.

ECE 289 - Capstone (1)

Incorporates a demonstrated culmination of learning within a given program of study.

Prerequisite: Prerequisite/Corequisite: ECE 288 may be taken at the same time as ECE 289. Contact Hours: 15 contact hours per credit.

ECO - Economics

ECO 101 - Economics of Social Issues (3)

Examines the major socio-economic issues of the past century. Covers poverty and growth, education, health care, pollution and discrimination.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

ECO 105 - Introduction to Economics (3)

This course is a survey of economics. It is designed as a beginning economics class. The course covers economics theories, supply and demand, national income accounting, money and banking, market structures and contemporary economic issues.

Contact Hours: 45.

ECO 201 - Principles of Macroeconomics (3)

Focuses on the study of the American economy, stressing the interrelationships among the household, business, and government sectors. Explores saving and investment decisions,

unemployment, inflation, national income accounting, taxing and spending policies, the limits of the market and government, public choice theory, the Federal Reserve System, money and banking, and international trade.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

Recommended Preparation: ECO 202 and MAT 050.

ECO 202 - Principles of Microeconomics (3)

Focuses on the consumer, the firm, the nature of cost, and how these relate to the economy as a whole. Analyzes economic models of the consumer, perfect competition, monopoly, oligopoly and monopolistic competition. Explores economic issues including market power, population growth, positive and negative externalities, income distribution, poverty and welfare, discrimination, and international economic inter-dependence.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

Recommended Preparation: MAT 050.

ECO 211 - Gender in the Economy (3)

The course introduces students to how gender factors into the economy. It includes the concepts of femininity and masculinity and how these concepts play a role in consumption, labor and marriage markets, poverty and inequality, and globalization.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

ECO 245 - Issues in Environmental Economics (3)

Introduces students to contemporary environmental issues and policies meant to reduce environmental degradation. Includes market failures, analytical tools, government pollution reduction policies for air, water and natural environments and their effectiveness.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

Recommended Preparation: ECO 202.

EDU - Education

Students enrolling in EDU 288 must pass a criminal background check before they are allowed to start their site hours. Contact your home campus EDU Lead Faculty or the FRCC – EDU Online Lead for information on how to complete the background check process.

EDU 111 - Communications Skills with Special Populations for Paraeducation (3)

Allows students to develop knowledge in areas of effective communication skills; problem solving techniques; and analyzing self as communicator.

Contact Hours: 45.

EDU 131 - Introduction to Adult Education (3)

Provides an introduction to adult education with an emphasis on providing instruction to adult learners developing their ability to listen, speak, read, and write in English and learners with skills below 12th grade equivalency. Key areas include adult education theories, principles, methods and techniques; adult education legislation, initiatives and movements; adult basic education services and service providers; understanding the adult learner; metacognition; the instructional environment; and professional development for adult educators.

Contact Hours: 45.

EDU 132 - Planning, Organizing and Delivering Adult Education Instruction (3)

Provides an introduction to planning and delivering instruction to adult learners with an emphasis on developing the English language proficiency of non-native English speakers and improving the skills of learners whose skills are below 12th grade equivalency. Key areas include identification of learners' skills, needs and goals; the use of information about learners to plan instruction and assessment; the development of learner independence; the creation of an instructional environment that supports and engages adult learners.

Contact Hours: 45.

EDU 133 - Adult Basic Education (ABE) & Adult Secondary Education (ASE) (3)

Provides an introduction to providing literacy and numeracy skills instruction to adult learners functioning below 12th grade equivalency. Key areas include understanding the Adult Basic Education and Adult Secondary Education learner and the literacy and numeracy skills needed to complete each Educational Functioning Level; preparing written instructional plans; delivering level appropriate instruction using techniques and resources appropriate for ABE and ASE learners; using technology; and preparing learners to transition to postsecondary education and careers.

Contact Hours: 45.

EDU 134 - Teaching English as a Second Language (ESL) to Adults (3)

Provides an introduction to providing instruction to adults who are developing English language proficiency. Key areas include understanding the adult ESL learner, the language acquisition process and the language skills needed to complete each Educational Functioning Level (EFL); preparing written instructional plans; delivering level appropriate instruction using techniques and resources appropriate for adult language learners; using technology; and preparing adult ESL learners to transition to postsecondary education and careers.

Contact Hours: 45.

EDU 135 - Family Literacy in Adult Education (3)

Introduces the students to the philosophy and theory behind family literacy, as well as give practical advice on the development and implementation of a family literacy program. The four-component model of adult education, early childhood education, parent and child together time (PACT), and parenting will be covered, both in theory and practical application.

Contact Hours: 45.

EDU 141 - Basic Instructional Techniques for Paraeducators (3)

Provides students with knowledge in the areas of delivering instruction; grouping students; reading with students; modifying instructional materials; using technology; and utilizing adaptive equipment.

Contact Hours: 45.

EDU 188 - Practicum I (1)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the education facility and with the direct guidance of the instructor.

Contact Hours: 30.

EDU 194 - Service Learning (3)

Allows the student to provide a service to the community utilizing knowledge and skills acquired from a course in which the student is currently enrolled or has previously taken at the student's respective college.

Contact Hours: 45.

EDU 220 - Exploration of Teaching (2)

Gives students a study of the broad overview of topics related to the teaching profession, grades K-12. Provides a hands-on, relevant exploration to help each student personally consider a career in education.

Contact Hours: 30.

EDU 221 - Introduction to Education (3)

Focuses on the historical, social, political, philosophical, cultural and economic forces that shape the United States public school system. Includes current issues of educational reform, technology as it relates to education and considerations related to becoming a teacher in the state of Colorado. Special interest will be paid to the topic of diversity in the K-12 school system.

Prerequisite: College level English proficiency or CCR 093 or higher or COM 115.. Contact Hours: 45.

EDU 222 - Effective Teaching (1)

Focuses on strategies for becoming an effective teacher. Topics include course goals and objectives, the first day, planning a lesson, higher levels of thought, test design and grading, assessment, and teaching and learning styles.

Contact Hours: 15.

EDU 231 - Introduction to Bilingual Education (4)

Focuses on bilingual and multicultural education with emphasis on the linguistically and culturally diverse learner. Covers historical perspectives, philosophical frameworks, legal implications, subject matter methodologies and current issues, which impact bilingual educational programs.

Prerequisite: EDU 221. Contact Hours: 60.

EDU 233 - English Language Learning (K-6) (3)

Prepares teachers who work with limited English proficient students to learn strategies to develop English language learners' (ELLs') social and academic English and supports their transition to US culture and schools. This course is appropriate in a variety of program models: mainstream classrooms, self-contained ESL classrooms, and bilingual programs and may be adapted for use with pre-service teachers.

Prerequisite: EDU 221. Contact Hours: 45.

EDU 234 - Multicultural Education (3)

Focuses on the need to recognize and understand the similarities and differences among people and develop a respect for all individuals and groups. Assists teachers to recognize the special learning needs of children from different racial, ethnic, cultural and socioeconomic groups and to encourage teachers to integrate multicultural/diversity teaching into the school curriculum.

Contact Hours: 45.

EDU 242 - Expressive Arts in the Elementary Classroom (3)

Explores the integration of visual arts, music, and physical education/movement into the self-contained elementary classroom curriculum based upon the theory of multiple intelligences. Familiarizes the student with the Colorado Model Content Standards for each area, basic curriculum development, and the opportunities to practice their skills with students through field experiences.

Prerequisite: EDU 221. Contact Hours: 45.

EDU 250 - CTE in Colorado (1)

Explores common elements of Career and Technical Education philosophy and current practices. It details the philosophy of Career and Technical Education (CTE), the federal Carl D. Perkins legislation and related guidelines for CTE, the Colorado Technical Act, national and state regulatory agencies, the CCCS program approval process, enrollment management and advising strategies, relevant local and national issues, and quality assurance principles.

Contact Hours: 15.

EDU 251 - Secondary CTE Capstone (3)

This capstone course in the secondary CTE credentialing sequence offers an in-depth analysis of secondary career and technical student organizations and competitions, the Colorado Technical Act, working with exceptional students, creating and effectively deploying program advisory committees, and an overview of educational and political systems in Colorado. The final project is an analysis of the efficiency with which one's employing school district funds, operates and assesses CTE programs.

Contact Hours: 45.

EDU 260 - Adult Learning and Teaching (3)

Examines the philosophy of community colleges and/or secondary schools and the roles and responsibilities of the faculty member within the college/school community. Introduces basic instructional theories and applications, with particular emphasis on adult learners. Includes syllabus development, learning goals and outcomes, and lesson plans. Emphasizes teaching to a diverse student body, classroom management, assessment and instructional technology.

Contact Hours: 45.

EDU 261 - Teaching, Learning and Technology (3)

Prepares students to integrate technology into their teaching curriculum. Enables the student to design educational and training materials incorporating instructional technology. Explores a variety of technologies, including the computer, Internet, multimedia, graphics, audio, and text with an emphasis

on increasing learning through their use. Examines combining technology with a variety of instructional methodologies.

Contact Hours: 45.

EDU 266 - Advanced College Teaching Methods (1)

Explores current adult learning theory, and relates this theory to the practice of teaching. It also covers a variety of factors that influence teaching and learning, including social and individual psychological aspects of adult learning, patterns of participation and motivation, the role of instructional technology, handling challenging classroom behaviors, and assessment and evaluation strategies. The main point raised and discussed throughout the course is that effective teaching requires that instructors utilize a range of teaching and assessment approaches and methods in order to enhance learning.

Contact Hours: 15.

EDU 288 - Practicum II (1)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the education facility and with the direct guidance of the instructor.

Contact Hours: 30 contact hours per credit.

EDU 289 - Capstone (1)

Focuses on a demonstrated culmination of learning within a given program of study.

Prerequisite: TEL 100, TEL 102, TEL 103, TEL 188, TEL 225 and (EDU 134 or TEL 245). These courses can be taken concurrently..
Contact Hours: 45 contact hours per credit hour.

EGG - Engineering

EGG 100 - Introduction to Engineering (1)

Introduces the math and science required in a variety of engineering disciplines. The particular engineering disciplines examined are: Civil Engineering, Mechanical Engineering, Electrical Engineering, Industrial Engineering, and Computer Science. For each discipline the course will examine certification requirements, program of study, types of work and tasks in each discipline and compensation ranges. Tours and speakers will be arranged.

Contact Hours: 15.

EGG 140 - First Year Engineering Projects (3)

Provides undergraduate engineering students with an opportunity to apply mathematical and scientific skills in engineering projects. Students work in teams on engineering projects under guidance of faculty.

Contact Hours: 45.

EGG 211 - Engineering Mechanics I - Statics (3)

Focuses on the vector and calculus treatment of forces and force systems. Covers concurrent and nonconcurrent force systems. Includes calculating moments of friction, trusses, centroids and moments of inertia.

Prerequisite: PHY 211 and MAT 201. Contact Hours: 45.

EGG 212 - Engineering Mechanics II - Dynamics (3)

Focuses on vector and calculus treatment of the dynamics of particles and rigid bodies using Newton's Laws. Includes work-energy, impulse-momentum, and free and forced oscillations.

Contact Hours: 45.

Recommended Preparation: PHY 211.

EGT - Engineering Graphics Technology**EGT 101 - Mechanical Design I (3)**

Provides the training to develop skillsets on how to produce technical drawings utilizing the latest technologies. Course will develop skills in hand lettering/sketching techniques and the use of a Computer Aided Design (CAD) based drawing system.

Course covers how to develop technical drawings demonstrating multi-view orthographic projections, auxiliary views, section views, and beginning dimensioning concepts based on ANSI/ASME standards.

Corequisite: CAD 101. Contact Hours: 67.5.

EGT 143 - Civil/Survey Drafting I (3)

Focuses on Civil and Survey drafting skills necessary to produce document sets of land surveys/plats, legal descriptions, site layout, plan, profile & alignments, and contour maps.

Corequisite: CAD 101. Contact Hours: 67.5.

EGT 201 - Engineering Materials (3)

Investigates the physical and mechanical properties of engineering materials used within industry. This course will also include the study of ferrous and nonferrous metals, polymers (plastics), woods, ceramics, composites, and other advanced materials.

Contact Hours: 45.

EGT 205 - Geometric Dimension & Tolerance (3)

Focuses on interpreting and applying geometric dimensioning and tolerancing (GDT) in machining or drafting per the ASME Y14.5 specification. Demonstrate and distinguish GDT through math formulas, tolerancing systems, modifiers, symbols, datums, and tolerances of form, profile, orientation, run-out and location. Students examine and interpret the generation of a working drawing, and how they are developed as a team effort between design, drafting, manufacturing and quality control.

Prerequisite: CAD 100. Machining students need only take MAC 102.. Contact Hours: 67.5.

EGT 243 - Civil/Survey Drafting II (3)

Focuses on advanced Civil and Survey drafting skills. The course focuses on the creation of computer aided drawings focused on piping, earthwork, road and highway construction as well as developing a set of construction documents including advanced skills in civil and survey drawings.

Prerequisite: EGT 143. Contact Hours: 67.5.

EIC - Electricity Ind-Commercial**EIC 110 - Electrical Installations I (4)**

Covers residential building wiring in conformance with the current National Electrical Code and local codes using nonmetallic cable. Emphasizes proper use of tools and safety.

Contact Hours: 90.

EIC 280 - Internship (2)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 90.

EIC 289 - Capstone (2)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: Prerequisite/Corequisite: CON 110 and EIC 110.

Contact Hours: 90.

ELT - Electronics**ELT 106 - Fundamentals of DC/AC (4)**

Introduces the basic skills needed for many careers in electronics and related fields. Covers the operations and applications of basic DC and AC circuits consisting of resistors, capacitors, inductors, transformers and diodes. Emphasizes the use of common test instruments in troubleshooting.

Prerequisite: MAT 108 or MAT 121 or MAT 122 or MAT 125 or MAT 166 or higher.. Contact Hours: 90.

ELT 107 - Fundamentals of Industrial Electronics (3)

Provides a basic knowledge of generators, motors, and the solid state devices and digital techniques used for industrial control applications.

Prerequisite: ELT 106. Contact Hours: 67.5.

ELT 147 - Digital Devices I (4)

Introduces the operation and application of gates, flip-flops, counters, shift registers, encoders-decoders and LED displays. Covers binary numbers, Boolean algebra and troubleshooting.

Prerequisite: ELT 106. Contact Hours: 90.

ELT 205 - Electronic Troubleshooting I (3)

Introduces basic troubleshooting techniques and skills required to analyze, troubleshoot and repair both analog and digital electronic devices.

Prerequisite: ELT 106. Contact Hours: 67.5.

ELT 258 - Programmable Logic Controllers (3)

Covers the fundamentals of programmable logic controllers (PLCs) as they are applied in robotics and automation. Includes history, terminology, typical applications, hardware and software. Incorporates lab and project activities that address operating, monitoring, programming, troubleshooting and repairing PLC controlled lab trainers as well as actual industrial equipment.

Prerequisite: ELT 106 and ELT 147. Contact Hours: 67.5.

EMS - Emergency Medical Services**EMS 115 - Emergency Medical Responder (3)**

Provides the student with core knowledge and skills to function in the capacity of a first responder arriving at the scene of an

emergency, providing supportive care until advanced EMS help arrives. This course was formerly known as First Responder.

Contact Hours: 52.5.

EMS 121 - EMT Fundamentals (3)

Introduces the Emergency Medical Technician (EMT) student to prehospital emergency care. The topics included in this course are Emergency Medical Services (EMS) systems, well-being of the EMT, communications, documentation, anatomy, airway management, and patient assessment. Student must be at least 18 years of age.

Prerequisite: Completion of CCR 092 with a "C" or better or the ability to place above CCR 092 with equivalent testing scores.

Contact Hours: 52.5.

EMS 122 - EMT Medical Emergencies (4)

Provides the Emergency Medical Technician (EMT) student with the knowledge and skills to effectively provide emergency care and transportation to a patient experiencing a medical emergency. This course focuses on the integration of the physical exam, medical history, and pathophysiology when assessing and treating the medical patient. Student must be at least 18 years of age.

Prerequisite: Prerequisite/Corequisite: EMS 121. This course and EMS 122 may be taken at the same time.. Contact Hours: 71.25.

EMS 123 - EMT Trauma Emergencies (2)

Provides the Emergency Medical Technician (EMT) student with the knowledge and skills to provide appropriate emergency care and transportation of a patient who has suffered a traumatic injury. The concepts of kinematics and the biomechanics of trauma, along with pathophysiology and injury patterns will provide the student with the ability to assess and manage the trauma patient. Student must be at least 18 years of age.

Prerequisite: Prerequisite/Corequisite: EMS 121. This course and EMS 123 may be taken at the same time. Contact Hours: 37.5.

EMS 124 - EMT Special Considerations (2)

Provides the Emergency Medical Technician (EMT) student with the knowledge and skills required to modify the assessment, treatment, and transportation of special patient populations and patients in special circumstances. This course also provides an overview of incident command, mass casualty incidents, vehicle extraction, air medical support, hazardous materials, and terrorism. Student must be at least 18 years of age.

Prerequisite: EMS 122 or EMS 123. These courses can be taken concurrently. Contact Hours: 37.5.

EMS 126 - EMT Refresher (2)

Provides the student with a refresher course designed to meet their certification requirements for the state of Colorado and/or a portion of the re-certification requirements for National Registry. This course was formerly known as EMT-Basic Refresher.

Contact Hours: 37.5.

Current EMT-Basic certification or National Registry less than 2 years expired or Colorado EMT/EMT-Basic Certification less than 6 months expired

EMS 130 - EMT Intravenous Therapy (2)

Focuses on cognitive and skill practice as required by Colorado Prehospital Care program for EMT/EMT Basic level IV approval. Examines criteria, procedures and techniques for IV therapy, discusses fluid and electrolyte balance and principles and treatment for shock.

Contact Hours: 41.25.

National Registry EMT certification is required for enrollment with the student actively pursuing Colorado State EMT certification. Contact individual program for specific requirements.

EMS 138 - Basic Simulation Lab (3)

Integrates the knowledge and skills learned during Emergency Medical Technician (EMT) training. The participants will be exposed to the environment they will function in upon completion of their Emergency Medical Service (EMS) education. Participants will be expected to manage all aspects of an EMS call at the basic life support level from the time of dispatch to patient transfer. This will include radio, verbal and written communications; legal and ethical issues; response activities; scene assessment and management; patient interaction, assessment, and treatment; patient disposition; and preparation for the next call. Simulations are realistic representations of calls an EMT may encounter, and are conducted in "real time". There is no verbalization of any aspect of the call. Unless a safety issue exists there is no instructor interaction with the learner until the call is complete and the debriefing session occurs. The knowledge base for this course is based on current EMT certification.

Contact Hours: 67.5.

EMS 140 - Advanced Simulation Lab (3)

Builds upon the knowledge gained in the basic simulation lab. The participants will be exposed to the environment they will function in upon completion of their Emergency Medical Service (EMS) education. Participants will be expected to manage all aspects of an EMS call at the advanced life support level from the time of dispatch to patient transfer. This will include radio, verbal and written communications; legal and ethical issues; response activities; scene assessment and management; patient interaction, assessment, and treatment; patient disposition; and preparation for the next call. Simulations are realistic representations of calls an advanced life support clinician may encounter, and are conducted in "real time". There is no verbalization of any aspect of the call. Unless a safety issue exists there is no instructor interaction with the learner until the call is complete and the debriefing session occurs. The knowledge base for this course is based on current EMT certification, information gained during the basic simulation lab, and knowledge and skills acquired from advanced life support classes.

Contact Hours: 67.5.

EMS 150 - Pediatric Ed for Prehospital Professionals (1)

Provides the student with core knowledge and skills necessary to provide emergency care to the pediatric patient.

Contact Hours: 22.5.

EMS 170 - EMT Clinical (1)

Provides the EMT student with the clinical experience required of initial and some renewal processes. This course was formerly known as EMT-Basic Clinical.

Prerequisite: Prerequisite/Corequisite: EMS 121. This course and EMS 170 may be taken at the same time. Contact Hours: 45.

EMS 180 - EMT Clinical Internship (2)

Provides the Emergency Medical Technician (EMT) with a supervised clinical learning experience that goes beyond the initial EMT requirements for the State of Colorado Department of Health. Enables the student to work with an assigned preceptor for 90 hours of clinical experience to develop an understanding of the role and responsibilities of the EMT/EMT-Basic.

Contact Hours: 90.

Current EMT certification and permission of instructor.

EMS 190 - EMT Professional Development (2)

Provides professional development continuing medical education hours for EMT-Basics/EMTs wishing to recertify at the State or National level.

Contact Hours: See current semester schedules for credit offered. Provides additional EMT topic content that applies to National Registry renewal.

EMS 220 - Paramedic Refresher (3)

Updates the EMT-P in four specific areas of pre-hospital emergency care. Includes trauma, medical, advanced life support and elective topics focused on ancillary issues in EMS.

Contact Hours: 52.5.

Currently certified as an EMT-P or National Registry less than 2 years expired or Colorado EMT-Paramedic less than 6 months expired.

ENG - English**ENG 115 - Technical English and Communication (3)**

Focuses on the written and oral communication needs of students in vocational and technical fields. Enables the student to practice written, oral, reading, reasoning, and interpersonal communication skills in order to become successful (or to remain successful) in the workplace.

Contact Hours: 45.

ENG 121 - English Composition I (3)

Emphasizes the planning, writing, and revising of compositions, including the development of critical and logical thinking skills. This course includes a wide variety of compositions that stress analytical, evaluative, and persuasive/argumentative writing.

Prerequisite: Equivalent testing score or completion of CCR 092 or CCR 093 or CCR 094. CCR 094 may be taken concurrently with this course.. Offered: *(GT-CO1). Contact Hours: 45.

ENG 122 - English Composition II (3)

Expands and refines the objectives of English Composition I. Emphasizes critical/logical thinking and reading, problem definition, research strategies, and writing analytical, evaluative, and/or argumentative compositions.

Prerequisite: ENG 121 with a grade of "C" or better.. Offered: *(GT-CO2). Contact Hours: 45.

ENG 131 - Technical Writing I (3)

Develops skills one can apply to a variety of technical documents. Focuses on principles for organizing, writing, and revising clear, readable documents for industry, business, and government.

Prerequisite: CCR 092, CCR 093 or CCR 094 with a grade of C or better or equivalent placement test score for college level writing.. Contact Hours: 45.

ENG 132 - Technical Writing II (3)

Expands and refines the objectives of ENG 131, emphasizing formal presentations, both written and oral.

Prerequisite: ENG 131 with a grade of "C" or better.. Contact Hours: 45.

ENG 201 - Composition III: Writing for Public Discourse (3)

Provides the skills necessary to enter into higher-level undergraduate academic discourse or professional workplace writing. This course extends rhetorical knowledge and develops critical reading, thinking, and writing strategies in multiple specialized areas of discourse beyond what is encountered in previous composition courses.

Prerequisite: ENG 122. Offered: *(GT-CO3). Contact Hours: 45.

ENG 221 - Creative Writing I (3)

Teaches techniques for creative writing. Explores imaginative uses of language through creative genres (fiction, poetry, and other types of creative production such as drama, screenplays, graphic narrative, or creative nonfiction) with emphasis on the student's own unique style, subject matter and needs.

Contact Hours: 45.

ENG 222 - Creative Writing II (3)

Provides continued development of written expression in such forms as poetry, fiction, and/or nonfiction writing.

Contact Hours: 45.

ENG 221 recommended.

ENG 226 - Fiction Writing (3)

Teaches techniques for creating fiction, including the study and appreciation of the language and forms of the short story.

Contact Hours: 45.

ENG 227 - Poetry Writing (3)

Teaches techniques for creating poems, including study of figurative language, forms, and sound patterns of poetry.

Contact Hours: 45.

ENG 228 - Writing for the Graphic Novel (3)

Introduces story analysis and writing concepts used in writing for the graphic novel. Students explore the graphic novel as a vehicle for a unique, personal venue for written expression. Students explore the history and universal themes of the graphic novel as well as examine the principles of composition, different writing styles and processes used in the development of the graphic novel. The application of writing skills, script development and revision processes necessary for the creation of an individual graphic work and thorough examination of course materials in terms of writing style, process considerations

and written themes are the primary focus. Students create outlines, scripts and a final written work for a graphic novel, focusing on unity of style and techniques for authoring appropriate to story lines.

Contact Hours: 45.

ENG 230 - Creative Nonfiction (3)

Teaches students to incorporate literary techniques into factual writing. Enables the student to survey a wide range of readings and analyze form and content. Includes critical review, biographical profiles, travel writing, and memoirs. Provides the opportunity for students to write and review their own nonfiction in a supportive, constructive setting.

Contact Hours: 45.

ENG 236 - Writing the Film I (3)

Guides students in the development of a treatment, outline, and opening act for a feature film script, focusing on specific script format, ideation, film genre conceptualization, plot structure and character development. Students complete a 30-minute spec script, as well as a full treatment and outline for a feature film.

Contact Hours: 45.

ENG 237 - Writing the Film II (3)

Designed to advance students into the craft of screenwriting through the development of advanced skills in formatting techniques, structure, and modern film language. Students will gain insight into subtext, theme and motif. This course will utilize workshops to write part of a feature-length of screenplay.

Contact Hours: 45.

ENG 238 - Writing the Novel I (3)

Learn the art and craft of writing a literary novel through intensive study of the process of developing long form narrative. Explore techniques for outlining plot, developing characters, and establishing setting. Workshops will emphasize critical review of students' own creative writing and all participants will develop and refine their critical vocabulary and methodology.

Contact Hours: 45.

Recommended Preparation: ENG 121, LIT 115, and/or ENG 221

ENP - Entrepreneurship

ENP 105 - Introduction to Entrepreneurship (3)

The student will evaluate the business skills and commitment necessary to successfully operate an entrepreneurial venture and review the challenges and rewards of entrepreneurship. The student will understand the role of entrepreneurial businesses in the United States and the impact on our national and global economy.

Contact Hours: 45.

ENP 106 - E-Ship Opportunity Feasibility Study (3)

Students will assess the viability of a new venture business idea to determine if the concept is feasible for business start up and long term growth based on strengths and skills, personal, professional and financial goals. The student will identify and analyze through basic research the present climate for their business idea by completing an industry, target market and competitive analysis. The student will assess the financial needs

for startup as well as their own skills, strengths and talents to launch a successful business idea.

Contact Hours: 45.

ENP 205 - Marketing for the Entrepreneur (3)

In the course, the student will gain insights essential for marketing their entrepreneurial venture utilizing innovative and financially responsible marketing strategies. Students will develop an understanding of traditional and non-traditional entrepreneurial marketing strategies. Prepare marketing strategies with associated tactics to launch and sustain an entrepreneurial venture.

Contact Hours: 45.

ENP 206 - Entrepreneurship Legal Issues (3)

The student will explore legal issues related to business entities including sole proprietorship, general partnerships, limited partnerships, and corporations. Students will review contract law, articles of incorporations and the filing process, employment law (including FEPA, ADA, FMLA), personnel policies and procedures, the hiring process, job descriptions, disciplinary actions and business insurance.

Contact Hours: 45.

ENP 207 - Entrepreneurship Financial Topics (3)

This is a comprehensive course covering financial situations for business. Financial topics will include employee benefits, retirement planning, budgeting, creation of financial statements, and learning how to work with an accounting professional. Other topics will include tax, sales and use tax, payroll tax and unemployment tax.

Contact Hours: 45.

ENV - Environmental Sciences

ENV 101 - Introduction to Environmental Science (4)

Provides an introduction to the basic concepts of ecology and the relationship between environmental problems and biological systems. Includes interdisciplinary discussions on biology, chemistry, geology, energy, natural resources, pollution, and environmental protection. Using a holistic approach, students will study how the foundations of natural sciences interconnect with the environment. This course includes laboratory experience.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90.

ENV 110 - Natural Disasters (3)

Introduces the student to the different types of natural hazards, their causes, effects, and what can be done to reduce the risks to human populations. Scientific advances related to understanding, predicting, and preparing for natural disasters are discussed. This course also covers anthropogenic changes to Earth systems which may be increasing the frequency and severity of these events. This course is one of the Statewide Guaranteed Transfer courses: GT-SC2.

Prerequisite: Prerequisite/Corequisite: CCR 092 or CCR 093 or CCR 094 may be taken concurrently. Offered: *(GT-SC2). Contact Hours: 45.

ENY - Energy

ENY 101 - Introduction to Energy Technologies (3)

Introduces the energy technologies in use today and those that are in the research stage as possible alternatives. Presents technologies including active solar heating, passive solar heating, wind energy systems, biomass, photovoltaics, co-generation, low and high head hydro, hydrogen, geothermal, power towers and energy storage systems.

Contact Hours: 67.5.

ENY 122 - Wind Energy and Photovoltaics (3)

Prepares students for entry level, technical positions in the growing fields of wind and solar photovoltaic systems. Introduces various aspects of wind and solar photo voltaic (PV) power systems. Covers the current state of wind and PV systems in the U.S. and the world briefly. Covers the basic elements of wind power systems including wind energy mapping, site selection, wind turbine components, and power vs. speed calculations including a brief overview of electric generators and speed control. Covers basic elements and operation of photovoltaic power systems including common types of PV cell technologies, PV array structure, and the electrical properties of PV arrays. Discusses efficiency factors such as sun intensity and angle, and the shadowing. Discusses the system integration elements of wind and PV systems including batteries, basic power electronics, and off-grid and on-grid connected systems. Discusses regulatory and safety issues associated with grid-tied systems.

Prerequisite: ELT 106. Contact Hours: 67.5.

ENY 160 - Manufacturing and Energy (3)

Exposes the student to the principles of energy and power, and basic manufacturing and various energy systems. Includes nonrenewable, renewable and inexhaustible and power systems. Includes manufacturing topics such as production planning, cost saving approaches, automation systems, and selecting appropriate materials.

Prerequisite: MAT 108 or higher (Only includes MAT 108; MAT 121; MAT 122; MAT 125 or MAT 166 or higher) and PHY 105 or higher. Contact Hours: 45.

ENY 161 - Energy Industry Fundamentals (4)

Exposes students to the energy industry, including different ways to generate energy, regulatory impact, safety procedures and equipment, and energy transmission systems. This class is an introduction for all students interested in a career in energy - both conventional and renewable.

Contact Hours: 90.

ENY 280 - Internship (1)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 45.

ENY 289 - Capstone (1-12)

A demonstrated culmination of learning within a given program of study.

Contact Hours: 15-180.

ESL - English as a Second Language

ESL 021 - Basic Grammar (3)

Assists the student in mastering basic structures in English grammar through oral and written practice.

Contact Hours: 45.

Recommended Preparation: Appropriate placement scores.

ESL 022 - Intermediate Grammar (3)

Reviews basic grammar and introduces intermediate structures. Provides integrated practice through a variety of oral and written exercises.

Contact Hours: 45.

Recommended Preparation: ESL 021 (p. 333) or appropriate placement scores.

ESL 023 - Advanced Grammar (3)

Reviews intermediate grammar. Introduces advanced structures with increased emphasis on written communication.

Contact Hours: 45.

Recommended Preparation: ESL 022 (p. 333) or appropriate placement scores.

ESL 031 - Basic Listening & Speaking (3)

Focuses on listening and speaking activities that help the student communicate more competently. Provides practice with pronunciation, vocabulary, and basic grammatical patterns.

Contact Hours: 45.

Recommended Preparation: Appropriate placement scores.

ESL 032 - Intermediate Listening & Speaking (3)

Teaches listening, pronunciation, and conversation skills. Increases speed and accuracy in speaking through free and guided conversational practice.

Contact Hours: 45.

Recommended Preparation: ESL 031 (p. 333) or appropriate placement scores.

ESL 033 - Advanced Listening & Speaking (3)

Provides students with opportunities to increase the listening and speaking skills required in academic and work situations. Emphasizes vocabulary building, listening and note-taking strategies, as well as questioning, discussion, and presentation skills.

Contact Hours: 45.

Recommended Preparation: ESL 032 (p. 333) or appropriate placement scores.

ESL 041 - Basic Reading (3)

Improves comprehension of simple written texts through vocabulary building and reading strategies.

Prerequisite: Appropriate placement scores.. Contact Hours: 45.

Recommended Preparation: Appropriate placement scores.

ESL 042 - Intermediate Reading (3)

Helps the student read more quickly and accurately and understand a variety of intermediate level reading material.

Contact Hours: 45.

Recommended Preparation: ESL 041 (p. 333) or appropriate placement scores.

ESL 043 - Advanced Reading (3)

Prepares the student for academic reading assignments. Assists the student to read more accurately and critically through the development of vocabulary knowledge and reading skills. Introduces research skills.

Contact Hours: 45.

Recommended Preparation: ESL 042 (p. 333) or appropriate placement scores.

ESL 051 - Basic Composition (3)

Serves as an open-entry, open-exit course of study from basic to intermediate to advanced (5 levels) in speaking, listening, reading, and writing English.

Contact Hours: 45.

Recommended Preparation: Appropriate placement scores.

ESL 052 - Intermediate Composition (3)

Introduces the fundamentals of paragraph organization and development. Assists the student in developing sentence variety and grammatical competency within well-organized paragraphs.

Contact Hours: 45.

Recommended Preparation: ESL 051 (p. 334) or appropriate placement scores.

ESL 053 - Advanced Composition (3)

Reviews paragraph organization and develops the skill of writing essays using selected rhetorical modes. Emphasizes accurate use of advanced grammatical structures. Includes summarizing, paraphrasing, and research writing.

Contact Hours: 45.

Recommended Preparation: ESL 052 (p. 334) or appropriate placement scores.

ESL 055 - Computer Basics for Students (2)

Introduces the basic skills for computer use, including word processing, text entry, and document appearance, editing, spelling, and printing.

Contact Hours: 30.

Recommended Preparation: Appropriate placement scores or permission of instructor.

ETH - Ethnic Studies

ETH 200 - Introduction to Ethnic Studies (3)

Introduces students to the issues of race and ethnicity. Emphasizes ethnic relations in the United States as it pertains to four major groups: Americans of African, Asian, Latino and Native descent. Explores issues of racial and ethnic identity, racism and discrimination, stereotyping, prejudice, segregation, colonialism, integration and acculturation.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

ETH 212 - African-American Studies (3)

Explores in-depth introduction of Africans to the colonies and historical developments through modern-day America. Focuses on the decisions and choices that have impacted African-Americans through contemporary times.

Contact Hours: 45.

ETH 224 - Introduction to Chicano Studies (3)

Introduces students to skills development in multicultural education. Covers Chicano history, migration and labor, education, law and Chicano culture.

Contact Hours: 45.

FER - Fermentation Science

FER 101 - Craft Beer Brewing (4)

Examines fermentation science of craft beer brewing industry with an emphasis on wort production, yeast fermentation process, beer contaminants and how to avoid them, brewery cleaning, maintenance and environmental impact. The laboratory experience includes basic microbiological/scientific techniques and brewery experiences. Students MUST be 21 or older to enroll in this class.

Contact Hours: 90 (45 lecture hours, 45 lab hours).

FER 102 - Beer Styles and Sensory Analysis of Beer (1)

Explores beer styles of the world through sensory tests. Guided tastings will examine the effects of the raw materials on beer flavor and aroma and connect with the historical perspective. Also includes discussion of organizing sensory tastings, brief description of how beer is made, and major off flavors that can develop during production. Students MUST be 21 or older to enroll in this class.

Contact Hours: 30.

FER 201 - Wine Fundamentals (4)

Examines the manufacture of wines, styles of wines in global wine regions, microbiological science of wine fermentation and organoleptic perception of wines. Class activities emphasize reading wine labels, using language to describe different wines, and descriptions of common wine defects through sensory analysis of wines. Students MUST be 21 years or older to take the class.

Contact Hours: 75 (45 lecture hours, 30 lab hours).

FER 203 - Fermented Foods Science (4)

Explores the history and science of fermented foods. Course includes food fermentation lab experiences with dairy, vegetables, sugars and grains. Examines how fermented foods have been used for preservation of food, health attributes and cultural significance.

Contact Hours: 90.

FER 280 - Internship (1)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 45 per credit hour.

FIN - Finance

FIN 101 - Introduction to Finance (3)

Provides an in-depth study of the US monetary system, the role of banks as financial intermediaries, and the types of financing. Includes international financial markets and international financial instruments used in importing and exporting, analysis of stock and bond values, the role and process of the stock and bond markets and the derivative marketplace. Enables the student to produce a cash budget, analyze financial statements including all financial ratios used in credit analysis, and determine capital requirements and financing arrangements.

Contact Hours: 45.

FIN 201 - Principles of Finance (3)

Provides factual knowledge of financial institutions and the monetary system used in the United States in relationship to the global economy. Examines tools and techniques such as capital budgeting, time value of money, analysis of financial statements, cost of capital, and risk analysis to analyze business decisions, plan and determine project and firm value, and evaluate sources of financing.

Contact Hours: 45.

FLD - Floral Design

FLD 100 - Introductory Floral Design (3)

Teaches students working in the floral design industry a working knowledge of retail flower shop management & procedures. Introduces students to the basic principles and elements of floral design that can be used for personal or professional industry applications. Students also learn basic care and identification of fresh flowers, design, purchasing, and pricing of various types of floral compositions.

Contact Hours: 67.5.

Course fees are charged to cover the cost of the consumable course materials, including fresh flowers, used in this class. This course available only at LC and Fall Semester only.

FLD 200 - Advanced Floral Design (3)

Focuses on advanced floral design concepts and techniques including special event, wedding and sympathy arrangements.

Contact Hours: 67.5.

Recommended Preparation: FLD 100

Course fees are charged to cover the cost of the consumable course materials, including fresh flowers, used in this class. This course available only at LC and Spring Semester only.

FLD 289 - Capstone (4)

Focuses on a demonstrated culmination of learning within the floral design program of study.

Contact Hours: 90.

This course available only at Larimer Campus.

FRE - French

FRE 101 - Conversational French I (3)

Introduces beginning students to conversational French and focuses on understanding and speaking French. Covers basic

vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

FRE 102 - Conversational French II (3)

Continues the sequence for beginning students who wish to understand and speak French. Covers basic conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: FRE 101 or equivalent.

FRE 111 - French Language I (5)

Develops students' interpretive, interpersonal, and presentational communicative abilities in the language. Integrates these skills in the cultural contexts in which the language is used. Offers a foundation in the analysis of culture.

Contact Hours: 75.

FRE 112 - French Language II (5)

Expands students' interpretive, interpersonal, and presentational communicative abilities in the language across the disciplines. Integrates these skills with the study of the cultures in which the language is used. Offers a foundation in the analysis of culture and develops intercultural communicative strategies.

Contact Hours: 75.

Recommended Preparation: FRE 111 or equivalent.

FRE 211 - French Language III (3)

Continues French I and II in the development of increased functional proficiency in listening, speaking, reading and writing the French language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. This course is one of the Statewide Guaranteed Transfer courses. GT-AH4

Prerequisite: FRE 112 or FRE 114. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

FRE 212 - French Language IV (3)

Continues French I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the French language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. This course is one of the Statewide Guaranteed Transfer courses. GT-AH4

Prerequisite: FRE 211. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

FSW - Fire Science Wildland

FSW 100 - S-190 Introduction to Wildland Fire (1)

Provides instruction in the primary environmental factors that affect the start and spread of wildfire and recognition of potentially hazardous situations. This course must be taken concurrently with FSW 101 Firefighting Training S-130. You must also sign up for FSW 101 S130 to qualify for a red card.

Contact Hours: 15.

FSW 101 - S-130 Firefighting Training (2)

Provides entry-level firefighter skills. A version of the L-180, Human Factors on the fireline, is included as part of the course. Credit will be issued for S-130. This course must be taken concurrently with FSW 100. You must also take FSW 100 S-190 to qualify for a red card.

Contact Hours: 30.

FSW 143 - S-212 Wildfire Chain Saws (2)

Provides introduction to the function, maintenance and use of internal combustion, engine-powered chain saws and their tactical wildland fire application. Modules support entry-level training for firefighters with little or no previous experience in operating a chain saw and provides hands-on cutting in surroundings similar to fireline situations. Must have S190 and S130 certifications or currently be enrolled in FSW 100 and FSW 101.

Prerequisite: FSW 100 and FSW 101 effective Summer 2015.

Contact Hours: 37.5.

GEO - Geography

GEO 105 - World Regional Geography (3)

Examines the spatial distribution of environmental and societal phenomena in the world's regions; environmental phenomena may include topography, climate, and natural resources; societal phenomena may include patterns of population and settlement, religion, ethnicity, language, and economic development. Analyzes the characteristics that define world regions and distinguish them from each other. Examines the relationships between physical environments and human societies. Examines globalization, emphasizing the geopolitical and economic relationships between more developed and less developed regions.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS2). Contact Hours: 45.

GEO 106 - Human Geography (3)

Introduces students to geographic perspectives and methods in the study of human societies by examining the spatial characteristics of populations, language, religion, ethnicity, politics, and economics. Examines the relationships between physical environments and human societies.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS2). Contact Hours: 45.

GEO 111 - Physical Geography-Landforms with Lab (4)

Introduces students to the principles of Earth's physical processes, emphasizing landforms, soils, and hydrology. Examines the formation and distribution of landforms, such as mountains, valleys, and deserts, and their shaping by fluvial and other processes. This course incorporates an integrated process of lectures, discussion, and laboratory assignments.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 75.

GEO 112 - Physical Geography - Weather & Climate with Lab (4)

Introduces the principles of meteorology, climatology, world vegetation patterns, and world regional climate classification. The course includes investigating the geographic factors which influence climate such as topography, location, elevation, winds, and latitude.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 75.

GEO 160 - Global Climate Change (3)

Presents global climate change from an Earth science perspective including explorations of paleoclimatology, atmospheric science, vegetation, fluvial systems, and oceanic circulation. Analyze observed and predicted impacts of climate change on the world's terrestrial regions. Examine interrelationships among economy, society, and public policy as well as geographic variation in greenhouse gas emissions at national and regional scales. Also discussed will be efforts to mitigate climate change and its causes and/or adaptations to global climate change.

Contact Hours: 45.

GEO 165 - Human Ecology (3)

Provides a current outlook for the global environment, describing the threats imposed on different natural ecological systems. Students develop ways of thinking about the environment to evaluate environmental problems.

Contact Hours: 45.

GEO 200 - Geography of Europe (3)

Presents a comprehensive study of European geography including physical, historical, agricultural, industrial, cultural and political geographic inter-relationships. This course incorporates a broad overview of the forces and trends that have shaped modern Europe.

Contact Hours: 45.

GEO 210 - Careers and Research in Geosciences (1)

Introduces students to current research, research tools, techniques, and terminology within the geosciences. Explores and prepares students for outside internship opportunities for community college students in the geosciences and related fields. Explores different professions within the geosciences. Explains different coursework needed to best achieve academic success at four-year universities and careers beyond graduation. Provides experience preparing resumes and completing internship and job applications.

Contact Hours: 15.

GER - German

GER 101 - Conversational German I (3)

Introduces beginning students to conversational German and focuses on understanding and speaking German. Covers basic

vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

GER 102 - Conversational German II (3)

Continues the sequence for students who wish to understand and speak German. Covers basic patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: GER 101.

GER 111 - German Language I (5)

Develops students' interpretive, interpersonal, and presentational communicative abilities in the language. Integrates these skills in the cultural contexts in which the language is used. Offers a foundation in the analysis of culture.

Contact Hours: 75.

GER 112 - German Language II (5)

Expands students' interpretive, interpersonal, and presentational communicative abilities in the language across the disciplines. Integrates these skills with the study of the cultures in which the language is used. Offers a foundation in the analysis of culture and develops intercultural communicative strategies.

Contact Hours: 75.

Recommended Preparation: GER 111.

GER 201 - Conversational German III (3)

Continues the sequence for students to advance their study of understanding and speaking German. Focuses on intermediate level vocabulary, grammar, and expressions.

Contact Hours: 45.

Recommended Preparation: GER 102.

GER 202 - Conversational German IV (3)

Continues the sequence for students to advance their study of understanding and speaking German. Focuses on intermediate level conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: GER 201.

GER 211 - German Language III (3)

Continues German Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the German language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. This course is one of the Statewide Guaranteed Transfer courses. GT-AH4

Prerequisite: GER 112. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

GER 212 - German Language IV (3)

Continues German Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the German language. Note: The order of the topics and the methodology will vary according to individual texts and

instructors. This course is one of the Statewide Guaranteed Transfer courses. GT-AH4

Prerequisite: GER 211. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

GER 235 - German Reading-Writing (3)

Enables the student to build vocabulary and develop reading and writing strategies in German to analyze fictional and non-fictional texts and gain further cultural insight of the German world.

Contact Hours: 45.

Recommended Preparation: GER 212.

GEY - Geology

GEY 111 - Physical Geology with Lab (4)

Introduces the major topics of geology. Course content encompasses Earth's materials, structure, and surface landforms. Geologic time and the geologic processes responsible for Earth's internal and external features are covered. This course includes laboratory experience.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (45 lecture hours, 45 lab hours).

GEY 112 - Historical Geology with Lab (4)

Covers the development of Earth through the vast span of geologic time. Emphasis is on the investigation and interpretation of sedimentary rocks and features, the record of ancient environments, fossil life forms, and physical events in Earth's history within the framework of plate tectonics. This course includes laboratory experience.

Prerequisite: GEY 111. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (45 lecture hours, 45 lab hours).

GEY 135 - Environmental Geology with Lab (4)

Introduces the subject of geology as it relates to human activities. Geologic hazards such as floods, landslides, earthquakes, and volcanoes are investigated. Mineral, energy, soil, and water resources are discussed in terms of their geologic formation and identification, usage by society, and associated environmental impacts. Land use issues, waste, and pollution are also examined.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90.

GEY 205 - The Geology of Colorado (3)

Covers the geologic history of Colorado and notable geologic features present in the state. Emphasis is on the formation of mountain ranges, significant rock types, ore deposits, fossils, and landforms.

Contact Hours: 45.

Recommended Preparation: Permission of instructor.

GEY 208 - Geology Field Trip (3)

Involves in-depth field studies into the geology of specific regions both within and outside Colorado. Trips lasting from one to several days' length to study the area constitute the major activity of the course. The specific area of investigation is indicated in the schedule of classes each time the course is offered.

Prerequisite: Permission of instructor.. Contact Hours: 114.

See the list of Specialized Geology Courses on the first page of this Course Offerings section. Permission of instructor.

GIS - Geographic Information Systems

GIS 101 - Introduction to Geographic Information Systems (3)

Survey the development, application and use of geographic information systems (GIS).

Contact Hours: 67.5.

GIS 110 - Introduction to Cartography (3)

Examines a broad range of map types, emphasizing maps as a communication system with both symbology and specific organizational hierarchies. Discussion and demonstration focuses on essential cartographic principles and practices used for designing maps, with emphasis on cartographic principles resulting in the effective map communication, qualitative messages, and quantitative information.

Contact Hours: 67.5.

GIS 131 - Global Positioning Systems for Global Information Systems (3)

Introduces the terminology, hardware, and technological principles of GPS. Students will receive an introduction in the fundamentals of using a basic hand-held GPS unit. Data will be integrated with pre-existing spatial data. Fundamentals of mapping and map reading will be covered. Garmin GPS units will be used initially, followed with Trimble GeoExplorers and Pathfinder Office software. Final student projects integrate GPS data within ArcView projects.

Contact Hours: 67.5.

GIS 150 - Relational Database Management Systems for GIS (3)

Develop methods and procedures for geographic information systems data, data management, and the complex relationships between data files and a GIS. This course teaches several essential components and methods of successful data and project data management. The objective is to give students a basic understanding of databases, how they are used in a professional GIS environment, and practical experience in designing and implementing the GIS database.

Contact Hours: 67.5.

Recommended Preparation: GIS 101 and GIS 110

GIS 165 - Project Management (3)

Examine the relationships of geographic information systems projects to information technologies for organization planning and decision making. Course considers project business process, project management methods and roles of project participants.

Prerequisite: GIS 101. Contact Hours: 67.5.

GIS 205 - Applications (3)

Develop competency in web based geospatial information technologies. This course introduces students to concepts and processes of software based geospatial services to deliver geospatial information over networks. The course provides a comprehensive discussion of theory and applied technology of GIS software information services as well as integration of geospatial services into GIS applications.

Prerequisite: GIS 101. Contact Hours: 67.5.

GIS 210 - Intermediate Geographic Information Systems (3)

Build on the spatial analysis principles and concepts of GIS 101. Students work with advanced analytical tools and develop skills in spatial problem solving.

Prerequisite: GIS 101. Contact Hours: 67.5.

GIS 211 - Spatial Data Modeling and Analysis (4)

Examine techniques for modeling and analyzing spatial data in a GIS. Topics include defining object models and geodatabases as they are used to access geographic data and build data models, creating new information from existing data through data classification, geoprocessing, presentation, and display and using raster analysis to display and analyze spatial data.

Prerequisite: GIS 101. Contact Hours: 90.

Recommended Preparation: GIS 210 (p. 338)

GIS 212 - GIS Remote Sensing - Digital Image (4)

Introduce concepts and procedures used in remote sensing with an emphasis on integration of aerial and satellite imagery into GIS applications. Apply the science of remote sensing and imagery interpretation to global earth observation characteristics based on remotely sensed data and logical interpretation.

Prerequisite: GIS 101. Contact Hours: 90.

GIS 260 - GIS Survey I (3)

Examines fundamental concepts of surveying and mapping, incorporating survey measurements, geographic information science data, statistical measures, error assessment and basic horizontal and vertical survey measurements.

Prerequisite: GIS 131 and GIS 210. Contact Hours: 67.5.

GIS 261 - GIS Survey II (3)

Examines applied surveying operations and mapping incorporating survey measurements, statistical measures, error assessment and applied survey process.

Prerequisite: GIS 260. Contact Hours: 67.5.

GIS 280 - Internship (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

GIS 289 - Capstone (3)

Provides a demonstrated culmination of learning within a given program of study.

Contact Hours: 90.

HHP - Holistic Health Professional

HHP 107 - Managing Life's Stresses (1)

Work with energy, confidence and enthusiasm in your life by learning specific skills that will give you control over stressful situations or people in your life. This experiential class is designed for all who are interested in a higher quality of life and want to reach their full potential. Learn how to relax quickly, improve self-image, improve concentration, and how to control your worry. You can experience freedom from old patterns that create stress, fatigue and restricting beliefs.

Contact Hours: 15.

HHP 108 - Introduction to Aromatherapy (1)

Provides an introductory level of information about the historical origins, safety precautions, as well as various applications and uses of the essential oils to reduce stress, aid in relaxation and benefit health. Students receive a starter kit, learn about the various types and properties of common essential oils/remedies, how to safely use for self and with others as a supplement to other holistic treatment modalities.

Contact Hours: 15.

HHP 111 - Herbology I (1)

Explores the pharmacokinetics and composition of herbs and their effect on the body systems. Focuses on the habitat, harvesting, storage and usage of a select group of herbs. The use of herbs in health maintenance and the healing of disease predates written history. Herbs have been found by archeologists in Paleolithic burials and throughout literature on the ancient Chinese and Egyptians verified by modern scientific research.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094.

Contact Hours: 15.

HHP 112 - Introduction to Homeopathy (1)

Introduces the history and development of Homeopathy. Explores the principles and rules for using homeopathic remedies as well as how it works to activate immune response and detoxification. Reviews past successes, research studies and scientific theories explaining how and why homeopathy works. Students will learn and experience multiple methods of determining possible remedies for first aid application and common ailments affecting society today.

Contact Hours: 15.

HHP 116 - Introduction to Massage Techniques I (1)

Teaches basic muscle anatomy as it relates to massage as well as the specific hands-on techniques to complete a full body massage. Provides a general history of massage as a healing treatment, its connection to other holistic modalities and its ability to have both a physiological as well as psychological impact on overall health and healing. Swedish massage techniques and strokes are performed and experienced by each student.

Contact Hours: 22.5.

HHP 120 - Introduction to Integrative Health (2)

Explores the history, theoretical foundations as well as some of the more widely used integrative healing methods within the 5 primary domains of Complementary Alternative Medicine (CAM). Expands the students' knowledge of integrative health &

enables students to converse in an informed manner with future patients and CAM practitioners. Also serves as an introduction to the Holistic Health Program and provides students with informational materials for educational planning, career exploration and tools for successful completion.

Contact Hours: 30.

HHP 122 - Qigong (2)

Informs students of the history and application of this unique form of Traditional Chinese Medicine that integrates physical postures, breath-work and mental focus to aid in the healing of various physiological, emotional & psychological health conditions. Students will learn 18 soft exercise postures and supplemental modalities to tap into one's universal energy source to calm the mind, focus one's intention, and reduce stress; while also healing the body and increasing physical strength, agility and vitality.

Contact Hours: 45.

HHP 130 - Reiki Level One (1)

Explores the traditional Usui use of Reiki. Covers the history and development of Reiki work, beginning in Japan, to Hawaii, to the U.S., and later Europe. Focuses on the fundamental beliefs and the dynamics of the Reiki process. Enables each student to receive Reiki attunements to prepare for the Reiki energy work. Each class member gives and receives a Reiki hands-on treatment session.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094.

Contact Hours: 15.

HHP 142 - Intro to Traditional Chinese Medicine (3)

Introduces the theories and practice of Traditional Chinese Medicine (TCM), which is a 5,000 year old medicine originating in China. It is based on a holistic approach to understanding the human body and its illnesses, which will be discussed along with the differentiation skills unique to TCM.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094..

Contact Hours: 45.

HHP 144 - The Human-Animal Bond (1)

Introduces and explores the history of the human-animal bond and a variety of current therapeutic applications of such a bond. Focuses on research and experiential testimony of the health benefits of pet ownership, pets in public buildings, animal-assisted activity, and animal assisted therapy and the unique traits of each. Also briefly discusses the multifaceted impact of the loss of an animal on their human companion and community services who assist with this loss.

Contact Hours: 15.

HHP 155 - Meridian Accupoint Tapping (2)

Introduces the theory and practical applications as well as provides advanced experiential instruction and demonstrative experience of using light finger tapping on the meridian end points commonly used in traditional Chinese acupuncture. It teaches the identification, assessment, balancing and clearing of the mind-body in the belief systems of individuals and special populations. This course offers hands-on instruction emphasizing identifying, assessing, balancing, and clearing the mind-body energy system in self and others.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094.
Contact Hours: 30.

HHP 166 - Introduction to Reflexology (1)

Teaches the student foot anatomy, basic hand stroke and foot reflex points.

Contact Hours: 22.5.

HHP 168 - Reflexology of the Hands and Feet (3)

Describe and examine the use of Reflexology on the hands and feet, where students will learn and apply basic reflexology techniques, anatomy of the hands and feet as well as standard documentation procedures. Provide further training in postural assessment exercises, composure of standard SOAP Notes for documentation and evaluation of case studies. Assess the body-mind connection in the physiological response to stress, learn several Chinese energy meridians and understand application of the major energy chakras.

Prerequisite: HHP 166. ENG 121 or CCR 092 or CCR 093 or CCR 094. Contact Hours: 45.

HHP 166 and HHP 168 may be taken in the same term.

HHP 188 - Practicum (Reflexology) (2)

Provides the learner the opportunity for the practical application of classroom theory within a given program of study.

Prerequisite: HHP 260 which may be taken concurrently. Contact Hours: 60.

HHP 190 - Holistic Health Applications of Crystals and Minerals (1)

Introduces the student to crystal and mineral types and properties for alternative health care. Students will learn to clear, clean, and use crystals and minerals in personal or professional environments. This course offers students hands-on experience with the different energies of crystals and minerals.

Contact Hours: 22.5.

HHP 200 - Bach's Essences (2)

Teaches the history and development of Bach Essences. Explores how stress and emotions effect our physical body. Scientific theories that explain how energy medicine works will also be introduced. Students will learn the purpose of all 38 remedies, proper blending techniques and applications of appropriate remedies to aid them in restoring emotional balance and harmony.

Contact Hours: 30.

HHP 204 - Applied Aromatherapy (3)

Explains the historical and cultural uses of aromatherapy/essential oils and the distillation process up through modern times. Basic botany will be addressed. Examinations of how the essential oils interact with human physiology will be studied, along with modern research/clinical studies addressing the efficacy of essential oils. Students will learn enhanced blending techniques for making aromatic perfumes as well as therapeutic blends and examine the role of the aromatherapist using essential oils and working with clients.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094.
Contact Hours: 45.

HHP 208 - Advanced Musculoskeletal Anatomy (2)

Presents an intensive study of the musculoskeletal system. Focus will be on understanding the bony structures and the relationship of the muscular system to the skeletal system from a dynamic perspective. Classes include lecture and work with the Maniken system building muscles with clay on a scaled down and anatomically accurate skeleton. Clinical connections will be made to take the study of anatomy out of the purely technical arena, and into the practical. The other nine systems of the body will be touched on briefly, because to clinically understand the practical applications of anatomy, you have to be aware of the interconnectedness of all the systems of the body.

Prerequisite: HHP 116 and MST 111. MST 111 may be taken at the same time as HHP 208. Contact Hours: 60.

Recommended Preparation: MST 106 (p. 370) Anatomy & Physiology for Massage

HHP 211 - Herbology II (2)

Continues Herbology I (HHP 111) and explores the advanced usage of herbs in prevention and treatment of disease. The exploration of pharmacokinetics, composition of herbs, and effects on the body will also be explored.

Prerequisite: HHP 111. This course may be taken concurrently. Contact Hours: 30.

HHP 214 - Exploring Your Dreams (1)

Introduces theories of dream interpretation and explores the purpose of dreaming by generating an awareness of the benefits of dreams as a valuable tool for facilitating health and personal growth. In this participatory class, students will learn simple tools for dream recall, recording dreams and uncovering the many levels of meaning found in dreams. Students evaluate the potential of tapping into their dreams as a source for reducing stress and increasing spirituality and inner growth.

Contact Hours: 15.

HHP 217 - Mindfulness Practices Impact on Health & Wellness (2)

Examines and exposes students to the overall health benefits of various mindfulness & meditation practices. Students will learn the history, definitions and applications of mindfulness techniques as well as the mental, emotional, spiritual and physiological impact that various techniques have on the brain, numerous bodily systems and on overall stress reduction that influences health. Students will acquire knowledge and experience a wide assortment of breathing/meditation exercises and troubleshoot potential difficulties in practicing and teaching such.

Contact Hours: 30.

HHP 220 - Exploring Holistic Animal Care (3)

Introduces theories of holistic animal care, communication techniques, and various homeopathic, energetic & natural remedies that can be safely used with animals. Discusses how to provide animals with healthier nutrition, safe toys and environments to optimize their overall wellness. Examines diverse views and treatment of animals from past to present, the applications of complementary practices in animal care as well as the grief process in coping with the loss of an animal/pet.

Contact Hours: 45.

Recommended Preparation: HHP 144. This course may be taken concurrently.

HHP 223 - Jin Shin Level I (2)

Teaches an energy modality similar to Reiki, but based on Chinese Acupuncture points. Jin Shin allows the student to open the acupuncture meridians using patterns of 26 acupuncture points by applying non-invasive light touch, as opposed to using needles in traditional acupuncture. Using the Jin Shin acupressure system, students learn to identify, access, open and balance mental and physical 'dis-ease' in themselves and others. Experiential practice sessions are included during class.

Contact Hours: 30.

HHP 229 - Wellness Coaching (1)

Provides the tools to facilitate oneself and others in the movement towards wellness. Enables the student to learn assessment skills, basic coaching skills, establishing contacts and goals for change.

Contact Hours: 15.

HHP 230 - Jin Shin Level II (2)

Allows the student who has completed HHP 223 to gain advanced experience with this hands-on non-invasive Chinese technique. An expansion of Jin Shin Level One material includes how to read combination pulses and to do flows that balance the body at deeper levels. At the end of Jin Shin Level Two the students will be able to take pulses and administer a full session of Jin Shin to themselves and others. A certificate will be issued to passing students that will place them at Jin Shin Practitioner status within the High Touch Jin Shin Network.

Prerequisite: HHP 223. This course can be taken concurrently..
Contact Hours: 30.

HHP 231 - Advanced Health & Wellness Coaching (3)

Trains students to be health and wellness professionals and use advanced coaching skills to assist their client in making lasting lifestyle change. Students demonstrate learning of a systematic coaching process based on behavioral change psychology, human motivation, health promotion and professional coaching competencies. Students gain advanced coaching skills to support and motivate clients to make behavioral changes needed to live healthier lives.

Prerequisite: HHP 229 and ENG 121 or CCR 092 or CCR 093 or CCR 094. Contact Hours: 45.

HHP 232 - Integrative Coaching Skills for Fitness Achievement (2)

Prepares students to become integrative health/wellness coaching professionals to assist clients in achieving health and lifestyle changes using fitness goals. Teaches how to apply integrative wellness coaching techniques to the fitness world when working with clients possessing various health conditions and physical abilities. Acquire specific knowledge and skills on how to support and motivate clients who desire to make behavioral and lifestyle changes in order to achieve optimal health.

Prerequisite: HHP 231. Contact Hours: 45.

HHP 234 - The Sacred Wild (1)

Introduces the Gaia Theory/Hypothesis, as well as familiarize students with the essence of reconnecting with the inner and

outer landscapes of the Sacred Wild. Students will explore the field of ecopsychology and look at the deep primordial connection between human beings, the natural world and our impact on the Earth (Gaia).

Contact Hours: 15.

HHP 240 - Holistic Nutrition: Digestive Healing (3)

Examines digestive health as a major determinant of overall health in the body. Trains students to use a holistic framework to approach topics in digestion, nutrition, and general health. Describes different digestive imbalances and summarizes gut healing protocols to create balance. Students will identify and discuss current topics in holistic nutrition.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094..

Contact Hours: 45.

Recommended Preparation: HWE 100 (p. 353)

HHP 242 - Healing Touch Level I (1)

Provides experiential training that encourages each student to explore who they truly are, what they believe, and what can be accomplished by using their hands to facilitate a healing response in others. Students will learn the step-by-step process of this unique energy modality that can be learned upon mastering relatively simple, energetic touch intervention techniques used to support health and to facilitate the healing process in oneself as well as in others.

Contact Hours: 15.

HHP 243 - Healing Touch Level II (1)

Expands upon what was learned in Level 1 by increasing the depth of the study of Healing Touch. Students will learn how to conduct a full one-hour healing sequence with a client, including the initial intake interview/assessment, to choosing the appropriate energetic flow techniques, to documenting the session. Additionally, students will learn how to conduct an energetic health history, interview, while administering a Chakra Connection as well as how to conduct two Mind Clearing techniques.

Prerequisite: HHP 242. This course can be taken concurrently..
Contact Hours: 15.

HHP 245 - Healing Touch Level III (1)

Teaches the "art" of being an energy healer. This advanced level course will transform your practice from the basic Healing Touch techniques to learning more expansive, energetic flow techniques to deepen your understanding of the human energy field and how it manifests within physical, emotional, mental and spiritual bodies, to in-turn, create a greater sense of well-being for your clients. Also focuses on the importance of self-care and pre-session practices for the practitioner.

Prerequisite: HHP 242 and HHP 243. These courses can be taken concurrently.. Contact Hours: 15.

HHP 246 - Second Degree Reiki (1)

Teaches the learning and meaning of the three traditional Usui symbols. Incorporates in-depth discussion about application of the three symbols. Students learn about the necessary preparation of a Reiki therapist in offering treatments. One attunement is given to each student. Each member gives and receives a Reiki treatment session, utilizing the three Reiki

symbols. Long Distance and Mental Reiki processes are learned. Reiki Therapist Certification available upon completion.

Prerequisite: HHP 130. This course can be taken concurrently..
Contact Hours: 15.

HHP 247 - Reiki 3 Master Teacher (1)

Prepares the student for Third-Degree Reiki Master/Teacher certification. Students receive additional attunements to further enhance and increase the ability to channel Reiki energy and to be able to practice and teach Reiki. The Reiki student is introduced to another powerful sacred and secret Reiki symbol.

Prerequisite: HHP 246. This course may be taken concurrently.
Contact Hours: 15.

HHP 249 - Journaling the Healing Journey (1)

Describe and experience journaling as an effective tool for looking at the personal growth process in both practitioner and clients. Discuss how journaling helps develop memory, imagination, intuition, and other creative and emotive aspects of oneself. Examine how journaling in health practices can accelerate the healing process for clients. Teaches journaling skills and how to focus specifically on healing and growth through various introspective techniques.

Contact Hours: 15.

HHP 250 - Teacher Training Institute for Yoga (10)

Covers the requirements to be professional Hatha Yoga teachers. Enables participants to understand and practice Yoga and develop skills to teach a wide variety of people in various settings.

Contact Hours: 225.

HHP 252 - Holistic Health Keystone (3)

Provides students with a comprehensive introduction to the philosophy, theory and practice of Holism/Holistic Health, how it integrates into the field of Integrative/Complimentary Alternative (CAM) and the role of a professional holistic practitioner. Students will gain an inclusive and introspective perspective of various holistic modalities used to facilitate the healing process and maintain optimal health. Students will analyze and research holistic health concepts and corresponding body-mind responses to choose a holistic modality for their Capstone project.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094 may be taken concurrently.. Contact Hours: 45.

HHP 260 - Advanced Reflexology (2)

Demonstrate and perform advanced reflexology techniques. Acquire advanced conceptual content on new information and skill sets about reflexology for hands and feet and introduce anatomy and reflexology of the ear in order to learn the process of describing and applying reflexology protocols for specific issues. Students will assimilate information from previous coursework in order to complete the outline for the final research paper, discuss ethics and business plans and prepare for the reflexology practicum.

Prerequisite: HHP 166 and HHP 168.. Contact Hours: 45.

HHP 261 - Ethics in Holistic Therapies (2)

Examine ethical issues acquiring knowledge associated with the practice of holistic touch therapies, including: massage therapy, reflexology and other touch modalities. Emphasis will be

creating a safe working and healing environment and on addressing healing presence in treatment, professional codes of ethics, scope of practice, levels of safe and appropriate touch, basic psychological and physical dynamics of practitioner/client relationships, confidentiality of client information as well as effective communication with clients and peers.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094.
Contact Hours: 30.

HHP 262 - Psychoneuroimmunology (PNI): Exploring the Mind-Body Connection (3)

Examines the theory of Psychoneuroimmunology as the interrelationship of the body-mind connection and the impact of stress on health. Explores the physiological and psychological interaction between the central nervous system, the immune system, and the endocrine system and how they interact with each other to impact one's overall state of health in creating both illness and wellness. Introduces new fields of thought that are impacting views on health as well as medical education and training.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Contact Hours: 45.

Recommended Preparation: HHP 252

HHP 263 - Creating a Holistic Business Practice (2)

Focuses on the necessary skills for a holistic practitioner to start an independent practice. Includes self-assessment of professional skills, the business plan for marketing, finances, an environmental scan, required paperwork to file with the State of Colorado, and the actual design of the practice.

Contact Hours: 30.

HHP 264 - Advanced Aromatherapy for Certificate (4)

Incorporates previous course knowledge in aromatherapy/essential oils and advances understanding for those interested in utilizing essential oils as a healing modality practice. Prepares students for a career using essential oils in a safe and therapeutic way or as a complement to an existing holistic treatment practice. Students will learn additional essential oils, how to consult with clients, perform intake interviews, recommend appropriate essential oils/blends as well as advise how to properly and safely apply oils/blends.

Prerequisite: HHP 204. Contact Hours: 60.

HHP 265 - Gift of Self-Esteem (1)

Explores self-talk, self-appreciation, self-responsibility, belief, expectations and provides tools for increasing personal power.

Contact Hours: 15.

HHP 269 - Healing Presence (1)

Provides students the opportunity to fully examine the meaning of "presence" a quality of holistic self-giving exchange, through the process of increased self-awareness and self-discovery. The quality of presence can influence the patient's response to their disease or trauma. Students will also explore the development of essential skills for connecting on a higher level and creating sacred space with oneself and with others during the healing continuum as well as through the dying process.

Contact Hours: 15.

HHP 270 - Clinical (1)

Continues to build upon the principles that are expected to be understood by students in the holistic health discipline.

Prerequisite: HHP 232 may be taken concurrently. Contact Hours: 30.

HHP 271 - Clinical (2)

Continues to build upon the principles that are expected to be understood by students in the health discipline.

Prerequisite: HHP 232 may be taken concurrently. Contact Hours: 60.

HHP 288 - Practicum (Aromatherapy) (2)

Provides the learner the opportunity for the practical application of classroom theory within a given program of study.

Prerequisite: HHP 264. This course and HHP 288 may be taken at the same time.. Contact Hours: 60.

HHP 289 - Capstone (2)

Provides students the opportunity to demonstrate culmination of learning within a given program of study that builds upon the basic theoretical frameworks of CAM and Holism by creating a self-directed capstone project in conducting their own field-based research study in their community through designing a therapeutic intervention using their chosen treatment modality a specific health condition, analyzing their data, writing a formal report on their findings and professionally presenting their findings. Students will work with instructor to design their own Capstone project towards the end of the program.

Prerequisite: ENG 121 or CCR 092 or CCR 093 or CCR 094 and HHP 252. Contact Hours: 60.

HIS - History**HIS 101 - Western Civilization: Antiquity-1650 (3)**

Explores a number of events, peoples, groups, ideas, institutions, and trends that have shaped Western Civilization from the prehistoric era to 1650. Reflects the multiple perspectives of gender, class, religion, and ethnic groups. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 102 - Western Civilization: 1650-Present (3)

Explores a number of events, peoples, groups, ideas, institutions, and trends that have shaped Western Civilization from 1650 to the present. Reflects the multiple perspectives of gender, class, religion, and ethnic groups. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 111 - The World: Antiquity-1500 (3)

Explores a number of peoples, groups, ideas, institutions, and trends that have shaped World History from the prehistoric era to 1500. Reflects the multiple perspectives of gender, class,

religion, and ethnic groups in a broad global sense. Focuses on the common denominators among all people. This approach goes beyond political borders to provide a better appreciation for different cultures. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 112 - The World: 1500-Present (3)

Explores a number of peoples, groups, ideas, institutions, and trends that have shaped World History from 1500 to the present. Reflects the multiple perspectives of gender, class, religion, and ethnic groups in a broad global sense. Focuses on the common denominators among all people. This approach goes beyond political borders to provide a better appreciation for different cultures. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 121 - U.S. History to Reconstruction (3)

Explores events, trends, peoples, groups, cultures, ideas, and institutions in North America and United States history, including the multiple perspectives of gender, class, and ethnicity, between the period when Native American Indians were the sole inhabitants of North America, and the American Civil War. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 122 - U.S. History Since the Civil War (3)

Explores events, trends, peoples, groups, cultures, ideas, and institutions in United States History, including the multiple perspectives of gender, class, and ethnicity, between the period of the American Civil War and the present. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 203 - Civil War Era in American History (3)

Explores the causes, course, and consequences of the American Civil War, from the Colonial period to the 21st Century, in order to understand the multiple meanings of a transforming event in American history. Students will explore the meanings of the war as defined in many ways: national, sectional, racial, gender, constitutional, individual, social, intellectual, or moral. Students will closely examine four broad themes: the crisis of union and disunion in an expanding republic; slavery, race, and emancipation as national problem, personal experience, and social process; the experience of modern, total war for

individuals and society; and the political and social challenges of Reconstruction. This course is one of the Statewide Guaranteed transfer courses: GT-HI1.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: (GT-HI1). Contact Hours: 45.

HIS 205 - Women in the World (3)

Examines the roles, experiences, and contributions of women in world history and explores ways in which women's history modifies the traditional interpretations of historical events.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: (GT-HI1). Contact Hours: 45.

HIS 207 - American Environmental History (3)

Traces and analyzes the relationships between Americans and their natural environments throughout the history of the United States. Environmental history interprets the changing ways diverse people have used and viewed their environments over time. Examines the development of conservation movements and environmental policies in modern America.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: (GT-HI1). Contact Hours: 45.

HIS 208 - American Indian History (3)

Analyzes historical and social-cultural change for the Native Americans from pre-colonial America to the present, emphasizing those processes and relations with non-Native Americans that have contributed to the current conditions.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 209 - History of the American Southwest (3)

Traces and analyzes the cultural and historical development of what is now the southwestern United States; a region defined most by its arid environment and the cultural and political interactions of Southwest Indians, Spanish conquerors, Mexican settlers, late-coming Yankees, artist and artisans and modern Sunbelt migrants.

Contact Hours: 45.

Recommended Preparation: CCR 092 (p. 310), CCR 093 (p. 310), or CCR 094 (p. 311) or equivalent testing scores. These courses may be taken concurrently.

HIS 215 - Women in U.S. History (3)

Examines women's changing roles in American history from the pre-colonial native population to the present. Emphasizes the nature of women's work and the participation of women in the family, political, religious, and cultural activities and in social reform movements.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 218 - History of Science and Technology (3)

Explores the complex relationship between scientific and technological developments and western society and culture. Focuses on the way social and cultural norms can impact scientific or technological progress, and vice-versa, especially in the period since the Scientific Revolution.

Prerequisite: Prerequisite/Corequisite: ENG 121 may be taken concurrently. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 225 - Colorado History (3)

Presents the story of the people, society, and cultures of Colorado from its earliest Native Americans, through the Spanish influx, the explorers, the fur traders and mountain men, the gold rush, railroad builders, the cattlemen and farmers, the silver boom, the tourists, and the modern state.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 235 - History of the American West (3)

Traces the history of the American West, from the Native American cultures and the frontier experiences of America's earliest, eastern settlers, through the Trans-Mississippi West, across the great exploratory and wagon trails, and up to the present West, be it urban, ranching, reservation, resource management, or industrial. Emphasizes the north and central parts of the West.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 236 - U.S. History Since 1945 (3)

Focuses on the major political, economic, social, and cultural developments that have shaped modern America from 1945 to the present.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 243 - History of Modern China (3)

This course traces the political, ideological, economic, religious, social, and cultural developments of modern China from the Qing dynasty through the political and economic revolutions of the 20th century.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 244 - History of Latin America (3)

Focuses on the major political, economic, social, and cultural influences that have shaped Latin America from pre-European conquest to the present. Emphasizes the early history of Latin America but connects it to the present.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR

094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 245 - U.S. in the World (3)

Focuses on major themes of United States history in the context of worldwide historical phenomena, including global contacts and exchange, colonial frontiers and international trade, America's influence on the age of revolutions, industrialization and movement of populations, urbanization and rural change, and expansion of state power and rise of social movements. Through readings and discussions on problems in political, social, public and personal history, students will gain an understanding of historical processes and methodology and will learn how to use critical historical analysis in order to achieve a greater perspective on the US's role in world history.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 246 - History of Mexico (3)

Focuses on the major political, economic, social, and cultural developments of Mexico from Pre-Columbian times to the present.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 247 - 20th Century World History (3)

Investigates the major political, social, and economic developments, international relationships, scientific breakthroughs, and cultural trends that have shaped the various global regions and nation-states from 1900 to the present. Emphasizes the interactions of global regions and nation-states.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 248 - Historical Roots of Modern Russia (3)

Traces the major political, ideological, economic, religious, social, and cultural developments of Russia from the establishment of the Kievan State to the present. Emphasizes the sources and development of the Soviet Union and the former-Soviet Union state(s).

Contact Hours: 45.

Recommended Preparation: CCR 092, CCR 093, or CCR 094 or equivalent testing scores. These courses may be taken concurrently.

HIS 249 - History of Islamic Civilization (3)

Surveys the tenets of Islam and the political, social and cultural history of the civilizations which embraced it from the 6th century to the modern day. Focuses on the diversity and dynamism of Islamic civilizations through time by looking at legal systems, scientific and artistic accomplishments, philosophical heterogeneity and political developments.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR

094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 250 - African American History (3)

Explores the experiences and contributions of African Americans from the colonial period to the present. Emphasizes the social and economic lives and roles of African Americans, their roles in politics and war, their achievements, and movements for self-help and civil rights.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 251 - The History of Christianity in the World (3)

Surveys the history of Christianity and its impact on the world from its Jewish origins in the ancient Mediterranean system, into its European expansion, and ending with its modern global presence. Analyzes foundational theology, the impact of significant events, and the role of key people in their historical contexts. Inspects Christianity's relationship with Judaism, Islam, the Enlightenment, modernity, moral systems and values. Provides students with an appreciation of the broad impact of the faith.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 255 - The Middle Ages (3)

Focuses on political, social, cultural, economic and intellectual developments in Europe, Byzantium and the Islamic world from the collapse of Rome through the Renaissance, approximately A.D. 400-1400.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 256 - History of Denver (3)

Introduces students to the history of Denver. Incorporates academic and popular perspectives with emphasis on historically important facts and analysis as well as on the more colorful historical issues, events and personalities. Focuses primarily on the history of Denver from its founding during the Pikes Peak Gold Rush to the present time. Features the colorful people and the major events by which Denver established itself as the Queen City of the High Plains.

Contact Hours: 45.

Recommended Preparation: CCR 092, CCR 093, or CCR 094 or equivalent testing scores. These courses may be taken concurrently.

HIS 259 - Modern Middle East (3)

Explores the political, economic, social and cultural development of the Middle East from the late Ottoman Empire to the present. Focuses upon the influences of Islam and Western ideas, diplomacy, and economic involvement upon institutions and ideas of modern Middle Eastern society, while exploring the perspectives of gender, class, race, and ethnicity. Also focuses upon developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 260 - U.S. Foreign Relations History (3)

Provides an overview of the history of United States foreign relations from the colonial era to the present and includes the pertinent political, military, economic, diplomatic, social, religious, ideological and cultural topics. At various points, issues such as race, class, gender, immigration, expansion, and the environment will be covered. This course also focuses on developing, practicing and strengthening the skills historians use while constructing knowledge in the discipline.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-HI1). Contact Hours: 45.

HIS 265 - Writing About History (3)

This course develops the skills of historical writing, including the use of rhetorical devices in persuasive historical arguments, critical analysis of historical problems, writing and revision of multiple drafts, different technologies of research and writing, and evaluation of historical sources for relevance and reliability. Through reading a variety of secondary and primary sources and engaging in several types of historical writing and conversations, students extend their understanding of the conventions of clear and concise writing about history. They also devise strategies to communicate historical information by identifying workable topics, locating and annotating primary and secondary sources in libraries, archives and published materials, and adapting their writing style to communicate with a variety of audiences.

Prerequisite: Completion of ENG 122 with a grade of C or better. Offered: (GT-CO3). Contact Hours: 45.

HIT - Health Information Technology

HIT 101 - Health Information Management Science (3)

Introduces the student to the health record, from inception to completion. Emphasis is on content and regulations impacting the health record in the various settings. Other areas to be discussed include the electronic health record and responsibilities of the Health Information Department. This course also examines various health care delivery systems and health care practitioners. Professional and practice-related ethical issues are discussed, as well as evaluating the consequences of a breach of healthcare ethics.

Contact Hours: 45.

Recommended Preparation: Placement into CCR 093 (p. 310) or above.

Students are required to attend an informational session prior to enrolling.

HIT 105 - Principles of Healthcare Reimbursement (3)

Provides students with the knowledge needed to perform necessary tasks involved in healthcare reimbursement systems including payment methodologies, use of clinical data, and compliance.

Contact Hours: 45.

Students are required to attend an informational session prior to enrolling.

HIT 111 - Health Data Management & Information Systems (3)

Introduces the electronic health record (EHR) components and health informatics including infrastructure, privacy, security and legal implications. Federal involvement and its impact on information technology regarding health data will be discussed. Students will study the roles and relationships, in the transformation of data into meaningful information, through research, vital statistics and epidemiology. Data quality, integrity, collection, access, and retention will also be emphasized.

Prerequisite: Prerequisite/Corequisite: HIT 101. Contact Hours: 45.

HIT 112 - Legal Aspects for Health Records (2)

Introduces the student to the legal system and defines the role of the healthcare professionals. Specific Federal and State laws are identified and discussed as they relate to the release of medical information.

Prerequisite: Prerequisite/Corequisite HIT 101. Contact Hours: 30.

HIT 122 - Workflow Fundamentals of Healthcare (3)

Introduces the fundamentals of healthcare workflow, process analysis, and redesign in various healthcare settings. Health information technology culture changes (IT/Clinicians) and project management, including HIT system selection, design, implementation, and support will also be covered. Electronic health record/practice management systems will be evaluated for quality and process improvement, clinical decision support, health information exchange, public health, and population health management in ambulatory and alternative care settings.

Prerequisite: HIT 101. Corequisite: HIT 105 and HIT 111 may be taken at the same time with HIT 122. Contact Hours: 45.

HIT 188 - Health Information Practicum I (2)

Provides a directed clinical experience which focuses on the practice of skills related to the application of legal principles, record analysis and abstraction and record retention and retrieval.

Prerequisite: HIT 101. Contact Hours: Lecture: 15 Hours; Lab: 22.5 Hours.

HIT 220 - ICD Coding I (3)

Introduces the ICD coding classification system and provides a basic understanding of ICD structure, conventions and principles utilized in code assignment. The student will be introduced to the official coding guidelines. They will apply knowledge of anatomy, physiology, pathophysiology and pharmacology in the assignment of diagnostic and procedural codes.

Prerequisite: MOT 125, MOT 133, MOT 135.. Corequisite: HIT 221. Contact Hours: 45.

HIT 221 - ICD Coding II (2)

Builds upon the basic skill sets learned in HIT 220. This course will focus on the intermediate application of ICD structure, conventions and principles utilized to code case scenarios and complex diagnostic and procedural statements. The student will utilize advance application of coding and reporting standards as they apply to facility coding.

Corequisite: HIT 220. Contact Hours: 30.

HIT 222 - Quality Management (3)

Introduces the student to the basic concepts of quality management in the healthcare environment. Requirements by regulatory agencies regarding quality documentation, utilization and risk management are discussed. Data collection, verification, analysis, descriptive statistics and presentation techniques will be studied. The course emphasizes the ongoing use of objective data and feedback to improve processes, systems, and patient outcomes. Analysis of documentation for various purposes is also covered.

Prerequisite: HIT 101. MAT 107 or higher. Contact Hours: 45.

HIT 225 - Health Information Management (3)

Concentrates on the principles of management as they relate to the administration of the health information management department as part of a health care organization.

Prerequisite: Prerequisite/Corequisite: HIT 101. Contact Hours: 45.

HIT 231 - ICD Coding III (5)

Provides an advanced study of ICD coding conventions and principles. DRG and case mix logic along with regulations regarding their use in conjunction with optimization and compliance issues will be discussed. CPT/HCPCS in both the hospital-based outpatient and physician office settings will be studied.

Prerequisite: Prerequisite/Corequisite: HIT 220 and HIT 221.. Contact Hours: 75.

HIT 241 - CPT Coding Basic Principles (3)

Provides the student with skill sets to apply the current procedural terminology (CPT) and HCPCS code set principles and guidelines for application in reporting/communicating information and data about clinical services provided to patients by healthcare providers. Includes understanding what the CPT nomenclature is, how and why it is used, and guidelines for each code category and how it is applied to represent services within each code category.

Prerequisite: HIT 231. Contact Hours: 45.

HIT 289 - HIT Capstone Course (3)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: Prerequisite/Corequisite: HIT 188. Contact Hours: 75.

This course is to be taken in the last semester and students must meet with the Practicum Coordinator or Program Director in order to enroll in this course

HLT - Horticulture and Landscape Technologies

HLT 101 - Introduction to Horticulture (4)

Introduces the biology of horticultural plants, and basic horticultural practices.

Contact Hours: 90.

This course available only at LC and WC campuses.

HLT 130 - Landscape Design I (3)

Teaches basic graphic communications and drafting. Introduces students to design theory and the visual thinking and problem solving techniques used in landscape design. Students participate in peer reviews of their work.

Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 132 - Sustainable Landscaping (3)

Examines the sustainable practices in landscape horticulture including the principles of xeriscape and industry-accepted best management practices and their utilization.

Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Spring Semester only at LC and Fall Semester only at WC.

HLT 150 - Irrigation I (3)

Introduces students to relevant irrigation components and their use, installation and maintenance.

Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 151 - Irrigation II (3)

Introduces students to irrigation system best management practices. Topics include electric and hydraulic troubleshooting, repair, efficiency and water conservation practices.

Prerequisite: HLT 150. Corequisite: HLT 150. Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 160 - Greenhouse Management (4)

Covers greenhouse design, systems, management, and the major greenhouse crops and their cultural needs.

Contact Hours: 90.

Recommended Preparation: HLT 101

This course available only at LC and WC campuses. Offered Spring Semester only.

HLT 165 - Nursery and Garden Center Management (4)

Introduces students to the wholesale and retail nursery and garden center industry through lectures and site visits. Topics discussed in this course include organizational structures, facilities layout, production and production management practices, nursery stock labeling and quality standards, occupational safety compliance, pricing and performance benchmarking.

Contact Hours: 90.

Recommended Preparation: HLT 101

This course available only at WC campus. Offered Spring Semester only.

HLT 202 - Plant Health Care (4)

Introduces the fundamental concepts of integrated pest management and plant health care. Teaches students to diagnose pest and disease problems and formulate site-specific prevention and control strategies.

Contact Hours: 90.

Recommended Preparation: HLT 101

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 208 - Pesticide Safety and Use (2)

Familiarizes students with the safe handling of pesticides used in horticulture and the laws and regulations that govern all facets of pesticide use in Colorado. Can be used as preparation for completing the Colorado Department of Agriculture's pesticide licensure exams.

Contact Hours: 45.

Recommended Preparation: HLT 101 and HLT 202

This course available only at LC and WC campuses. Offered Spring Semester only.

HLT 210 - Landscape Management (4)

Uses a discussion of landscape maintenance practices and best management practices as a launching point for the student to develop a site management plan and understanding of landscape maintenance contracting. Topics include weed identification, tree and shrub pruning, flower bed maintenance turf care, client care and crew management practices.

Contact Hours: 90.

This course available only at LC and WC campuses. Offered Fall Semester only at LC and Spring Semester only at WC.

HLT 211 - Arboriculture (3)

Discusses the installation and life-long care of trees in the landscape. Topics include equipment use and care, ANSI tree care standards, industry safety practices, best management practices and tree care industry business practices.

Contact Hours: 67.5.

Recommended Preparation: BIO 221 or HLT 101 or NRE 100 and HLT 210 and HLT 240

This course available only at LC campus. Offered Fall Semester only.

HLT 221 - Woody Plants: Trees and Conifers (3)

Teaches the identification, landscape usage and culture of regionally adapted deciduous trees and conifers.

Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Spring Semester only.

HLT 222 - Woody Plants: Shrubs and Vines (3)

Teaches the identification, landscape usage and culture of regionally adapted shrubs and vines.

Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Fall Semester only at LC and Spring Semester only at WC.

HLT 223 - Annuals, Bulbs, and Grasses (2)

Teaches the identification, landscape usage and culture of regionally adapted annual color crops, ornamental grasses, and bulbs.

Contact Hours: 45.

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 224 - Herbaceous Perennials (4)

Teaches the identification, landscape usage and culture of regionally adapted herbaceous perennials.

Contact Hours: 90.

This course available only at LC and WC campuses. Offered Spring Semester only at LC and Fall Semester only at WC.

HLT 226 - Interior Plants (2)

Teaches the identification (common and botanical names), usage and culture of interior plants common to indoor environments. Soil medias, fertilizers, environmental conditions, common pests and diseases and their control will be explored. Industry production and business practices common to this area are also examined.

Contact Hours: 45.

This course available only at LC campus. Offered Spring Semester only.

HLT 230 - Landscape Design II (3)

Utilizes an understanding of the principles and elements of landscape design as the basis of an exploration of the selection of landscape materials, features and layouts to create functional landscape designs; introduces grading plan development and the rendering of hardscape construction details. Students present their plans to a client or review panel.

Prerequisite: HLT 130. Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Spring Semester only.

HLT 232 - Landscape Design III (3)

Concludes the student's learning in the area of landscape design with a consideration of relevant business practices a final individual project and the development of a final professional portfolio. Students conclude the course with a presentation of their projects and portfolios to a review panel.

Prerequisite: HLT 132 and HLT 230. Contact Hours: 67.5.

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 236 - Landscape Construction (4)

Introduces students to the fundamentals of landscape construction, including construction equipment, safety practices, grading, deck, retaining wall, paving, and water feature construction. During labs students construct various landscape elements.

Contact Hours: 90.

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 237 - Landscape Bidding and Estimating (2)

Teaches the process of creating and submitting bids for landscape construction projects. Plan reading, estimating procedures and the bid submission process are all discussed.

Contact Hours: 45.

Recommended preparation: MAT 107 (p. 363) and HLT 236 (p. 348)

This course available only at LC and WC campuses. Offered Spring Semester only.

HLT 240 - Introductory Soil Science (4)

Discusses the formation, physical properties, chemical properties and management of soils emphasizing conditions that affect plant growth. The principles of soil fertility and practice of fertilizer use is also discussed.

Contact Hours: 90.

Recommended Preparation: HLT 101 and CHE 101

This course available only at LC and WC campuses.

HLT 242 - Turfgrass Management (4)

Discusses all aspects of golf and sports turf management and culture, including the design, construction, and renovation of golf courses, baseball, football and soccer fields; safety standards and practices; and non-turf maintenance practices.

Contact Hours: 90.

Recommended Preparation: HLT 210 and HLT 240

This course available only at LC and WC campuses. Offered Fall Semester only at LC and Spring Semester only at WC.

HLT 250 - Irrigation III: Design (2)

Prepares students to design landscape irrigation systems based on an analysis of a client's needs, site conditions and an understanding of hydraulics.

Contact Hours: 45.

Recommended Preparation: HLT 150

This course available only at LC and WC campuses. Offered Spring Semester only.

HLT 260 - Plant Propagation (4)

Teaches seed and vegetative plant propagation techniques, the biology underlying modern plant propagation practices, and their application in commercial plant production.

Contact Hours: 90.

Recommended Preparation: HLT 101

This course available only at LC and WC campuses. Offered Fall Semester only.

HLT 262 - Urban Farm Management (4)

Teaches the principles of crop selection, site management, harvesting and handling of vegetable and fruit crops in an intensive urban farm setting.

Contact Hours: 90.

Recommended Preparation: HLT 101

This course available only at LC and WC campuses. Offered Spring Semester only at LC and Fall Semester only at WC.

HLT 280 - Internship (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

Contact Hours: 135.

HLT 287 - Cooperative Education (3)

Provides students with the opportunity to supplement coursework with paid practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.

Contact Hours: 135.

HNR - Honors

HNR 102 - Honors Colloquium I (2)

Develops skills in interdisciplinary scholarly research, writing, and discourse, facilitated by an in-depth study of a major theme. The emphasis is on discussion, projects, and ways of integrating diverse information. This course includes opportunities for students to enhance their critical reflection, argumentation, and collaboration skills, and to explore aspects of cultural diversity in local and global contexts as they investigate the theme from a multi-disciplinary perspective.

Contact Hours: 30.

HOS - Hospitality Culinary Arts Management

HOS 110 - Introduction to Hospitality (3)

Introduces learners to careers and the organization and structure of the Hospitality Industry including: hotels, restaurants, non-commercial food service, travel and tourism, conventions and meetings, clubs and other food service entities. Topics include exploring career opportunities, understanding the world of Hotels and Restaurants, Food Service Organizational structures, an introduction to the Meetings Industry, and analyzing the size and scope of the Noncommercial Foods segment.

Contact Hours: 45.

HOS 120 - Service Management (3)

Describes the differences between managing and marketing services for hospitality students or those interested in service industries. The course focuses on understanding, analyzing, and measuring service, especially in the hospitality segment.

Contact Hours: 45.

HOS 131 - Planning for Special Events (3)

Provides a basic knowledge of the planning and development of an event or meeting, including the budgeting, arranging of entertainment and catering, and the lodging of participants.

Contact Hours: 45.

HOS 141 - Convention Management (3)

Prepares students for a management position in the convention industry. The course defines the scope and segmentation of the convention and group business market, describes marketing and sales strategies to attract markets with specific needs, and explains techniques to meet those needs as part of meeting and convention service. The class meets for a total of 45 hours. At the conclusion of the course, students will take a nationally recognized test from the Educational Institute of the American Hotel and Lodging Association.

Contact Hours: 45.

HOS 210 - Event Finances (3)

Examines the concepts and techniques for maximizing event income including ticket fees, retail sales, grants, and sponsorships.

Contact Hours: 45.

HOS 215 - Training and Development (3)

Teaches the principles, procedures, and skills needed to develop and maintain a competent staff. Learn to apply an easy, four-step training method to all hospitality functional areas.

Contact Hours: 45.

HOS 242 - Hotel Sales and Marketing (3)

Focuses on the basic elements of sales, marketing, rooms merchandising, convention planning, and basic food and beverage knowledge. The course emphasizes the relationship between the sales philosophy, the guest, and the hotel.

Contact Hours: 45.

HOS 251 - Hotel Operations (3)

Studies hotel operations covering such aspects as the hotel organization chart, job analysis and design, managing human resources, production and serving controls, calculating food and beverage costs, and telecommunication systems. Case problems provide the students the opportunity to develop control systems for food and lodging organizations and understand the hierarchy of career advancement in a hotel environment.

Contact Hours: 45.

HOS 255 - Hospitality HR Management (3)

Studies the technical and legal challenges of hospitality human resource management from working within today's employment laws to controlling absenteeism, dealing with unions, handling discipline and termination, and creating affordable wages and benefit programs. Explores controlling costs, increasing motivation and productivity, and how to find and keep good employees.

Contact Hours: 45.

HOS 280 - Internship (4)

Exposes the learner to the practical application of course studies in the hospitality industry. The course consists of practical experience in a hotel, restaurant, convention center, resort, tourism operation, or other professional opportunity in the hospitality industry.

Prerequisite: CUA 101 and HOS 110. Contact Hours: 180.

HPR - Health Professional**HPR 101 - Customer Service in Healthcare (2)**

Introduces students to customer service theory and techniques specifically in the healthcare arena. This course will discuss therapeutic communication, conflict resolution and negotiation, as well as employee/employer relations. Exploration of diverse populations and cultural sensitivity will be addressed.

Contact Hours: 30.

HPR 102 - CPR for Professionals (0.5)

Meets the requirement for American Red Cross Professional Rescuer CPR or American Heart Association Basic Life Support for those who work in Emergency Services, Health Care and other professional areas. Material presented in the course is

basic patient assessment, basic airway management, rescue breathing, and CPR for infant, children and adult patients.

Contact Hours: 7.5.

HPR 106 - Law and Ethics for Health Professions (2)

Advances student knowledge in the study and application of medico-legal concepts in medical careers, establishes a foundation for ethical behavior and decision-making.

Contact Hours: 30.

HPR 108 - Dietary Nutrition (1)

Studies the basic principles in clinical practice involved in the assistance of health care. The course will cover factors which influence the nutritional status of individuals, methods of nutritional assessment and support, and diet modification for specific diseases.

Contact Hours: 15.

HPR 112 - Phlebotomy (4)

Teaches the duties associated with the practice of venipuncture, capillary puncture, and special collection procedures. Students will have experience with quality control, infection control and safety procedures as well as laboratory computer systems. Students successfully completing this course may apply for a National Phlebotomy Registry Examination.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Corequisite: Take HPR 112 concurrently with HPR 179 and HPR 180. Contact Hours: 90.

HPR 117 - Anatomical Kinesiology (3)

Studies the anatomical basis of human movement.

Contact Hours: 105.

Recommended Preparation: MST 106 (p. 370) Anatomy & Physiology for Massage

HPR 119 - Computers in Health Care (2)

Introduces basic computer technology, file management, and PC system components as used in Health Care settings. Provides an overview of word processing, spreadsheets, and personal information management software. Introduces the Electronic Health Record (EHR), its content, EHR software, EHR management, patient management and scheduling, and privacy and security of the EHR.

Contact Hours: 45.

HPR 137 - Human Diseases (4)

Covers basic knowledge of the deviations that occur in the human body with disease and injury. An integrated study of signs/symptoms, diagnostic tests and treatment.

Prerequisite: BIO 106. Contact Hours: 60.

HPR 178 - Medical Terminology (1)

Introduces the student to the structure of medical terms with emphasis on using and combining the most common prefixes, roots and suffixes. Includes terms related to major body systems, oncology, psychiatry, as well as clinical laboratory and diagnostic procedures and imaging. Class structure provides accepted pronunciation of terms and relative use in the healthcare setting.

Contact Hours: 15.

HPR 179 - Seminar: Phlebotomy (1)

Provides students with an experiential learning opportunity.

Prerequisite: Prerequisite/Corequisite: HPR 112 and HPR 180 may be taken concurrently. Contact Hours: 15.

Must have passed HPR 112 (p. 350) with a "C" or better. Must have passed the specific FRCC background check and drug screen during HPR 112, must have BLS certification for healthcare, and must have submitted all required immunizations during HPR 112.

HPR 180 - Internship: Phlebotomy (2)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Prerequisite: Prerequisite/Corequisite: HPR 112 and HPR 179 may be taken concurrently. Contact Hours: 90.

Must have passed HPR 112 with a "C" or better. Must have passed the specific FRCC background check and drug screen during HPR 112, must have BLS certification for healthcare, and must have submitted all required immunizations during HPR 112.

HPR 190 - Basic EKG Interpretation (2)

Provides instruction for interpretation of EKG strips, anatomy and physiology of the heart, using three-lead monitoring as a guide. Twelve-lead EKG may be discussed.

Contact Hours: 30.

HPR 200 - Advanced ECG Interpretations (2)

Focuses on each wave and interval of the complex, the axis, and the 12-lead presentation of some rhythm disturbances.

Prerequisite: HPR 190. Contact Hours: 30.

HPR 205 - Microbiology of Infectious Diseases (3)

Acquaints the student with microbes and their roles in infectious disease. It includes descriptions of bacteria, viruses, fungi, and protozoa; as well as techniques for growing, controlling and treating diseases caused by these organisms. Within the scope of this course are units which discuss how the diseases are diagnosed, and finally, epidemiology and communicability of individual diseases grouped by portals of entry. Prevention and infection control issues as well as current issues surrounding infectious disease may also be discussed.

Contact Hours: 45.

HPR 208 - Medical Record Terminology (2)

Demonstrates knowledge of medical terminology with emphasis on combining complex prefixes, roots and suffixes. Includes pathophysiology for major body systems. Includes terms related to diagnostic tools per body systems, as well as commonly used medical abbreviations. Applies medical terminology knowledge in interpreting the medical record.

Contact Hours: 30.

HPR 215 - Phlebotomy Refresher (1)

Covers OSHA regulations, collection procedures, and requirements for various laboratory tests, phlebotomy technique, problem solving, legal implications, and rights of the phlebotomist and patient.

Contact Hours: 22.5.

HPR 232 - Disease Process and Treatment (5)

Covers disease processes and drug therapy used to treat commonly found pathological conditions. Normal anatomy and physiology of each body system is reviewed. Conditions that disrupt homeostasis are examined. Conditions considered are both acquired and congenital. Diagnostic methods, management, treatment modalities and prognosis are discussed. Classifications of drugs are introduced. A general understanding of the actions; absorption, metabolism and excretion; and reasons for use of various groups of pharmacologic agents are introduced.

Contact Hours: 90.

HPR 285 - Independent Case Study (1)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Students are reminded that no more than six (6) credit hours of independent study may be applied to any associate degree program.

HUM - Humanities**HUM 103 - Introduction to Film Art (3)**

Studies the relationships among film's stylistic systems, narrative systems and audience reception. Students view, discuss and critically analyze a variety of films which represent a variety of genres and themes. The course incorporates the vocabulary of stylistic systems (for instance, cinematography and editing) and narrative systems (for instance, story structure and character motivation) as both relate to the kinds of meanings a film conveys.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: (GT-AH2). Contact Hours: 45.

HUM 115 - World Mythology (3)

Introduces students to a multidisciplinary approach to world mythology. Common themes are illustrated and connected to religion, philosophy, art, literature, music, and contemporary culture. In addition, students will study various ways of interpreting myth. This course is one of the Statewide Guaranteed Transfer courses. GT-AH2

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

HUM 116 - Innovation and Design Thinking (3)

Develops higher order convergent and divergent thinking skills. Through the exploration of innovation and Design Thinking in different and cultural contexts, students will apply these thinking skills to a variety of academic disciplines, contemporary issues and life experiences.

Contact Hours: 45.

HUM 121 - Humanities: Early Civilization (3)

Introduces students to the history of ideas that have defined cultures through a study of the visual arts, literature, drama, music, and philosophy. It emphasizes connections among the arts, values, and diverse cultures, including European and non-

European, from the Ancient world to 1000 C.E. This course is one of the Statewide Guaranteed Transfer courses. GT-AH2

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

HUM 122 - Humanities: Medieval-Modern (3)

Examines written texts, visual arts and musical compositions to analyze and reflect the evolution and confluence of cultures in Europe, Asia and the Americas from 800 C.E. to 1750 C.E. Any two of the three Survey of Humanities courses equal a sequence. This course is one of the Statewide Guaranteed Transfer courses. GT-AH2

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

HUM 123 - Humanities: Modern World (3)

Examines the cultures of the 17th through the 20th centuries by focusing on the interrelationships of the arts, ideas, and history. Considers the influences of industrialism, scientific development and non-European peoples. This course is one of the Statewide Guaranteed Transfer courses. GT-AH2

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

HUM 164 - American Cinema (3)

Introduces film studies and surveys the American film industry as an art form, as an industry, and as a system of representation and communication. This course explores how Hollywood films work technically, aesthetically, and culturally to re-enforce and challenge America's national self image.

Contact Hours: 45.

HUM 211 - Cultural Diversity-Humanities (3)

Introduces students to the various aspects of social and cultural diversity. Promotes development of critical thought and growth of multicultural, multisocial and multilingual understanding.

Contact Hours: 45.

HVA-Heating Ventilation and Air Conditioning

HVA 101 - Introduction to Air Conditioning and Refrigeration (4)

Introduces school policies, safety procedures, and first aid. Use of trade tools and terminology is covered. Laboratory experiences include brazing, soldering, and material.

Contact Hours: 90.

HVA 102 - Basic Refrigeration (4)

Introduces the basic theory of refrigeration systems, components, charging, recycling, and evacuation of refrigeration units.

Prerequisite: Prerequisite or Corequisite: HVA 101. Contact Hours: 90.

HVA 103 - Basic Electricity (3)

Covers basic electrical AC and DC theory, including study of Ohm's Law and using electrical theory to explain operation of electrical devices.

Contact Hours: 67.5.

HVA 104 - Electrical Components for Air Conditioning and Refrigeration (4)

Covers electrical power, distribution, transformers, capacitors, relays, and electric motors. Laboratory experiences consist of using electrical devices to control electrical loads.

Prerequisite: HVA 103. This course may be taken concurrently.. Contact Hours: 90.

HVA 122 - Commercial Refrigeration (4)

Covers commercial icemakers, walk-in coolers, walk-in freezers, and self-contained refrigeration units.

Prerequisite: HVA 101, HVA 102, HVA 103, and HVA 104. Contact Hours: 90.

HVA 123 - Air Conditioning (4)

Covers basic heating and air conditioning theory and service. Aspects covered include gas heat, electric heat, heat pumps, residential boiler systems, central air conditioning, and window air conditioners.

Prerequisite: HVA 101, HVA 102, HVA 103, and HVA 104. Contact Hours: 90.

HVA 124 - Advanced Air Conditioning (4)

Covers design, installation, and testing of residential heating and cooling systems. Additional areas emphasized are duct design and sheet metal work.

Prerequisite: HVA 101 and HVA 102 and HVA 103 and HVA 104, and prerequisite or corequisite: HVA 123.. Contact Hours: 90.

HVA 200 - International Residential Codes - Mechanical and Fuel Gas (2)

Covers the mechanical and fuel gas requirements of the International Residential Code. Students will be given the opportunity to learn and apply the general requirements of this code. The course will review and apply the sizing requirements of parts V and V1 of this code.

Prerequisite: HVA 101, HVA 102, HVA 103, and HVA 104.. Contact Hours: 30.

HVA 201 - Heating for Commercial Applications (3)

Covers hydronic and steam heating systems, including steam, hot water and forced air-heating systems for commercial buildings.

Prerequisite: HVA 101, HVA 102, HVA 103, and HVA 104.. Contact Hours: 67.5.

HVA 202 - Troubleshooting and Customer Service (3)

Covers field analysis of malfunctions on actual, in-house, heating, ventilation, refrigeration and air conditioning equipment. Customer interaction and diagnosis efficiency is stressed.

Prerequisite: HVA 101, HVA 102, HVA 103, and HVA 104. Contact Hours: 67.5.

HVA 203 - Industrial Controls (3)

Covers both pneumatic and electrical/electronic control systems. Students learn installation, maintenance and calibration of controls. Laboratory experiences include troubleshooting of malfunctioning systems, calibration and typical installation of control systems.

Prerequisite: HVA 101, HVA 102, HVA 103, and HVA 104. Contact Hours: 67.5.

HVA 247 - Hot Water Heating Systems (4)

Covers the theory of operation behind these systems, as well as installation, maintenance and repair. The course also examines air elimination, circulator pump and pipe sizing. Boiler and heat convector sizing are also discussed.

Prerequisite: HVA 101, HVA 102, HVA 103, and HVA 104.. Contact Hours: 90.

HVA 280 - Internship (2)

Gives the students an opportunity to apply their course studies in a specific area.

Prerequisite: HVA 102 and HVA 104.. Contact Hours: 90.

HVA 289 - Capstone (2)

Demonstrates culmination of learning within a given program of study.

Contact Hours: 90.

HWE - Health Wellness Education**HWE 100 - Human Nutrition (3)**

Introduces basic principles of nutrition with emphasis on personal nutrition. Satisfies nutrition requirement of students entering health care professions. Transfers to most four-year colleges.

Contact Hours: 45.

HWE 103 - Community First Aid and CPR (1)

Prepares the student for certification in CPR and Basic First Aid. Skills will include basic life support, airway obstruction, control of bleeding, shock, and patient care for the unconscious.

Contact Hours: 15.

HWE 108 - Weight Loss (1)

Focuses on an understanding of calories in relationship to body weight and proper dietary behaviors that encourage weight loss.

Contact Hours: 15.

HWE 109 - Weight Management and Exercise (2)

Offers guided instruction in weight management and exercise to students interested in learning more about weight control. Emphasis is placed on the development of weight management programs, review of current trends and diets, essential nutrients, eating disorders, special populations, and the role of exercise in weight management.

Contact Hours: 45.

HWE 110 - Fitness Conditioning and Wellness (2)

Provides the proper techniques and guidelines for a student to develop a personal lifetime program that improves fitness and promotes preventive care and personal wellness. In addition, this course offers instruction in cardiovascular endurance,

muscular strength and endurance training, flexibility training, and body composition management to meet individual needs.

Contact Hours: 45.

HWE 112 - Health & Wellness for the Elderly (3)

Helps the student become familiar with the field of health and wellness for the elderly population. The foundations of health and wellness will be explored as well as the skills and resources needed to assist the elderly in being more proactive in their healthcare practices.

Contact Hours: 45.

HWE 121 - Wilderness First Aid (2)

Provides more advanced wilderness care for the First Responder or EMT provider.

Contact Hours: 45.

HWE 124 - Fitness and Wellness (2)

Provides information on fitness and wellness and to serve as a guide to design, implement, and evaluate a complete personal fitness and wellness program. The course integrates the basic components of fitness and wellness in understanding human health in order to achieve wellbeing. This course offers current information in the health field and provides self-assessments for health risks and wellness behaviors. This includes lifestyle modification, nutrition, weight management, stress management, cardiovascular and cancer risk reduction, exercise and aging, exercise related injury, exercise and the environment, prevention of sexually transmitted diseases, substance abuse (including tobacco, alcohol and other psychoactive drugs), and analysis and interpretation of research publications and websites in health and wellness.

Contact Hours: 30.

HWE 129 - Wilderness First Responder (2)

Provides the student with those skills and emergency medical care techniques used by guides, trip leaders and others providing primary care in backcountry setting. The student will be able to respond correctly to those medical and trauma situations commonly encountered when entry into the EMS system is delayed or unlikely.

Contact Hours: 30.

HWE 140 - Nutrition in Pregnancy (1)

Covers the basic nutrition principles during pregnancy and lactation. Focuses on normal pregnancy, gestational diabetes, normal lactation, common problems in breast feeding.

Contact Hours: 15.

HWE 141 - Infant Nutrition (1)

Covers the basic nutrition principles during birth-18 months. Examines breastfeeding/bottle feeding nutrition and techniques; introduction of solid foods, weaning from breast feeding or bottle feeding, transitioning to table foods and cup usage. Discusses common nutritional problems of the infant: special needs of the preterm infant, failure to thrive, diarrhea, poor eating, anemia, allergies.

Contact Hours: 15.

HWE 142 - Toddler/Preschool Nutrition (1)

Covers the basic nutrition principles for the toddler to preschooler. Emphasizes nutrition during health and illness. Focuses on the "Feeding Relationship".

Contact Hours: 15.

HWE 237 - Exercise, Nutrition & Body Composition (3)

Discusses the concepts of improved performance in all fitness areas. Emphasis is placed upon updated information associated with nutrition and human performance. Measurement of body composition is used as it correlates to training and diet/exercise programs.

Prerequisite: HWE 100. Contact Hours: 45.

IND - Interior Design**IND 105 - Introduction to Interior Design (3)**

Introduces the design process, fundamental skills, principles and theories related to the interior environment. The course will have a focus on spatial awareness, color, environmental issues and the elements of design while having the student become familiar with the creative process and establishing a basic understanding for design aesthetics. The course provides a foundation for future coursework.

Contact Hours: 67.5.

IND 107 - History of Interior Design (3)

Offers a study of interiors and furnishings from the medieval period to the Revival styles of the mid-eighteenth century to the contemporary classics used in modern interiors today. The course provides study of interior and exterior architectural elements, furniture, design motifs and ornamentation, fine arts and construction methods as it relates to the cultural, political, social, technological and economic conditions of the times.

Contact Hours: 67.5.

IND 112 - Graphic Communication (4)

Teaches methods of communicating interior design plans, elements and ideas in 3-D, through perspective drawing construction and quick sketch techniques, and practice rendering and illustration skills.

Contact Hours: 90.

IND 114 - Space Planning (3)

Teaches the principles and factors of space planning and practices the space planning process through residential and light commercial applications. Students are introduced to interior architecture, human factors, code requirements and functional space. Use of bubble diagrams, two and three dimensional design fundamentals and freehand ink presentation techniques are also included to communicate design solutions.

Prerequisite: Prerequisite/Corequisite: AEC 101 may be taken concurrently. Contact Hours: 67.5.

IND 116 - Estimating Interior Materials (3)

Develops skills when estimating materials and costs for interior finishes including paint, carpet, wallcovering, and fabrics. Emphasis is on specification, documentation, and details.

Prerequisite: AEC 101 and IND 200. Contact Hours: 67.5.

IND 120 - Interior Design II - Space Planning and Human Factors (3)

Develop awareness of human dimensions, spatial organization and the importance of physical and psychological characteristics of people. Ergonomics, building codes, ADA factors and universal design will be studied along with programming methods of gathering and organizing data for solving design problems and creating appropriate spatial relationships and furniture layouts for residential and commercial projects.

Prerequisite: IND 114. Contact Hours: 67.5.

IND 200 - Kitchen and Bath Design (4)

Provides the specialized design process and documentation requirements of kitchen and bath design and applies NKBA guidelines. Students become familiar with trade resources supporting the design field. At least two portfolio projects are produced. Students will be encouraged to produce project documents using a variety of computer software applications.

Corequisite: AEC 101. Contact Hours: 90.

IND 205 - Professional Practice for Interior Designers (2)

Introduces processes involved in creating and running a professional interior design business including legal, ethical, practical and professional requirements. There will be an emphasis on business structures and practices, professional documentation and contracts, marketing techniques, job cost estimating, setting up industry accounts and project management methods. Students become familiar with business practices in both commercial and residential design firms and develop business plans and resumes.

Prerequisite: IND 200. Contact Hours: 45.

IND 206 - Communication in Design (1)

Develops communication techniques a new hire needs in a design business setting. Covers skills promoting team building, effective verbal and written communication in the workplace, conflict resolution strategies and budgeting.

Contact Hours: 22.5.

IND 213 - Portfolio Presentations (3)

Prepare for the industry by refining presentation skills and completing a portfolio for employment. Students learn to manipulate software renderings, hand-drafted renderings, model building, interior finish presentation boards to develop a digital and hard-copy portfolio for selling design through presentation. The students will learn various techniques for time management and time-saving skills for graphic communication.

Prerequisite: CAD 224. Corequisite: Corequisite or Prerequisite: IND 220. Contact Hours: 67.5.

IND 220 - Interior Design III - Materials, Details, Codes, & Specs (3)

Covers local and national building and fire codes and their application in developing projects with concern for the health, safety and welfare of the public. Understanding and illustrating interior building materials and specifications, interior details and section drawings for custom elements through construction documentation will also be covered.

Prerequisite: IND 120. Contact Hours: 67.5.

IND 225 - Lighting Design (3)

Teaches and applies basic knowledge of interior lighting technology and design. Content includes lamp classifications, color rendition, how lighting sources effect our perception of space, how to compute and control proper lighting levels, and how to communicate design information by means of a reflected ceiling plan and luminaire schedule focusing on both residential and commercial interiors.

Prerequisite: IND 114 and CAD 101 or CAD 102 or CAD 105.
Contact Hours: 67.5.

IND 231 - Sustainable Design (3)

Creates an awareness and understanding of ecological issues while emphasizing the use of environmentally friendly materials and resources that do not compromise the effectiveness of the design. This course also investigates the practice of design to reduce the effects on the environment using renewable materials in the design and building for both residential and commercial property. Its emphases are to learn to conserve resources and to reduce the negative impact on the environment.

Prerequisite: IND 114 and CAD 101 or CAD 102 or CAD 105.
Contact Hours: 67.5.

IND 261 - Advanced Kitchen and Bath Design (4)

Continues Kitchen and Bath Design instruction while participating in the NKBA Student Design Competition for 1 bathroom and 1 kitchen remodel. Students will use NKBA Graphic Standards and Planning Guidelines to facilitate 2 sets of drawings, 2 materials boards, and 1 estimate and contract for the projects.

Prerequisite: IND 200. Contact Hours: 90.

IND 278 - Workshop (1)

Provide students with an experiential learning opportunity.
Contact Hours: 22.5.

IND 280 - Internship (4)

Provides work experience in a business or industry; 45 fieldwork hours per credit hour.

Prerequisite: IND 200. Contact Hours: 180.

Students must have a GPA of 3.0 to enroll in the Internship course.

IPP - Interpreter Preparation**IPP 115 - Introduction to Language and Communication (3)**

Enables sign language interpreting students to establish a foundation of linguistic and metalinguistic skills. Students will study the complexities of English and analyze semantic and discourse level considerations within mainstream American culture. Students will also have an opportunity to identify strengths and weaknesses in their own fluency in English.

Prerequisite: ENG 121. Corequisite: IPP 121. Contact Hours: 45.

IPP 121 - Aspects of Interpreting I (3)

Acquaints the student with the basics of interpreting. This will enable the student to understand what interpreting involves and the professional requirements for being an interpreter. The student is introduced to the role of the interpreter, the code of

professional conduct, situation assessment required for effective interpreting, and certification for interpreters.

Prerequisite: ASL 122. Corequisite: IPP 115 unless this class has already been taken.. Contact Hours: 45.

IPP 122 - Aspects of Interpreting II (3)

Provides a more in-depth study of the field of interpreting expanding on the basics introduced in IPP 121.

Lecture/discussion sessions will address ethical decision-making and cultural issues, as well as the various settings in which interpreters work. Students will have opportunities to observe various professional interpreters throughout the semester.

Prerequisite: IPP 121. Corequisite: ASL 221 unless this class has already been taken.. Contact Hours: 45.

IPP 135 - Introduction to Interpreting (3)

Provides the student with an analysis of interpretation theory and the development of processing skills that will be applied to consecutive interpretation.

Prerequisite: ASL 123 and IPP 121. Corequisite: ASL 221 and IPP 122, unless these classes have already been taken.. Contact Hours: 45.

IPP 145 - Deaf People in Society (2)

Expands the student's knowledge of the impact of deafness on the development of language and cognition and the socialization of deaf individuals in a hearing world.

Prerequisite: ANT 101. Contact Hours: 30.

IPP 147 - Survey of Deaf Culture (3)

Surveys the factors that contribute to defining Deaf persons as members of a cultural minority. The course will look at the impact of language on the culture as well as the role of norms, values, traditions, and minority groups within Deaf Culture. Attention will also be given to identity and membership in Deaf Culture.

Prerequisite: ANT 101. Corequisite: ASL 221 and IPP 145..
Contact Hours: 45.

IPP 205 - Educational Interpreting (4)

Helps students gain insight into the roles of the interpreter/tutor in the mainstream environment, and to recognize the implications of child development and classroom interaction patterns on interpreting. Students also discuss tutoring strategies.

Prerequisite: ASL 221 and IPP 122. Corequisite: ASL 244. Contact Hours: 60.

IPP 225 - English to ASL Interpreting (3)

Provides the student an opportunity to develop consecutive and simultaneous interpreting skills, working from spoken English to American Sign Language.

Prerequisite: ASL 221, IPP 122 and IPP 135.. Corequisite: ASL 222 and IPP 227.. Contact Hours: 67.5.

IPP 227 - ASL to English Interpreting (3)

Provides the student an opportunity to develop consecutive and simultaneous interpreting skills, working from American Sign Language to spoken English.

Prerequisite: ASL 221 and IPP 122. Corequisite: ASL 222 and IPP 225. Contact Hours: 67.5.

IPP 235 - Advanced Interpreting (4)

Provides the student an opportunity to refine skills in ASL/English interpretation and transliteration.

Prerequisite: ASL 222, IPP 225, IPP 227 and IPP 229.. Corequisite: IPP 278 and IPP 282, unless previously completed.. Contact Hours: 90.

IPP 278 - Interpreter Seminar (2)

Provides the student with an open forum to discuss situations arising from interpreter assignments during internship and an opportunity to prepare for entering the interpreting field.

Prerequisite: ASL 222, IPP 225, IPP 227 and IPP 229.. Corequisite: IPP 235 and IPP 282.. Contact Hours: 30.

IPP 282 - Internship (6)

Provides field experience interpreting in a supervised educational, community, service agency, or other setting.

Prerequisite: ASL 222, IPP 225, IPP 227 and IPP 229. Corequisite: IPP 235 and IPP 278, unless previously completed. Contact Hours: 270.

ITA - Italian**ITA 101 - Conversational Italian I (3)**

Provides the first course in a sequence for beginning students who wish to understand and speak Italian. The material includes basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

ITA 111 - Italian Language I (5)

Develops students' interpretive, interpersonal, and presentational communicative abilities in the language. Integrates these skills in the cultural contexts in which the language is used. Offers a foundation in the analysis of culture.

Contact Hours: 75.

ITA 112 - Italian Language II (5)

Expands students' interpretive, interpersonal, and presentational communicative abilities in the language across the disciplines. Integrates these skills with the study of the cultures in which the language is used. Offers a foundation in the analysis of culture and develops intercultural communicative strategies.

Contact Hours: 75.

Recommended Preparation: ITA 111 or equivalent.

ITA 201 - Conversational Italian III (3)

Presents the third course in a sequence for students who wish to continue their study of understanding and speaking Italian. The material includes intermediate level vocabulary, grammar, and expressions.

Contact Hours: 45.

Recommended Preparation: ITA 102 or equivalent.

ITA 202 - Conversational Italian IV (3)

Presents the fourth course in a sequence for students who wish to continue their study of understanding and speaking Italian. The material continues to cover intermediate level conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: ITA 201 or equivalent.

ITA 211 - Italian Language III (3)

Continues Italian language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Italian language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

Prerequisite: ITA 112. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

ITA 212 - Italian Language IV (3)

Continues Italian language I, II, and III in the development of increased functional proficiency in listening, speaking, reading and writing the Italian language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

Prerequisite: ITA 211. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

JOU - Journalism**JOU 105 - Introduction to Mass Media (3)**

Places the mass media in an historical and cultural perspective, and considers the validity, integrity and influence of the media in a democracy.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

JOU 106 - Media News and Reporting (3)

Introduces news writing, reporting and interviewing with emphasis on clarity, accuracy, completeness, timeliness and fairness.

Contact Hours: 45.

Recommended Preparation: JOU 105.

JOU 121 - Photojournalism (3)

Develops photojournalistic skills in capturing moments of real life from a unique personal viewpoint. Covers a broad overview of new media story-telling techniques. Students will focus on the way they observe the world around them and on the content and quality of their photographs.

Contact Hours: 45.

Photojournalism students must have regular access to a digital SLR camera with a 35mm f/2.8 lens or a 50mm f/2.8 lens. The camera should permit full manual control over aperture, shutter speeds, film speed settings (ISO or ASA), and focus. An automatic "point and shoot" camera will not meet the course requirements.

JOU 215 - Publications Production and Design (3)

Provides for student participation in the planning, writing, design and production processes of a non-newspaper publication.

Contact Hours: 67.5.

JOU 221 - Newspaper Design I (3)

Provides students with experience in news writing, editing, design, layout and advertising for newspaper production. Students may be required to work on the college newspaper or other news-oriented publication.

Contact Hours: 45.

Students should obtain permission from the instructor before registering for this class.

JOU 225 - New Media (3)

Explores techniques and approaches in the latest delivery methods for internet-based journalism. Students explore digital media outlets such as blogs, audio and video podcasts, e-zines and social networks. Students create journalistic pieces for internet-based media, focusing on best journalistic practices, ethics of internet media, and technology emergence affecting digital journalism. Concepts in video production, photography, writing, sourcing, editing and relevant skills necessary for the citizen journalist are introduced. Students create components for online news dissemination.

Contact Hours: 45.

JOU 241 - Feature and Magazine Writing (3)

Studies trade, consumer and technical markets, as well as manuscript development with an emphasis on nonfiction, submission techniques, and trends affecting the marketing of manuscripts.

Prerequisite: JOU 105 and JOU 106.. Contact Hours: 45.

JPN - Japanese

JPN 101 - Conversational Japanese I (3)

Introduces beginning students to conversational Japanese and focuses on understanding and speaking Japanese. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

JPN 102 - Conversational Japanese II (3)

Continues the sequence for students who wish to understand and speak Japanese. Covers basic conversational patterns, expressions and grammar.

Contact Hours: 45.

Recommended Preparation: JPN 101 (p. 357) with grade of "C" or better

JPN 111 - Japanese Language I (5)

Introduces a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the Japanese language.

Contact Hours: 75.

The order of the topics and methodology will vary according to individual texts and instructors.

JPN 112 - Japanese Language II (5)

Continues Foreign Language I in the development of functional proficiency in listening, speaking, reading and writing the Japanese language.

Contact Hours: 75.

Recommended Preparation: JPN 111 with grade of "C" or better

JPN 211 - Japanese Language III (3)

Continues Japanese language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

Recommended Preparation: JPN 112

JPN 212 - Japanese Language IV (3)

Continues Japanese language I, II, and III in the development of increased functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

Recommended Preparation: JPN 211

LEA - Law Enforcement Academy

LEA 101 - Basic Police Academy I (6)

Conforms to POST standards and Colorado state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a peace officer. Emphasis will be on simulating actual situations utilizing both a lecture and laboratory mode of learning.

Contact Hours: 90.

LEA 102 - Basic Police Academy II (12)

Conforms to POST standards and state certification requirements as well as the basic skills and knowledge to perform the entry level duties of a peace officer. Emphasis will be on simulating actual situations utilizing a lecture and laboratory mode of learning.

Contact Hours: 180.

LEA 103 - Basic Law Enforcement Academy III (2)

Enhances the standards established by the Colorado P.O.S.T. Board and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a Police Officer. Emphasis will be on expanding the Colorado P.O.S.T. curriculum to create a unique learning experience.

Corequisite: This course and LEA 101, LEA 102, LEA 104, LEA 105, LEA 106, LEA 107 and LEA 108 may be taken at the same time.

Contact Hours: 30.

LEA 104 - Basic Law Enforcement Academy IV (1)

Enhances the standards established by the Colorado P.O.S.T. Board and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a Police Officer. Emphasis will be on expanding the Colorado P.O.S.T. curriculum to create a unique learning experience.

Corequisite: This course and LEA 101, LEA 102, LEA 103, LEA 105, LEA 106, LEA 107 and LEA 108 may be taken at the same time.

Contact Hours: 15.

LEA 105 - Basic Law (8)

Conforms to the Colorado POST standards and state certification requirements as well as the basic skills and knowledge necessary to perform the entry level duties of a peace officer. Emphasis will be on United States Constitution, arrest, search and seizure, interrogation and confessions, rules of evidence, Colorado Criminal Code, Colorado Children's Code, Liquor Code and controlled substances.

Contact Hours: 120.

LEA 106 - Arrest Control Techniques (3)

Exploration of the skills, knowledge and abilities necessary to effectively maintain control of a suspect when making an arrest. Explains the continuum of force and de-escalation of force.

Contact Hours: 67.5.

LEA 107 - Law Enforcement Driving (3)

Exploration of the skills, knowledge and abilities required for operation of a law enforcement vehicle. Emphasizes defensive driving. Enables students to demonstrate skills by driving a vehicle under simulated conditions.

Contact Hours: 67.5.

LEA 108 - Firearms (3)

Discusses the skills, knowledge and abilities necessary to safely use police firearms. Students will demonstrate skills by firing weapons on a firing range. The student will demonstrate basic safety techniques and will be able to explain the firearms role within the continuum of force.

Contact Hours: 67.5.

LIT - Literature

LIT 115 - Introduction to Literature I (3)

Introduces students to fiction, poetry, and drama. Emphasizes active and responsive reading.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

LIT 201 - World Literature to 1600 (3)

Examines significant writings in world literature from the ancients through the Renaissance. Emphasizes careful readings and understanding of the works and their cultural backgrounds.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 202 - World Literature After 1600 (3)

Examines significant writings in world literature from the 17th century to the present. Emphasizes careful reading and understanding of the works and their cultural backgrounds.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 205 - Ethnic Literature (3)

Focuses on significant texts by ethnic Americans including African American, Native American, Latino/a, and Asian American writers. Emphasizes careful reading and understanding of the cultural and literary elements of the works.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 211 - American Literature to the Civil War (3)

Provides an overview of American literature from the Native Americans through the 19th century Romantics. It explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 212 - American Literature After the Civil War (3)

Provides an overview of American literature from the mid-19th century to the present. It explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 221 - British Literature to 1770 (3)

Provides an overview of British literature from the Anglo-Saxon period through the 17th century. The course explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 222 - British Literature Since 1770 (3)

Provides an overview of British literature from the 18th century to the present. The course explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 225 - Introduction to Shakespeare (3)

Explores a selection of works by William Shakespeare. It focuses on careful reading and interpretation of the plays and poems, includes pertinent information about Elizabethan England, and examines formal as well as thematic elements of the selected works.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 235 - Science Fiction (3)

Examines the techniques and issues of science fiction through a close reading of a variety of writers in the genre.

Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 246 - Literature of Women (3)

Examines the techniques and themes in literature by and about women by examining women's issues from various genres.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 248 - Native American Literature (3)

Examines oral and written literature created by Native American Peoples. Emphasizes narrative and ceremonial literature from the oral tradition. Examines oratory, autobiography, essays, poetry, short stories, and novels as oral and written forms.

Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 255 - Children's Literature (3)

Examines the criteria for selecting appropriate literature for children. Explores literature through a variety of genres, age levels, values taught through literature, and literary and artistic qualities of various texts.

Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 257 - Literature and Film (3)

Examines the relationship between literature and motion pictures, emphasizing the technique and interpretive function of filmmakers.

Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 259 - Survey of African American Literature (3)

Examines African American literature from 1750 to the present, exploring ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR

094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115

LIT 267 - The Bible as Literature (3)

Introduces the Bible as the textual centerpiece of Western literature. Students will encounter the various literary genres represented in Biblical texts, the process of canonization, ways in which the Bible has been read by its various interpretive communities, and some impacts of the Bible in such areas as law, poetry, fiction, psychology, ethics, and theology.

Contact Hours: 45.

Recommended Preparation: LIT 115.

LIT 268 - Celtic Literature (3)

Exposes the student to Irish literature. The course examines significant writings in Irish literature from the ancients through to the twenty-first century. The course emphasizes the careful reading and understanding of the works of poetry, fiction, and drama, as well as their cultural backgrounds.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH2). Contact Hours: 45.

Recommended Preparation: LIT 115.

MAC - Machining Technology

MAC 100 - Machine Shop Safety (1)

Covers the hazards of a machine shop including health and safety, locating essential safety information from a code or other standard, location and use of safety and emergency equipment, and identifying and applying shop safety procedures.

Corequisite: MAC 101, MAC 102, MAC 110, MAC 120 and one of the following math courses: MAT 108, 122, 166 or 201 or higher. . Contact Hours: 22.5.

MAC 101 - Introduction to Machine Shop (3)

Covers safety procedures, use of bench tools, layout tools, power saws, drill presses, precision measurement tools, and various hand tools related to the machine shop. Also included are sharpening drill bits and general purpose turning tools for the lathe and determining speeds and feeds for both the lathe and the milling machine.

Prerequisite: MAC 100 and one of the following math courses: MAT 108, MAT 122, MAT 166, MAT 201 or higher. . Corequisite: MAC 100 and MAT coursework can be taken concurrently with this course.. Contact Hours: 67.5.

MAC 102 - Print Reading for Machinists (3)

Instructs students in reading and understanding industrial prints. This course covers basic drafting and print standards, fundamentals of shape description, fundamentals of size description and annotation, industrial drawing types, and specialized parts and prints. Symbol interpretation, tolerancing and dimensioning standards are also covered.

Prerequisite: MAC 100 and one of the following math courses: MAT 108, MAT 122, MAT 166, MAT 201 or higher.. Corequisite: MAC 100 and MAT coursework may be taken concurrently with this course.. Contact Hours: 67.5.

MAC 110 - Introduction to Engine Lathe (3)

Introduces basic lathe applications which will consist of identifying lathe components and controls, understanding turning safety, calculating speeds and feeds, using various tools and tool holders, identifying basic tool geometry, and the use of common lathe spindle tooling. Students will perform basic lathe operations, which will consist of facing, center-drilling, chuck turning, turning between centers, boring, grooving, tapers, knurling, and single point threading. Students will be required to produce specified parts to a tolerance of +/- .004 in. and perform competencies set by manufacturing standards.

Prerequisite: Prerequisite/Corequisite: MAC 100, MAC 101, MAC 102 and one of the following math courses: MAT 108, MAT 122, MAT 166, MAT 201 or higher.. Contact Hours: 67.5.

MAC 120 - Introduction to Milling Machine (3)

Teaches students to identify the major parts of the vertical mill, align a vise, use an indicator, edge finder, and boring head, determine speeds and feeds perform simple indexing, mill flat, square surfaces and slots, drill, bore, and tap holes, and work within a plus or minus .002 inch tolerance.

Prerequisite: Prerequisite/Corequisite: MAC 100, MAC 101, MAC 102 and one of the following math courses: MAT 108, MAT 122, MAT 166, MAT 201 or higher.. Contact Hours: 67.5.

MAC 201 - Intro to CNC Turning Operations (3)

Introduces basic writing and editing of CNC lathe programs. G&M codes, math, speeds and feeds, production processes including basic process controls, and documentation associated with manufacturing will be covered.

Prerequisite: MAC 100, MAC 101, MAC 102, MAC 110, MAC 120 and one of the following math courses: MAT 108, MAT 122, MAT 166, MAT 201 or higher.. Contact Hours: 67.5.

MAC 202 - CNC Turning Operations II (3)

Covers skills in writing and editing advanced CNC lathe programs. G&M codes, math, speeds and feeds, production processes including multi-part, process controls, and documentation associated with manufacturing will be covered.

Prerequisite: Prerequisite/Corequisite: MAC 201 can be taken concurrently. Contact Hours: 67.5.

MAC 205 - Intro to CNC Milling Operations (3)

Introduces basic creating and editing of CNC mill programs. Introduction to G&M codes, math, speeds and feeds, production processes including process controls, and documentation associated with manufacturing will be covered.

Prerequisite: MAC 100, MAC 101, MAC 102, MAC 110, MAC 120 and one of the following math courses: MAT 108, MAT 122, MAT 166, MAT 201 or higher.. Contact Hours: 67.5.

MAC 206 - CNC Milling Operations II (3)

Further develops skills in writing and editing advanced CNC mill programs. G&M codes, math, speeds and feeds, production processes including multi-part, process controls, and documentation associated with manufacturing will be covered.

Prerequisite: Prerequisite/Corequisite MAC 205 can be taken concurrently. Contact Hours: 67.5.

MAC 240 - CAD/CAM 2D (3)

Provides the student with the essential concepts and techniques that are required to successfully create part geometry, generate

tool path, verify tool path models, and post process the NC codes. The student will be exposed to a 2-axis machining, 3-axis machining wire frame and surface modeling, lathe programming, and DNC systems. Programming projects and models will be demonstrated in the CNC manufacturing lab.

Prerequisite: MAC 201 and MAC 205. Contact Hours: 67.5.

MAN - Management**MAN 103 - Managing Business Change (1)**

Explores how change in the workplace affects employees and customers. A description of how cultures promote behaviors will be presented. The changing roles of men and women and their impact on the workplace will be discussed and analyzed.

Contact Hours: 15.

MAN 105 - Logistics Management (3)

Explores the logistic system from in-bound movement of materials and freight into the organization, through physical distribution of the completed product to the consumer. Transportation systems, government regulations, material handling, inventory management, and distribution centers are covered.

Contact Hours: 45.

MAN 116 - Principles of Supervision (3)

Studies the principles and techniques of supervising and motivating personnel. This course is designed for students who are interested in supervising others or for those currently in supervision. Course content focuses on the human interaction in supervision.

Contact Hours: 45.

MAN 117 - Time Management (1)

Provides students with the conceptual knowledge and tools to make better use of their time in the management function.

Contact Hours: 15.

MAN 125 - Team Building (1)

Introduces the concept of working as team member. Activities and assignments will emphasize the ability to negotiate, work together, build consensus and make quality decisions.

Contact Hours: 15.

MAN 128 - Human Relations in Organizations (3)

Introduces interpersonal relations most directly linked to attainment of organizational and individual goals in the business world. Other factors include motivation, career development, and conflict resolution. It explores the importance of effective communication in organizations. Addresses organizational issues such as employee motivation and customer complaints as related to product or service defects.

Contact Hours: 45.

MAN 160 - Entrepreneurship (3)

Teaches entrepreneurs planning skills from business concept development to the actual development of a comprehensive business plan. This practical approach includes one-on-one counseling with the instructor and professional volunteer counselors. Guest speakers are an integral part of the course. Topics include marketing strategies and tactics, profitability,

human resource management, financial management and projections, innovations, and loan negotiations.

Contact Hours: 45.

MAN 200 - Human Resources Management I (3)

Provides an overview of the contemporary issues, theories and principles used to effectively manage human resources. Topics covered include job analysis and design, talent acquisition and retention, planning and recruiting human resources, selecting employees, job placement, employee training and performance management, compensation and benefits, and retaining employees.

Contact Hours: 45.

MAN 201 - Human Resources Management II (3)

Offers a strategic discussion of concepts of human resources utilizing practical application and theory. Emphasizes human resource trends, equal opportunity and safety, workforce training and development, appraising and improving performance, labor relations, legal and global issues in human resources.

Prerequisite: MAN 200. Contact Hours: 45.

MAN 205 - Event Planning (3)

Presents the components of meeting planning; organization, personnel, finances, site selection, transportation, program design, promotion, arranging exhibits and evaluations.

Contact Hours: 45.

MAN 212 - Negotiation and Conflict Resolution (3)

Presents proper techniques in negotiation and conflict resolution. Key practices that determine successful negotiation are explored. This course covers principles of conflict resolution including business policies, accepted business practices contracts, labor union contracts, pay raises and starting salaries.

Contact Hours: 45.

MAN 215 - Organizational Behavior (3)

Introduces the behaviors of groups and individual members of organizations and how to influence their behavior. Emphasis is on the tools managers use to achieve organizational effectiveness.

Contact Hours: 45.

MAN 216 - Small Business Management (3)

Examines the elements necessary for the successful formation of a new small business. It is also designed to enhance the skills of those already involved in the operation of a small business. The course includes the development of a complete small business plan.

Contact Hours: 45.

MAN 224 - Leadership (3)

Focuses on the leadership skills for contemporary organizations. Covers development and communication and a shared vision to motivate and empower employees to manage conflict, to negotiate, and to develop teams.

Contact Hours: 45.

MAN 225 - Managerial Finance (3)

Examines the concepts and techniques used to analyze financial accounting information for managerial planning, decision-

making and control. The focus of the course is on decision-making relating to the areas of budgets, forecasts, cost volume production, Return on Investment (ROI) and financial statements.

Contact Hours: 45.

Recommended Preparation: ACC 101 or ACC 121

MAN 226 - Principles of Management (3)

Provides an overview of the principles of management. Emphasis is on the primary functions of planning, organizing, staffing, leading and controlling with a balance between the behavioral and operational approaches.

Contact Hours: 45.

MAN 230 - Corporate Ethics & Social Resp (3)

Examines the concept of corporate responsibility to the extent of which an organization's resources should be used to identify and respond to social and ethical problems. Included in the course will be topics of corporate and social responsibility, and the concept of servant leadership, and how this applies to business and management principles.

Contact Hours: 45.

MAN 240 - Strategic Management (3)

Presents the development of business policy and the integration of skills learned in prior business study, including strategy formulation, implementation and evaluation. Focus is on the coordination of marketing, production, finance, accounting, and ethics and social responsibility to achieve competitive advantage.

Contact Hours: 45.

MAN 241 - Project Management in Organizations (3)

Introduces students to the planning, implementation and control activities of project management, including project and performance evaluation, quality control and workflow analysis. Emphasis will be on the initiating, planning, executing, controlling and closing activities of Project Management.

Contact Hours: 45.

MAN 243 - Project Management in Action (3)

Brings into focus the subject material covered in MAN 241 and CIS 202. Emphasis will be placed on melding general concepts of project management with practical applications of software to complete a project management assignment.

Contact Hours: 45.

MAP - Medical Assisting Professional

MAP 110 - Medical Office Administration (4)

Introduces the administrative duties specifically used in medical offices.

Contact Hours: 60.

MAP 120 - Medical Office Financial Management (4)

Covers the practical uses of accounts and records with emphasis on accounting principles and analysis for use in a medical office. Introduces outpatient coding with an ultimate goal to present a clear picture of medical procedures and services performed (CPT codes), correlating the diagnosis, symptom, complaint or

condition (ICD codes), thus establishing the medical necessity required for third-party reimbursement.

Contact Hours: 60.

MAP 138 - Medical Assisting Laboratory (4)

Introduces the student to basic routine laboratory skills and techniques for collection, handling, and examination of laboratory specimens often encountered in the ambulatory care setting.

Contact Hours: 90.

MAP 140 - Medical Assisting Clinical Skills (4)

Provides hands on experience with clinical skills required in medical offices. Delivers theory and skills presentations allowing for students to properly demonstrate techniques for a variety of medical needs.

Contact Hours: 90.

MAP 150 - Pharmacology for Medical Assistants (3)

Provides an overview of pharmacology language, abbreviations, systems of measurement and conversions. The Controlled Substances Act, prescriptions, forms of medications, patient care applications, drug classifications/interactions, and safety in drug therapy and patient care are presented. Information regarding the measurement of medications, dosage calculations, routes of administration, and commonly prescribed drugs in the medical office is provided.

Contact Hours: 45.

MAP 183 - Medical Assistant Internship (4)

Provides supervised placement in contracted facility for guided experience in application of knowledge and skill acquired in the classroom. The student assists with a variety of business and clinical procedures. Positions are non-paid. Student must have permission by program coordinator to begin internship.

Prerequisite: MAP 110, MAP 120, MAP 138, MAP 140, and MAP 150. Contact Hours: 180.

MAP 189 - Review for Medical Assistant National Exam (1)

Prepares the candidate sitting for the National Registration/Certification examination for Medical Assistant through review and practice. These examinations are given with the intent of evaluating the competency of entry-level practitioners in Medical Assisting, supporting quality care in the office or clinic.

Prerequisite: Prerequisite/Corequisite: MAP 183. Contact Hours: 15.

MAR - Marketing

MAR 106 - Marketing Your Image (3)

Teaches students how to market themselves to prospective employers, clients, professional groups, and audiences of all types. Major emphasis will be placed on skills used to gain employment (resumes, interviewing, and professional appearance) and on skills used to achieve continued personal success (professional behavior and attitude). The course will include at least one simulated interview.

Contact Hours: 45.

MAR 111 - Principles of Sales (3)

Enables students to understand and develop ethical sales techniques and covers the role of selling in the marketing process. Areas of emphasis include behavioral considerations in the buying and selling process and sales techniques.

Contact Hours: 45.

MAR 117 - Principles of Retailing (3)

Emphasizes the study of the basic principles and techniques of merchandising operations, layout, store organization, site location and customer service with an emphasis on retailing operations.

Contact Hours: 45.

MAR 160 - Customer Service (3)

Enables students to learn the relationship of self to customers, problem solve and understand the importance of communicating with customers. Specific emphasis is given to managing customer expectations by building customer rapport and creating positive outcomes.

Contact Hours: 45.

MAR 216 - Principles of Marketing (3)

Presents the analysis of theoretical marketing processes and the strategies of product development, pricing, promotion and distribution, and their applications to business and the individual consumer.

Contact Hours: 45.

MAR 220 - Principles of Advertising (3)

Examines the principles and practices of advertising and its relationship to business in order to promote a business or organization. Areas of major emphasis include advertising principles, strategies, media, copy and layout, and ethical considerations.

Contact Hours: 45.

MAR 235 - Consumer Behavior (3)

Enables the student to understand the variables that affect consumer behavior in the marketplace and the implications of this knowledge for marketing decisions and strategies.

Contact Hours: 45.

MAR 240 - International Marketing (3)

Enables the student to explore the international marketing for U.S. products, and to explore the increasing competitive international environment and recent changes in the environment that have challenged U.S. business. The course is designed to make the reader an informed observer of the global market place as well as enabling him/her to develop skills to make marketing decisions in a global context.

Contact Hours: 45.

MAT - Mathematics

MAT 020 - Quantitative Literacy Lab (1)

Supports skill development for students registered in MAT 050 Quantitative Literacy. Topics covered in this course include those defined in MAT 050 and/or any prerequisite skills needed by the student. Please see an advisor for new test score requirements in relation to this course being a required corequisite with MAT 050 (p. 363).

Corequisite: MAT 050. Contact Hours: 30.

MAT 025 - Algebraic Literacy Lab (1)

Supports skill development for students registered in MAT 055 Algebraic Literacy. Topics covered in this course include those defined in MAT 055 and/or any prerequisite skills needed by the student. Please see an advisor for new test score requirements in relation to this course being a required corequisite with MAT 055 Algebraic Literacy.

Prerequisite: MAT 050. Corequisite: MAT 055. Contact Hours: 30.

MAT 050 - Quantitative Literacy (4)

Develops number sense and critical thinking strategies, introduce algebraic thinking, and connect mathematics to real world applications. Topics in the course include ratios, proportions, percents, measurement, linear relationships, properties of exponents, polynomials, factoring, and math learning strategies. This course prepares students for Math for Liberal Arts, Statistics, Integrated Math, and college level career math courses.

Corequisite: MAT 020. Contact Hours: 60.

MAT 055 - Algebraic Literacy (4)

Develops algebraic skills necessary for manipulating expressions and solving equations. Topics in the course include radicals, complex numbers, polynomials, factoring, rational expressions, quadratic equations, absolute value equations and inequalities, systems of linear equations, related applications, and math learning strategies. This course prepares students for College Algebra and Finite Math.

Prerequisite: MAT 050 with a grade of C or better, or appropriate math diagnostic scores. Corequisite: May have corequisite of MAT 025 based on appropriate diagnostic scores. Contact Hours: 60.

MAT 091 - Applied Quantitative Lab (1)

Supports skill development for students registered in MAT 103, MAT 107, MAT 108, MAT 109, or MAT 112. Topics covered in this course include those defined in MAT 103/107/108/109/112 and/or any prerequisite skills needed by the student. Please see an advisor for new test score requirements in relation to this course being a required corequisite with MAT 103/107/108/109/112.

Prerequisite: MAT 050. Corequisite: MAT 103, MAT 107 or MAT 108. Contact Hours: 30.

MAT 092 - Quantitative Lab (1)

Supports skill development for students registered in MAT 120, MAT 135, MAT 155, or MAT 156. Topics covered in this course include those defined in MAT 120/135/155/156 and/or any prerequisite skills needed by the student. Please see an advisor for new test score requirements in relation to this course being a required corequisite with MAT 120, MAT 135, MAT 155, or MAT 156.

Prerequisite: MAT 050. Corequisite: MAT 120, MAT 135, MAT 155 or MAT 156. Contact Hours: 30.

MAT 093 - Algebra Lab (1)

Supports skill development for students registered in MAT 121 or MAT 123. Topics covered in this course include those defined in MAT 121/123 and/or any prerequisite skills needed by the student. Please see an advisor for new test score requirements

in relation to this course being a required corequisite with MAT 121/123.

Prerequisite: MAT 055. Corequisite: MAT 121 or MAT 123. Contact Hours: 30.

MAT 103 - Math for Clinical Calculations (3)

Provides a review of general mathematics, introductory algebra and an opportunity to learn systems of measurement and methods of solving problems related to drug dosage and intravenous fluid administration. It is designed for students in the health disciplines. Topics may include algebra, graphs, measurement and conversion between various systems of measurement.

Prerequisite: MAT 050 or better with a grade of C or better or appropriate diagnostic scores. Corequisite: MAT 091. Contact Hours: 45.

MAT 103 cannot be applied to any AA or AS Degree. MAT 103 can only be applied to AAS Degrees in Nursing and Veterinary Technology

MAT 107 - Career Mathematics (3)

Covers material designed for career technical or general studies students who need to study particular mathematical topics. Topics may include measurement, algebra, geometry, trigonometry, graphs, and/or finance. These are presented on an introductory level and the emphasis is on applications.

Prerequisite: MAT 050 with a grade of "C" or better or appropriate diagnostic scores required. Note: MAT 107 cannot be applied to any AA or AS Degrees as well as some AAS degrees.. Corequisite: MAT 091. Contact Hours: 45.

MAT 108 - Technical Mathematics (4)

Covers material designed for career technical or general studies students who need to study particular mathematical topics. Topics may include measurement, algebra, geometry, trigonometry, graphs, and/or finance. These are presented on an introductory level and the emphasis is on applications.

Prerequisite: MAT 050 or MAT 055 with a grade of C or better or appropriate diagnostic scores required. Note: MAT 108 cannot be applied to any AA or AS Degrees as well as some AAS degrees.. Corequisite: MAT 091. Contact Hours: 60.

MAT 108 includes specific applications to certain AAS degree programs such as Manufacturing and Energy Technology and Machining. Check the math requirement for your program to determine whether MAT 107 (p. 363) or MAT 108 is the required math course.

MAT 120 - Mathematics for the Liberal Arts (4)

Highlights connections between mathematics and the society in which we live and is intended for liberal arts majors. Topics include set theory and logic, mathematical modeling, probability and statistical methods, and consumer mathematics.

Prerequisite: MAT 050, MAT 055, MAT 121, MAT 122 or MAT 201 with a grade of "C" or better or appropriate diagnostic scores. Corequisite: MAT 092. Offered: *(GT-MA1). Contact Hours: 60.

MAT 121 - College Algebra (4)

Explores topics including intermediate algebra, equations and inequalities, functions and their graphs, exponential and logarithmic functions, linear and non-linear systems, selection of

topics from among graphing of the conic sections, introduction to sequences and series, permutations and combinations, the binomial theorem and theory of equations.

Prerequisite: MAT 055 with a grade of "C" or better or appropriate diagnostic scores. Corequisite: MAT 093. Offered: *(GT-MA1). Contact Hours: 60.

MAT 122 - College Trigonometry (3)

Covers topics including trigonometric functions (with graphs and inverse functions), identities and equations, solutions of triangles, complex numbers, and other topics as time permits. This is a traditional prerequisite course to the calculus sequence.

Prerequisite: MAT 121, MAT 125, MAT 201 or MAT 202 with a grade of "C" or better or appropriate math diagnostic scores.. Offered: *(GT-MA1). Contact Hours: 45.

MAT 125 - Survey of Calculus (4)

Includes derivatives, integrals, and their applications, with attention restricted to algebraic, exponential, and logarithmic functions for business, life science and/or social science majors.

Prerequisite: MAT 121, MAT 122, MAT 201 or MAT 202 with a grade of "C" or better. Offered: *(GT-MA1). Contact Hours: 60.

MAT 135 - Introduction to Statistics (3)

Explores and applies data presentation and summarization, introduction to probability concepts and distributions, statistical inference- estimation, hypothesis testing, comparison of populations, correlation and regression.

Prerequisite: MAT 050 or higher with a grade of "C" or better or appropriate diagnostic scores. Corequisite: MAT 092. Offered: *(GT-MA1). Contact Hours: 45.

MAT 155 - Integrated Mathematics I (3)

Engages students in the concepts of school mathematics, including the recognition of numerical and geometric patterns and their application to a variety of mathematical situations; mathematical problem-solving, reasoning, critical thinking, and communication; algebraic thinking, representation, analysis, manipulation, generalizations and extensions.

Prerequisite: MAT 050, MAT 055, MAT 121, MAT 122, MAT 125, MAT 201 or MAT 202 with a grade of "C" or better or appropriate diagnostic scores. Corequisite: MAT 092. Contact Hours: 45.

MAT 155 & MAT 156 are intended for Early Childhood Education & Elementary Education Students ONLY. Students who take MAT 155 & MAT 156 and who later change to a major outside Early Childhood Teacher Education & Elementary Teacher Education may not receive the guaranteed completion of lower division general education at the receiving 4-yr institution, as MAT 155 & MAT 156 are not gtPathways approved courses.

MAT 156 - Integrated Mathematics II (3)

Further MAT 155 concepts and will include fundamentals of probability, statistics, and Euclidean geometry. Mathematical problem-solving, reasoning, critical thinking and communication will continue to be an integral part of this sequence.

Prerequisite: MAT 050, MAT 055, MAT 121, MAT 122, MAT 125, MAT 201 or MAT 202 with a grade of "C" or better or appropriate diagnostic scores. Corequisite: MAT 092. Contact Hours: 45.

MAT 155 & MAT 156 are intended for Early Childhood Education & Elementary Education Students ONLY. Students who take MAT 155 & MAT 156 and who later change to a major outside Early Childhood Teacher Education & Elementary Teacher Education may not receive the guaranteed completion of lower division general education at the receiving 4-yr institution, as MAT 155 & MAT 156 are not gtPathways approved courses.

MAT 166 - Pre-Calculus (5)

Reviews college algebra and college trigonometry intended for those planning to take calculus. Topics include algebraic manipulations, properties of algebraic and trigonometric functions and their graphs, trig identities and equations, conic sections, polar coordinates and parametric equations.

Prerequisite: MAT 121, MAT 122, MAT 125, MAT 201 or MAT 202 with a "C" or better or appropriate math diagnostic scores. Offered: *(GT-MA1). Contact Hours: 75.

MAT 201 - Calculus I: MA1 (5)

Introduces single variable calculus and analytic geometry. It includes limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals and some applications.

Prerequisite: MAT 122, MAT 166, MAT 202 or MAT 203 with a grade of "C" or better or appropriate math diagnostic scores. Offered: *(GT-MA1). Contact Hours: 75.

MAT 202 - Calculus II: MA1 (5)

Continues the study of single variable calculus which will include techniques of integration, polar coordinates, analytic geometry, improper integrals, and infinite series.

Prerequisite: MAT 201 or MAT 203 with a grade of "C" or better. Offered: *(GT-MA1). Contact Hours: 75.

MAT 203 - Calculus III (4)

Focuses the traditional subject matter of multivariable Calculus. Topics include vectors, vector-valued functions, partial derivatives, analytic geometry, multiple integrals, line integrals and applications.

Prerequisite: MAT 202 with a grade of "C" or better or MAT 204 with a grade of "C" or better. Offered: *(GT-MA1). Contact Hours: 60.

This course is only available via CCCOnline

MAT 204 - Calculus III with Engineering Applications (5)

Focuses the traditional subject matter of multivariable Calculus with an additional emphasis on word problems and problem solving. Topics include vectors, vector-valued functions, partial derivatives, analytic geometry, multiple integrals, line integrals, Stokes', Divergence Theorems and Green's Theorems, and applications. A graphing calculator is required for this course.

Prerequisite: MAT 202, MAT 203 or MAT 265 with a grade of "C" or better. Offered: *(GT-MA1). Contact Hours: 75.

MAT 255 - Linear Algebra (3)

Explores vector spaces, matrices, linear transformations, matrix representation, eigenvalues, and eigenvectors.

Prerequisite: MAT 202, MAT 203 or MAT 265 with a grade of "C" or better. Contact Hours: 45.

MAT 261 - Differential Equations with Engineering Applications (4)

This course introduces ordinary differential equations. The content of this course includes all the topics of MAT 265 (p. 365) Differential Equations with an additional emphasis on applications and problem solving. A graphing calculator is required for this course.

Prerequisite: MAT 202 with a grade of "C" or better. Offered: *(GT-MA1). Contact Hours: 60.

MAT 265 - Differential Equations (3)

Explores techniques of problem solving and applications. Topics include first, second and higher order differential equations, series methods, approximations, systems of differential equations, and Laplace transforms.

Prerequisite: MAT 202 or MAT 203 with a grade of "C" or better. Offered: *(GT-MA1). Contact Hours: 45.

MAT 266 - Differential Equations with Linear Algebra (4)

This course covers first and second order differential equations, series solutions, Laplace transforms, linear algebra, eigenvalues, first order systems of equations, and numerical techniques are covered.

Prerequisite: MAT 202 or MAT 203 with a grade of "C" or better. Contact Hours: 60.

MET - Meteorology**MET 150 - General Meteorology (4)**

Provides an introduction to general meteorology and atmospheric sciences. It includes the composition and structure of the atmosphere and characteristics that affect the atmosphere, such as temperature, pressure, and moisture. Additionally, the development of weather systems such as storm systems, hurricanes, weather fronts and cloud development will also be examined. Finally, concepts of climatology will be stressed.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 75 (45 lecture hours, 30 lab hours).

MGD - Multimedia Graphic Design**MGD 103 - Production Design (3)**

Explores the use of tools, computer graphics techniques and design layout principles to produce professional graphic designs. Studies include printing basics, typography and digital color systems. Students use creative thinking to solve communication and design concepts for the output process.

Corequisite: MGD 111 or MGD 112 or MGD 114 unless you have already taken one of these classes. Contact Hours: 67.5.

MGD 104 - Videography (3)

Offers an introduction to the principles and techniques of videotape production, including camera operation, basic script writing, lighting, sound and basic digital editing. Detailed examination of the pre-production, production, and post-production processes, as well as aesthetics, will be included.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 106 - Creativity and Visual Thinking (3)

Introduces the visual thinking skills necessary to understand and use the creative process, develop innovative concepts and forms, and to produce and analyze creative works. The underlying components of creative thinking, the creative process, and the creative economy are of primary concern in this class. This class is about concept development and sketching.

Contact Hours: 67.5.

MGD 109 - Design and Color (3)

Covers the design process and creative problem solving. Design and color theories, fundamentals, styles, and stages are applied to workups, finished art, and presentations. Emphasis will be on line, form, composition, and continuity.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 111 - Adobe Photoshop I (3)

Concentrates on the high-end capabilities of a raster photo-editing software as an illustration, design and photo-retouching tool. Students explore a wide range of selection and manipulation techniques that can be applied to photos, graphics and videos.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding and knowledge of an operating system

MGD 112 - Adobe Illustrator I (3)

Acquaints students with the processes of a vector-drawing program on the computer. Students learn how to use the tools to create digital artwork that can be used in web design, print media and digital screen design.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding and knowledge of an operating system

MGD 114 - Adobe InDesign (3)

Introduces students to InDesign, a page layout program that integrates seamlessly with other Adobe design programs. InDesign delivers creative freedom and productivity to DTP. Class discussions and independent projects supplement hands-on classroom work.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 116 - Typography I (3)

Introduces the history and concepts of typography as applied to graphic communications. Explores appropriate use of typography in a variety of design applications, emphasizing the basic design principles of typographic compositions and typesetting. Covers type recognition and typographic terms.

Corequisite: MGD 112 unless you have already taken this class.
Contact Hours: 67.5.

MGD 117 - Introduction to Visual Communications (3)

Surveys visual communications, its history and impact on society. A foundation course for graphic design and illustration majors and a survey for non-majors who are interested in the field. Assignments require minimal artistic talent.

Contact Hours: 67.5.

Overview of software and basic design principles will be explored

MGD 121 - Painter for Digital Media (3)

Teaches students how to work with an illustration and paint software application called Painter. Color and relationships, repeat patterns, animation and digitization are among the topics covered in the course as students explore the possibilities of visual art using computers. Assigned projects cover a wide range of visual approaches. Painter provides an extra competitive edge for students.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 123 - Bryce (3)

Explores the unique abilities of Bryce for creating photo realistic natural scenes in 3D. Students will learn the tools, techniques and concepts involved in the use of the software. Additionally, students will study the works of premiere Bryce artists and create numerous images and animations of their own. Emphasis will be placed on structure, composition, lighting and color theory.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 128 - Multimedia Hardware (3)

Teaches the principles and techniques of maintaining, upgrading, and customizing personal computer systems. Emphasis will also be placed on various emerging and established technologies related to graphic computing.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 133 - Graphic Design I (3)

Focuses upon the study of design layout and conceptual elements concerning graphic design projects such as posters, advertisements, logos, and brochures.

Corequisite: MGD 111 or MGD 112 or MGD 114 unless you have already taken one of the three courses. Contact Hours: 67.5.

MGD 134 - Drawing for Illustrators (3)

Covers fundamental skills and theories of drawing and rendering line structure, form, value, texture, and composition. Application of drawing skills with various media for line quality as well as value and texture interpretations are also covered.

Contact Hours: 67.5.

MGD 141 - Web Design I (3)

Introduces web site planning, design and creation using industry-standards-based web site development tools. Screen-based color theory, web aesthetics, use of graphics editors and intuitive interface design are explored.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 142 - Digital Animatics (3)

Introduces the steps followed by professional animators and game designers for producing media in a digital environment. Students learn the foundational skills of planning, organizing, storyboards, and pre-visualization techniques necessary to create animated stories. Students will also study the history of animation and game design.

Contact Hours: 67.5.

MGD 143 - Motion Graphic Design I (Software) (3)

Stresses creation of animation and dynamic interactive media for web and multimedia applications to a professional standard. Students will learn how to develop projects for time-based media, key-frames, tweens and symbols. Students will learn how to use actions to trigger timeline events to create interactive behaviors.

Contact Hours: 67.5.

Recommended Preparation: keyboarding and a demonstrated knowledge of the Windows and/or Macintosh operating system with a working knowledge of at least one multimedia software application, such as, Adobe Photoshop or Adobe Illustrator. Without a working knowledge of multimedia software, the student needs the permission of the instructor to enroll

MGD 153 - 3D Animation I (3)

Encompasses all major aspects of creating 3D characters using animation software. Using developed characters, the student will learn how to animate for personality.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application.

MGD 161 - Director I (3)

Examines Macromedia Director, the leading authoring tool for interactive multimedia from the art director's perspective. Students will learn the basics of 2D animation for both computer presentations and the web. Interface design and scene development is emphasized. Hands-on projects include lingo scripts, behaviors, adding sound and digital video to students' movies.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 163 - Sound Design I (3)

Explores the use of sound in multimedia production and audio storytelling. Students examine the principles of recording. Classes focus on how sound can enhance interactive productions

and improve computer presentations. Students learn how to use the computer as a full audio editing studio.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 164 - Digital Video Editing I (3)

Introduces digital non-linear video editing. Students will capture, compress, edit, and manipulate video images using a personal computer. Assembly techniques including media management, editing tools, titles, and motion control; transitions and filters, and special effects are explored.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 165 - After Effects I (3)

Provides the fundamental techniques for creating digital motion graphics such as 2D animations, animated logos, video graphics, etc. Classes cover relevant tools and techniques as well as industry standards, delivery methods and output.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 167 - Game Design I (3)

Introduces students to game design from conceptual development and functionality, through production of a virtual world prototype. Students examine such things as character registration, in-betweens, inking and clean up used for creating real-time game environments. Storytelling and visual metaphor development are emphasized.

Contact Hours: 67.5.

Recommended Preparation: Basic keyboarding, knowledge of an operating system and at least one multimedia software application

MGD 202 - Point of Purchase Package Design (3)

Introduces the theories and principles that apply to three-dimensional design graphics for packaging and display; various dimensional marketing solutions to create dynamic visual effects concepts will be developed. Work layout stages and mock-ups will utilize various methods of cutting, folding, and assembly to explore the design concepts and their visual effects.

Contact Hours: 67.5.

Recommended Preparation: MGD 111 (p. 365) or MGD 112 (p. 365)

MGD 203 - Design and Concept (3)

Covers the process of comprehensive problem solving of complex and advanced print design. Provides experience in digital production of designs, using multiple computer applications emphasizing concept.

Prerequisite: MGD 103. Contact Hours: 67.5.

MGD 204 - Videography II (3)

Offers advanced study of digital video imaging concepts using digital cameras. Heavy emphasis is placed upon media aesthetics and the creative integration of sight, sound, and motion in student projects.

Prerequisite: MGD 104. Contact Hours: 67.5.

MGD 211 - Adobe Photoshop II (3)

Develops and reinforces image composition techniques learned in Adobe Photoshop I, MGD 111. Fundamentals are continuously reinforced as new design techniques are introduced.

Prerequisite: MGD 111. Contact Hours: 67.5.

MGD 212 - Adobe Illustrator II (3)

Enables the student to continue development of electronic drawing skills through practice and use of state-of-the-art illustration software.

Prerequisite: MGD 112. Contact Hours: 67.5.

MGD 221 - Computer Graphics I (3)

Introduces the process of generating computer design.

Contact Hours: 67.5.

MGD 222 - Computer Graphics II (3)

Continues MGD 221 with advanced problems in generating computer design for graphics application, emphasizing production of individual fine art pieces.

Prerequisite: MGD 221. Contact Hours: 67.5.

MGD 233 - Graphic Design II (3)

Continues instruction in idea development for advanced graphic design.

Prerequisite: MGD 133. Contact Hours: 67.5.

MGD 241 - Web Design II (3)

Expands on previously learned fundamentals of HTML introducing cascading style sheets, DHTML, JavaScripts and CGI forms. Color usage and interface design principles are emphasized in this course. In this course we'll examine websites that employ more complex structures, optimal site architecture and navigation necessary for larger and more complex sites.

Prerequisite: MGD 141. Contact Hours: 67.5.

MGD 242 - Web Architecture: Open Source (3)

Provides an overview of current open source tools used in the design industry for designing and implementing Web architecture. Course content changes with trends in the industry. Topics may include current content management platforms such as WordPress and Drupal, how to identify web scripting languages, and an overview of open source programming such as PHP and MySQL.

Contact Hours: 67.5.

MGD 243 - Web Motion Graphic Design II (3)

Stresses the complex creation of 2D animated motion graphics concentrating on the prior skills learned and the use of scripting and behaviors. Students will create motion graphics using these skills and apply them to websites. Website justification of motion graphics will be stressed, appraised and weighed.

Prerequisite: MGD 143 and (MGD 141 or CWB 110). Contact Hours: 67.5.

MGD 244 - Integrated Multimedia Development 1 (3)

Plans and produces content for a single large-scale video/multimedia project, which stimulates a professional multimedia design agency. Students are exposed to all phases of digital media production with a focus on meeting with clients, creating proposals, researching, interviewing, writing, video/audio recording/editing, and titling. Students learn to meet real deadlines and work collaboratively.

Contact Hours: 67.5.

MGD 245 - Integrated Multimedia Development 2 (3)

Continues from Integrated Multimedia Development 1. Students will create and deliver a single large-scale video/multimedia project. Students are exposed to all phases of post-production, with a focus on editing, animating and delivering the product on time. Students gain experience of working as a professional video and digital media agency and leave with a portfolio/demo reel piece.

Contact Hours: 67.5.

MGD 253 - 3D Animation II (3)

Addresses more advanced aspects of creating 3D characters on the computer. Students also examine facial animation, lip synchronization, scene design and lighting set-ups.

Prerequisite: MGD 153. Contact Hours: 67.5.

MGD 256 - Graphic Design Production (3)

Provides an opportunity to combine several draw and paint applications into one design and layout class. Students will explore advanced techniques in creating and designing computer art.

Contact Hours: 67.5.

Recommended Preparation: MGD 114 (p. 365)

MGD 257 - Animation Production (3)

Examines development of 3D animation from a production standpoint. The process of transforming conceptual designs into actual projects is explored. Students study the management function of those tasks associated with the business end of development. The student will produce a 3D animation project.

Prerequisite: MGD 253. Contact Hours: 67.5.

MGD 258 - Web Design Production (3)

Stresses website development and usability issues, as well as, pre-production, production and post-production concepts. Students will prepare project evaluations, objectives and analysis reports, project budgets and time-lines, content outlines, storyboards, and flow charts. Students will also examine interactive interface design for several Web applications. Projects will vary from semester to semester.

Contact Hours: 67.5.

Recommended Preparation: MGD 141 (p. 366)

MGD 259 - Management and Production (3)

Examines development of multimedia from a production standpoint. The process of transforming conceptual designs into actual projects is explored. Students study the management function of those tasks associated with the business end of development. Teamwork is emphasized throughout the course.

Prerequisite: Permission of instructor. Contact Hours: 67.5.

MGD 261 - Director II (3)

Explores the interactive process within all areas of program design; immersive creations, courseware authoring, delivery techniques and instruction strategies. Students are introduced to advanced Lingo scripting, 3D object integration and Shockwave Multiuser Server to provide more expansive interactive capabilities.

Prerequisite: MGD 161. Contact Hours: 67.5.

MGD 264 - Digital Video Editing II (3)

Looks at the more complex and advanced techniques of digital video editing. Areas of editing such as masking, filtering, blue/green screening, track mattes, and image mattes will be examined. Students will produce a movie project in this class and discuss practical ways to distribute to various audiences.

Prerequisite: MGD 164. Contact Hours: 67.5.

MGD 266 - DVD Authoring (3)

Introduces students to all aspects of DVD authoring covering: source acquisition, DVD production, interface design, organization, management and appropriate DVD output solutions.

Contact Hours: 67.5.

Recommended Preparation: MGD 111 (p. 365) or instructor approval

MGD 267 - Game Design II (3)

Explores more advanced features of game design. Students examine such things as integration of mainline code, subroutines and interrupts into game structure. I/O structure, playtesting and distribution are emphasized.

Contact Hours: 67.5.

MGD 268 - Business for Creatives (3)

Presents a guide to freelance work and a study of business practices and procedures unique to commercial art including billing rates, client management, business forms, employee management, taxes, licenses, registration, bid processes and self-promotion. Course may include visits by professionals in the field and discussion of career opportunities and professional organizations.

Contact Hours: 67.5.

MGD 280 - Internship (2)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

Contact Hours: 90.

MGD 288 - Practicum (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 90.

MGD 289 - Capstone (1)

Focuses on demonstrated culmination of learning within a given program of study.

MOT - Medical Office Technology**MOT 110 - Medical Office Administration (4)**

Introduces the administrative duties specifically used in medical offices.

Prerequisite: ENG 121 and HPR 208. Courses may be taken concurrently.. Contact Hours: 60.

MOT 120 - Medical Office Financial Management (3)

Covers the practical uses of accounts and records with emphasis on accounting principles and analysis for use in a medical office.

Prerequisite: HPR 208 and CIS 118. Courses may be taken concurrently. Contact Hours: 45.

MOT 125 - Basic Medical Sciences I (3)

Teaches the anatomy and physiology, pathophysiology and drug therapy of the immune, musculoskeletal and digestive systems. A discussion of pediatric implications as they relate to clinical physiology will also be covered. The scope of the material is limited for the medical office technology personnel.

Prerequisite: HPR 178 or HPR 208. Courses may be taken concurrently.. Contact Hours: 45.

MOT 130 - Insurance, Billing and Coding (3)

Introduces outpatient coding with an ultimate goal to present a clear picture of medical procedures and services performed (CPT codes), correlating the diagnosis, symptom, complaint or condition (ICD-9 codes), thus establishing the medical necessity required for third-party reimbursement.

Contact Hours: 45.

Recommended Preparation: HPR 208 (p. 351) with a grade of "C" or better. MOT 120 (p. 369) and HPR 137 (p. 350) should be taken concurrently with this course or completed prior to taking this course.

MOT 132 - Medical Transcription I (4)

Provides basic knowledge, understanding and skills required to transcribe medical dictation with accuracy, clarity, and timeliness applying the principles of professional and ethical conduct.

Prerequisite: ENG 121 and HPR 208. Courses may be taken concurrently.. Contact Hours: 60.

MOT 133 - Basic Medical Sciences II (3)

Teaches the anatomy and physiology, pathophysiology and drug therapy of the cardiovascular, respiratory and dermatology systems. Students may take MOT 125 (p. 369), MOT 133 (p. 369) and MOT 135 (p. 369) in any order, but all three courses must be completed to meet the basic medical sciences requirement.

Prerequisite: MOT 125. Courses may be taken concurrently.. Contact Hours: 45.

MOT 135 - Basic Medical Sciences III (3)

Covers the anatomy and physiology, pathophysiology and drug therapy of the Renal, Reproductive, Neurological and Endocrine systems. Students may take MOT 125 (p. 369), MOT 133 (p. 369) and MOT 135 (p. 369) in any order, but all three courses must be completed to meet the basic medical sciences requirement.

Prerequisite: MOT 133. This course may be taken concurrently.. Contact Hours: 45.

MOT 136 - Introduction to Clinical Skills (2)

Provides hands-on experience with the basic clinical skills required for assisting with patient care. Delivers the theory behind each skill presented as well as proper technique for performing each skill. Includes knowledge and/or performance of blood-borne pathogens/Occupational Safety and Health Administration (OSHA) regulations, medical asepsis, procedural gloving, patient gowning, positioning and measurement of vital signs.

Contact Hours: 45.

MOT 138 - Medical Assisting Laboratory Skills (4)

Introduces the student to basic routine laboratory skills and techniques for collection, handling, and examination of laboratory specimens often encountered in the ambulatory care setting. Emphasizes hands-on experience.

Contact Hours: 75.

Recommended Preparation: BIO 106 (p. 306), HPR 106 (p. 350), HPR 208 (p. 351), MOT 136 (p. 369) and PSY 101 (p. 387), all with a grade of "C" or better. HPR 137 (p. 350), MOT 140 (p. 369), MOT 150 (p. 369) and MOT 183 (p. 370) should be taken concurrently with this course or completed prior to taking this course.

MOT 140 - Medical Assisting Clinical Skills (4)

Provides hands-on experience with the clinical skills required for assisting with patient care. Delivers the theory behind each skill presented as well as proper technique for performing each skill.

Contact Hours: 90.

Recommended Preparation: BIO 106 (p. 306), HPR 106 (p. 350), HPR 208 (p. 351), MOT 136 (p. 369) and PSY 101 (p. 387), all with a grade of "C" or better. HPR 137 (p. 350), MOT 140 (p. 369), MOT 150 (p. 369) and MOT 183 (p. 370) should be taken concurrently with this course or completed prior to taking this course.

MOT 150 - Pharmacology for Medical Assistants (3)

Provides an overview of pharmacology language, abbreviations, systems of measurement and conversions. The Controlled Substance Act, prescriptions, forms of medications, patient care applications, drug classifications/interactions, and safety in drug therapy and patient care are presented. Information regarding the measurement of medications, dosage calculations, routes of administration, and commonly prescribed drugs in the medical office is provided.

Contact Hours: 52.5 (30 lecture hours, 22.5 lab hours).

Recommended Preparation: BIO 106 (p. 306), HPR 106 (p. 350), and HPR 208 (p. 351) all with a grade of "C" or better. HPR 137 (p. 350) should be taken concurrently with this course or completed prior to taking this course. See the list of specialized courses on the first page of this course offerings section.

MOT 181 - Administrative Internship (2)

Provides supervised placement in a contracted facility for guided experience in the psychomotor, cognitive and affective learning domains acquired in an educational program. Positions are non-paid.

Contact Hours: 105 (15 lecture hours, 90 lab hours).

MOT 183 - Medical Assistant Internship (4)

Provides supervised placement in a contracted facility for guided experience in the application of knowledge and skill acquired in the classroom. The student assists with a variety of business and clinical procedures. Positions are non-paid due to CAAHEP requirement. Student must have permission by the program coordinator to begin internship. Positions are non-paid.

Contact Hours: 195 (15 lecture hours, 180 lab hours).

MOT 184 - Billing Specialist Internship (3)

Provides supervised placement in a contracted facility for guided experience and application of knowledge and skill acquired in the classroom. The student assists with a variety of business and billing procedures. Student must have permission by the program coordinator to begin internship. Positions are non-paid.

Contact Hours: 150 (15 lecture hours, 135 lab hours).

Recommended Preparation: Completion of all Billing Specialist coursework ACC 101 (p. 293), BIO 106 (p. 306), CIS 118 (p. 312), ENG 121, HPR 106 (p. 350), HPR 137 (p. 350), HPR 208 (p. 351), MOT 120 (p. 369) and MOT 130 (p. 369) all with a grade of "C" or better.

MOT 280 - Internship (4)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

MOT 289 - Capstone (1)

Emphasizes a synthesis of the information and skills that students learned throughout their medical office technology classes.

Prerequisite: MOT 181 or MOT 183 or MOT 184. Courses may be taken concurrently.. Contact Hours: 15.

MST - Massage Therapy

MST 106 - A & P for Massage Therapy (4)

Provides a general knowledge of the anatomy and physiology of the body systems with focus on the anatomy and physiology of the muscular and skeletal systems. This course is designed specifically for individuals specializing in massage therapy.

Contact Hours: 60.

MST 111 - Basic Massage Therapy (4)

Introduces theory and techniques of therapeutic massage, including understanding of physiological benefits of massage as well as proper body mechanics and appropriate draping. Focuses on basic strokes of Swedish massage. Students also learn techniques of seated massage.

Prerequisite: HHP 116 and acceptance into the Massage Therapy program. Contact Hours: 90.

Students must be accepted into the newest massage cohort and complete HHP 116 (p. 339) with a grade of "C" or better.

Recommended Preparation: MST 106 (p. 370) Anatomy & Physiology for Massage.

MST 113 - Professional Massages (3)

Continues the study of Integrative Therapeutic Massage techniques with emphasis on assessing and meeting client's needs. Students give massage in supervised in-class clinicals, applying appropriate therapeutic intervention.

Prerequisite: MST 111. Contact Hours: 67.5.

MST 184 - Clinical Massage I (2)

Applies skills in a clinical setting. Focuses on improvement of massage therapy skills, ethics, and communication.

Prerequisite: MST 111 may be taken at the same time as MST 184. Contact Hours: 90.

MST 216 - Pathology for Massage Therapy (3)

Focuses on basic knowledge of disease and injury to assist the massage therapist to promote healing, ease pain and discomfort, and avoid complications during therapy. With a broad perspective of pathology and specific pathophysiology of diseases contributing to the need for massage therapy, this course provides the foundational science for safe practice. Applies skills in a clinical setting.

Prerequisite: HHP 208 and HPR 117. HPR 117 may be taken at the same time as MST 216. Contact Hours: 45.

MST 284 - Clinical Massage II (2)

Provides an application of massage therapy skills in a clinical setting. This course focuses on improvement of techniques, communication with clients and other health professionals as well as documentation of massage sessions.

Prerequisite: MST 184. Contact Hours: 90.

MTE - Manufacturing Technology

MTE 101 - Introduction to Manufacturing (3)

Gives students a broad understanding of manufacturing and the role of the manufacturing technician. Students learn how manufacturing is important to Colorado and the U.S. Topics covered include manufacturing concepts, principles and processes, cost elements, tools and techniques, safety, current trends and manufacturing in the future.

Contact Hours: 45.

MTE 105 - Safety for Manufacturing Environments (1)

Introduces federal and state regulations, industrial practices, and accident investigation techniques. Covers hazard communication standard, lockout/tagout procedures, eye safety, lifting techniques, electrical safety, stored energy safety, personal protective equipment, safety program development and monitoring, and accident investigation techniques. Serves as the prerequisite for all Advanced Technology Center programs.

Contact Hours: 15.

MTE 106 - Print Reading for Manufacturing (3)

Instructs students in reading and understanding industrial prints. This course covers basic drafting and print standards, fundamentals of shape description, fundamentals of size description and annotation, industrial drawing types, and specialized parts and prints. Symbol interpretation, tolerancing and dimensioning standards are also covered.

Contact Hours: 45.

MTE 110 - Applied Communication & Teamwork in Industry (3)

Provides the student with an in-depth focus on the fundamental concepts and approaches required by industry to establish strong comprehensive and recognized skills in the areas of critical thinking, emotional intelligence, team dynamics, leadership roles, conflict resolution and results oriented communication skills. This course is taught from a contextualized format.

Contact Hours: 45.

MTE 125 - Statistical Process Control (3)

Expose students to the classical concepts of quality control in a style and depth that should be acquired by all employees of the process industry. Discuss and use quality management philosophies and Statistical Process Control tools and charts. Demonstrate and use employee involvement processes.

Prerequisite: MAT 108 or higher.. Contact Hours: 45.

MTE 130 - Metrology (3)

Exposes the student to the principles of dimensional metrology. Students will learn how to use common measuring instruments relating to state-of-the-art manufacturing environments. Students will also learn the importance of Quality Control, TQM and SPC processes as they relate to manufacturing environments. Use of a coordinate measuring machine will be delivered.

Contact Hours: 67.5.

MTE 135 - Lean Six Sigma (4)

Exposes students to the Lean Six Sigma DMAIC (Define, Measure, Analyze, Improve, Control) improvement approach along with statistical and lean tools used in industry.

Prerequisite: MAT 108. Contact Hours: 90.

MTE 238 - Fluid Power Control (3)

Introduces fluid power application in industry and various types of industrial control devices used in modern manufacturing equipment and machinery. Enables the student to produce the graphics required to incorporate these items into a mechanical design.

Contact Hours: 67.5.

MTE 244 - Lean Manufacturing Practices and Processes (3)

Provides a study of Lean Manufacturing. The students study and develop in the lab the following lean concepts/methods: lean philosophy, fundamental wastes, defining value, five S, value stream identification, process rationalization, continuous process improvement, inventory management optimization model, value stream mapping, creating process flows, cellular manufacturing, pull vs. push systems, just-in-time, kanban systems, standardized work, jidoka, fail-safing, quick change/setup reduction methods, SCM cycle time reduction, and VRM.

Prerequisite: MTE 110. Contact Hours: 45.

See the list of Specialized Manufacturing Technology Courses on the first page of this Course Offerings section.

MTE 280 - Internship: Manufacturing (1)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate

supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 45.

MTE 289 - Manufacturing Capstone (1)

Provides a demonstrated culmination of learning within a given program of study.

Contact Hours: 15.

MUS - Music**MUS 100 - Music Theory Fundamentals I (3)**

Introduces the basics of music theory. Course designed to help the beginning music student, or those students with limited background in music theory, study the basic elements of music. Topics include notation, rhythm, scales, key signatures, intervals, chords, beginning level melodic and rhythm dictation, ear-training and sight singing skills.

Contact Hours: 45.

MUS 101 - Music Theory Fundamentals II (3)

Continues the introduction of basics of music theory and builds upon skills developed in MUS 100. Course designed to help the beginning music student, or those students with limited background in music theory, study the basic elements of music, including notation, rhythm, scales, key signatures, intervals, and chords. Course continues to develop beginning level melodic and rhythm dictation, ear-training and sight singing skills.

Contact Hours: 45.

Recommended Preparation: MUS 100.

MUS 106 - Songwriting (3)

Examines the various processes and styles of songwriting and offers techniques and ideas for creating songs ranging from functional to original. Students will explore the common factors in all styles of songwriting, and use them to bring out creative song ideas whether they have written songs before or have just always wanted to see if they could. A basic knowledge of music reading for any instrument and elementary music theory is recommended, but not required.

Contact Hours: 45.

Recommended Preparation: MUS 100.

MUS 110 - Music Theory I (3)

Presents music fundamentals, diatonic four-part harmony, analysis, ear training, and keyboard harmony.

Corequisite: MUS 112. Contact Hours: 45.

Recommended Preparation: MUS 100.

MUS 111 - Music Theory II (3)

Presents chromatic four-part harmony, analysis, ear training, and keyboard harmony.

Prerequisite: MUS 110 and MUS 112. Corequisite: MUS 113.

Contact Hours: 45.

MUS 112 - Ear Training/Sight-Singing I Lab (1)

Presents exercises in sight-singing with melodic and rhythmic dictation.

Corequisite: MUS 110. Contact Hours: 15.

Recommended Preparation: MUS 100

MUS 113 - Ear Training/Sight-Singing II Lab (1)

Presents exercises in sight-singing with melodic and rhythmic dictation.

Prerequisite: MUS 112. Corequisite: MUS 111. Contact Hours: 15.

MUS 120 - Music Appreciation (3)

Covers the basic materials of music, musical forms, media, genres and musical periods. Emphasizes the development of tools for intelligent listening and appreciation.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

MUS 121 - Music History Medieval to Classical (3)

Studies the various periods of music history with regard to the composers, aesthetics, forms, and genres of each period. Considers music from the Middle Ages through the Classical period.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

MUS 122 - Music History Early Romantic to Present (3)

Studies the various periods of music history with regard to the composers, aesthetics, forms, and genres of each period. Considers music from the early Romantic period to the present.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

MUS 123 - Survey of World Music (3)

Provides an overview of non-Western music from around the world; provides basic listening skills and the historical/cultural context for a variety of world music styles to enable an understanding and appreciation of non-Western musical expression.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

MUS 125 - History of Jazz Music (3)

Provides a survey of basic materials of music and the forms, media, genres, historical, and cultural style periods of jazz. It emphasizes the development of tools for intelligent listening and appreciation.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

MUS 126 - History of Rock and Pop (3)

Provides a survey of basic materials of music, musical forms, media, genres, and musical periods of Rock and Pop music. It emphasizes the development of tools for intelligent listening and appreciation.

Contact Hours: 45.

MUS 131 - Music Class I (Guitar, Piano or Voice) (2)

Applies the fundamentals of music to the voice or specific musical instruments. This course also introduces basic techniques, repertoire, and sight-reading.

Contact Hours: 30.

MUS 132 - Music Class II (Guitar, Piano or Voice) (2)

Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading.

Contact Hours: 30.

Recommended Preparation: MUS 131 (p. 372).

MUS 141 - Private Instruction I (1-2)

Offers private instruction consisting of a 30- or 60-minute lesson per week. Participation in a one student performance is required at least once each term.

Contact Hours: 7.5-15.

MUS 142 - Private Instruction II (1-2)

Offers private instruction consisting of a 30- or 60-minute lesson per week. Participation in a student performance is required at least once each term.

Prerequisite: MUS 141. Contact Hours: 7.5-15.

MUS 151 - Ensemble I (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo) (1)

Rehearses and performs various types of musical literature.

Contact Hours: 37.5.

MUS 152 - Ensemble II (Orchestra, Chamber Music, Chamber Choir, Vocal Jazz, Jazz Combo) (1)

Rehearses and performs various types of musical literature.

Prerequisite: MUS 151. Contact Hours: 37.5.

MUS 161 - Computer Music Applications I (3)

Introduces students to the Digital Audio Workstation, current practices in Musical Instrument Digital Interface (MIDI) instruments, MIDI sequencing, MIDI editing, and music notation programs.

Contact Hours: 45.

MUS 162 - Computer Music Applications II (3)

Designed to build on MUS 161. Course will further explore the Digital Audio Work (DAW) environment. Advanced music notation software techniques, creating unique synthesizer timbres, and audio/video synchronization will be among the topics explored.

Contact Hours: 45.

Recommended Preparation: MUS 161.

MUS 163 - Music Audio Production I (3)

Designed to give students with a strong interest in music a basic understanding of the Music Production process. This includes the basic knowledge of audio/music production, the fundamentals of sound and microphones, digital and analog technology, recording, and mixing.

Contact Hours: 45.

MUS 164 - Music Audio Production II (3)

Designed to build on the concepts of MUS 163 (p. 372). This class will be more project oriented with emphasis on using the techniques discussed in MUS 163. An emphasis on critical listening through each phase of the recording process will be made.

Prerequisite: MUS 163. Contact Hours: 45.

MUS 167 - Music Business I (3)

Provides a foundational overview of the current, historic, and projected business practices in the music entertainment industry. Course provides opportunities to gain an understanding of the music entertainment industry including copyright, labels, publishing, licensing, distribution, marketing, finance, legal considerations, and current and future opportunities.

Contact Hours: 45.

MUS 168 - Audio Post Production I (3)

Explores the steps in audio production following initial sound capture and overdubbing of sound. Key concepts include sound design, mixing, and addition of effects. Integration of music with picture is also discussed, and key concepts such as automatic dialogue replacement, foley, score, and voiceover recording are covered.

Contact Hours: 45.

Recommended Preparation: MUS 161, MUS 162, MUS 163 OR MUS 164

MUS 184 - Internship (2)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Prerequisite: No Prerequisites or Recommended Preparation..
Contact Hours: 90.

MUS 210 - Music Theory III (3)

Continues study of four-part music, including extended harmonic progressions of 9th, 11th, 13th chords, extended alteration, non-chord tones, modulation and compositions.

Prerequisite: MUS 111 and MUS 113. Corequisite: MUS 212.
Contact Hours: 45.

MUS 211 - Music Theory IV (3)

Offers a continuation of chromatic harmony, analysis, ear-training, and keyboard harmony. New topics will include Impressionism and 20th Century styles of composition.

Prerequisite: MUS 210 and MUS 212. Corequisite: MUS 213.
Contact Hours: 45.

MUS 212 - Advanced Ear Training/Sight-Singing I Lab (1)

Presents modulating and chromatic exercises in sight-singing and dictation. Dictation includes four-part writing.

Prerequisite: MUS 111 and MUS 113. Corequisite: MUS 210.
Contact Hours: 15.

MUS 213 - Advanced Ear Training/Sight-Singing II Lab (1)

Presents modulating and chromatic exercises in sight-singing and dictation. Dictation includes four-part writing.

Prerequisite: MUS 210 and MUS 212. Corequisite: MUS 211.
Contact Hours: 15.

MUS 241 - Private Instruction I (1-2)

Offers private instruction consisting of a 30- or 60-minute lesson per week. Participation in a student performance is required at least once each term.

Prerequisite: Permission of instructor. Contact Hours: 7.5-15.

MUS 242 - Private Instruction II (1-2)

Offers private instruction consisting of a 30- or 60-minute lesson per week. Participation in a student performance is required at least once each term.

Prerequisite: Permission of instructor. Contact Hours: 7.5-15.

MUS 251 - Ensemble I (1)

Rehearses and performs various types of musical literature. Second year, first term.

Contact Hours: 37.5.

MUS 252 - Ensemble II (1)

Rehearses and performs various types of musical literature. Second year, second term.

Contact Hours: 37.5.

MUS 261 - Advanced Music Audio Production (3)

Designed to build upon MUS 163 and MUS 164 to give a well-structured and advanced knowledge of the various aspects of recording and production with music in a live and studio setting. This includes a working knowledge of microphones, audio mixing boards-analog and digital, recorders, analog and digital, mixing, sound, equalization and the fundamentals of acoustics in studio design.

Contact Hours: 45.

Recommended Preparation: MUS 161

MUS 265 - Live Audio Engineering (3)

Teaches the concepts and technical skills of live sound reinforcement. Topics include basic audio concepts, the operation and interconnection of a sound system, signal processing, and live sound recording. Students will participate in special class projects and live sound sessions.

Prerequisite: MUS 163. Contact Hours: 45.

MUS 284 - Internship (2)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Prerequisite: No Prerequisites or Recommended Preparation.
Contact Hours: 90.

MUS 289 - Capstone (2)

Provides a demonstrated culmination of learning within a given program of study.

Contact Hours: 30.

NRE - Natural Resources

NRE 100 - Foundations of Forestry (3)

Presents the principles of forest science, dendrology, forest fire behavior, and silviculture principles.

Contact Hours: 52.5.

NRE 110 - Forestry Field Research (3)

Introduces research techniques to manage land for a variety of objectives. These include the improvement of wildlife habitat and forest diversity, the prevention of wildfire and insect and disease epidemics, and the scheduling of a sustainable wood supply.

Contact Hours: 60.

NRE 114 - Colorado Wildlife (3)

Studies the wildlife and management of wildlife in Colorado. Explores the vast natural environments of Colorado animals. Field activities to various locations are included to enhance the students' understanding of Colorado native birds, insects, reptiles, amphibians, mammals and fish.

Contact Hours: 67.5.

NRE 121 - Introduction to Hydrology (3)

Introduces the movement of ground and surface water. Basic flow equations and graphs are used.

Contact Hours: 52.5.

Recommended Preparation: MAT 107 or higher

NRE 200 - Ecology: Field Study (3)

Recognizes the importance of ecology in local, regional and global environments. Students travel to different types of ecosystems, study the biotic organisms, complex interactions and ways to protect these valuable habitats. Must have instructor permission to register.

Contact Hours: 90.

NRE 204 - Range Management and Restoration (4)

Covers management of rangelands, important plants, rangeland communities, and restoration practices to restore disturbed ecosystems. Students will learn field measurement techniques of ecosystem components.

Contact Hours: 82.5.

NRE 205 - Wildlife and Fisheries Management Principles (3)

Covers theory, philosophy, and applications for study and management of wildlife and fisheries resources. field and laboratory methods used in wildlife management also covered.

Contact Hours: 52.5.

NRE 215 - Fire Ecology (3)

Allows students to study the ecological effects of fire. Current information and field experience will be emphasized.

Contact Hours: 52.5.

NRE 220 - Forest Harvesting (2)

Design environmentally, socially and economically sound forest harvest practices which is a fundamental requirement of sustainable forestry. Good forest management requires appropriate planning, implementing, monitoring, and evaluating forest harvest operations. Students will learn forest harvesting methods and approaches for meeting sustainable timber

utilization objectives while also protecting critical soil, water, and other forest resources.

Contact Hours: 45.

Recommended Preparation: NRE 100 (p. 374) and NRE 110 (p. 374)

NRE 225 - Environmental Education (3)

Introduces students to the history, legislation, principles, and goals of environmental literacy and education. Students will apply this understanding by creating, presenting and evaluating an environmental lesson and environmental education project.

Contact Hours: 45.

NRE 230 - Wildlife Law Enforcement (3)

Provides an overview of the Wildlife Laws and regulations in the United States. Students examine the many methods of wildlife management, law enforcement, and forensics in this field.

Contact Hours: 45.

NRE 232 - Backcountry Travel for Natural Resource Professionals (2)

Designed for the natural resource professional or those wishing to pursue a career as a natural resource professional, this course provides practical experience in navigation and other important aspects of back country travel for the natural resource officer, biologist, and researcher.

Contact Hours: 45.

NRE 245 - Avian Conservation/Ornithology (3)

Offers the study of ornithology and the conservation practices associated with management of wild bird populations and their habitats. Current information and field experience will be emphasized.

Contact Hours: 53.

NRE 265 - Wilderness Education (3)

Introduces students to management and awareness of unique areas. Native American studies and survival in back country are included in this course. Students will participate in a service project and a wilderness overnight as part of this course.

Contact Hours: 52.5.

NRE 278 - Seminar (1-3)

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

Contact Hours: 45.

NRE 280 - Internship (3*)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

NRE 285 - Independent Study (1-6)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor. Students are reminded that no more than six (6) credit hours of independent study may be applied to any associate degree program.

NUA - Nurse Aide

NUA 101 - Nurse Aide Health Care Skills (4)

Prepares the student to perform the fundamental skills of the nurse aide. Basic nursing skills, communication skills, restorative services, personal care skills, safety and emergency care issues are covered. Includes knowledge and/or principles of asepsis, OSHA and HIPAA regulations. Ethical behaviors, cultural sensitivity and principles of mental health will be addressed, as well as patient/resident rights.

Prerequisite: Completed CCR 092 or place into CCR 093 or CCR 094. Corequisite: NUA 170. Contact Hours: 75.

Students should be 17 years old to take NUA training

NUA 170 - Nurse Aide Clinical Experience (1)

Applies knowledge and skill gained from NUA 101 to patient care.

Prerequisite: Passing specific FRCC background check, immunizations to meet OSHA requirements. Corequisite: Passing NUA 101 with a "C" or better. Contact Hours: 30.

NUA 171 - Advanced Nurse Aide Clinical (1)

Expands and applies knowledge and skill gained in NUA 170 (p. 375) to client care.

Prerequisite: NUA 101 and NUA 170. Corequisite: NUA 174. Contact Hours: 30.

NUA 174 - Acute Care Nurse Aide Skills (1)

Explores the role of the acute care nurse aide in communication, safety issues and advanced nurse aide skills. Knowledge will be gained regarding patient findings to report to the nurse and will be proficient in performance of advanced acute care nurse aide skills. Caring for patients going to surgery or for special procedures will be discussed and patient rights in the acute care setting will be explored.

Corequisite: NUA 171. Contact Hours: 22.5.

NUR - Nursing**NUR 101 - Pharmacology Calculations (1)**

Prepares nurse to provide safe, patient-centered nursing care related to dosage calculations within the respective scope of practice. This course introduces critical thinking applied to dosage calculations and communication used when interacting with patients and members of the healthcare team related to various aspects of safe administration of medications. Information technology used to document medications administered and patient technology used to deliver medications are also practiced.

Prerequisite: ENG 121, BIO 106, or BIO 201 and BIO 202 and acceptance into the Practical Nursing Program. Contact Hours: 15.

Students must enroll in NUR 101 (p. 375), NUR 102 (p. 375), NUR 103 (p. 375), NUR 105 (p. 375), NUR 110 (p. 376), NUR 116 (p. 376) and NUR 170 (p. 377) at the same time.

NUR 102 - Alterations in Adult Health I (4)

Provides acquisition of basic nursing theory, communication, collaboration, and critical thinking necessary for safe, patient-centered nursing care to diverse adult patients experiencing common health alterations requiring medical/surgical interventions. The course introduces Practical Nursing and

incorporates the legal and ethical responsibilities of the Practical Nurse.

Prerequisite: ENG 121, BIO 106, or BIO 201 and BIO 202 and acceptance into the Practical Nursing Program. Contact Hours: 60.

Students must enroll in NUR 101 (p. 375), NUR 102 (p. 375), NUR 103 (p. 375), NUR 105 (p. 375), NUR 110 (p. 376), NUR 116 (p. 376) and NUR 170 (p. 377) at the same time.

NUR 103 - Basic Health Assessment for the Practical Nurse (1)

Provides the theoretical knowledge and psychomotor skills used by the Practical Nurse performing a basic assessment of health status of stable adult patients with predictable outcomes, including collecting, reporting, and recording objective/subjective data, observing conditions or changes in condition, and differentiating normal from abnormal findings. Principles of therapeutic communication and patient teaching are included. Includes practice collecting basic assessment data in the nursing skills laboratory.

Prerequisite: ENG 121, BIO 106, or BIO 201 and BIO 202 and acceptance into the Practical Nurse Program. Contact Hours: 15.

Students must enroll in NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170 at the same time.

NUR 104 - Alterations in Adult Health II (5)

Apply and expand the knowledge and skills learned in Adult Health I to provide acquisition of basic nursing theory, communication, collaboration and critical thinking necessary for safe, patient-centered nursing care for diverse adult patients with conditions that are stable and predictable. The course focuses on care of patients experiencing common health alterations requiring medical/surgical interventions. The course incorporates legal and ethical responsibilities of the Practical Nurse in the care of adults.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 75.

Students must enroll in NUR 104 (p. 375), NUR 111 (p. 376), NUR 113 (p. 376), NUR 114 (p. 376), NUR 115 (p. 376), NUR 171 (p. 377), NUR 172 (p. 377) and NUR 173 (p. 377)

at the same time.

NUR 105 - Practical Nursing Arts and Skills (6)

Employs basic nursing theory and applies that theory and theory from other co-requisite nursing courses to the performance of nursing skills. Communication, collaboration, and critical thinking necessary for safe, patient-centered nursing care are applied to the care of patients across the lifespan with stable and predictable outcomes. The course applies guidelines related to the professional, legal, and ethical scope of practice of the Practical Nurse, including demonstrating safe performance of all psychomotor skills.

Prerequisite: ENG 121, BIO 106, or BIO 201 and BIO 202 and acceptance into the Practical Nursing Program. Contact Hours: 120.

Students must enroll in NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170 at the same time.

NUR 106 - Medical Surgical Nursing Concepts (7)

NUR 106 is the first medical/surgical nursing course. Building on NUR 109, this course provides for the acquisition of basic

medical/surgical nursing theory, as well as application of mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, patient-centered care to a developmentally and culturally diverse adult patient population experiencing various medical/surgical interventions. Incorporates evidence-based practice, quality improvement, professional standards, and legal and ethical responsibilities of the nurse. Application of knowledge and skills occurs in the nursing skills laboratory and a variety of clinical settings.

Prerequisite: NUR 109 and NUR 112 and MAT 103. Contact Hours: 213 (51 lecture hours, 13.5 lab hours and 148.5 clinical hours).

Recommended Preparation: HPR 108 (p. 350) or HWE 100 (p. 353).

NUR 109 - Fundamentals of Nursing (6)

Nursing 109 introduces the fundamental concepts necessary for safe, patient-centered nursing care to a diverse patient population while integrating legal and ethical responsibilities of the nurse. Introduces caring, critical thinking, the nursing process, quality improvement, and communication used when interacting with patients and members of the interdisciplinary team, and relates evidence-based nursing practice. Application of knowledge and skills occurs in the nursing skills laboratory and a variety of clinical settings providing care to stable patients with common health alternations.

Contact Hours: 210 (30 lecture hours, 90 lab hours and 90 clinical hours).

NUR 110 - Pharmacology for Practical Nursing (3)

Categorizes basic principles of pharmacology, including major drug classifications using prototype drugs, principles of medication administration including best practices for safe, quality, and patient-centered care. Discusses the legal and ethical responsibilities of the Practical Nurse related to medication administration. Application of this content is used throughout the program nursing courses.

Prerequisite: ENG 121, BIO 106, or BIO 201 and BIO 202 and acceptance into the Practical Nursing Program. Contact Hours: 45.

Students must enroll in NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170 at the same time.

NUR 111 - Advancement into Practical Nursing (1)

Demonstrates the roles and responsibilities of the Practical Nurse including scope of practice, supervision, assignment, and leadership skills. Emphasis on accountability, lifelong learning, perspectives in healthcare, and career and job readiness skills for entry level nursing practice.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 15.

Students must enroll in NUR 104, NUR 111, NUR 113, NUR 114, NUR 115, NUR 171, NUR 172 and NUR 173 at the same time.

NUR 112 - Basic Concepts of Pharmacology (2)

Overview of the basic principles of pharmacology including major drug classifications and prototypes of commonly used medications. Principles of medication administration include

aspects of best practice for safe, quality, patient-centered care. Central points include safety, quality improvement factors in the administration of medications, patient teaching, and variations encountered when administering medications to diverse patient populations across the lifespan.

Contact Hours: 30 (30 lecture hours).

NUR 113 - Basic Concepts of Maternal-Newborn Nursing (2)

Applies and expands the knowledge and skills learned in the previous and concurrent courses to provide the acquisition of basic nursing theory, communication, collaboration, and critical thinking necessary for safe, patient-centered nursing care to childbearing families. The course incorporates the legal and ethical responsibilities of the Practical Nurse in the care of childbearing families.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 30.

Students must enroll in NUR 104, NUR 111, NUR 113, NUR 114, NUR 115, NUR 171, NUR 172 and NUR 173 at the same time.

NUR 114 - Basic Concepts of Pediatric Nursing (2)

Applies and expands on the knowledge and skills learned in the previous and concurrent courses to provide for the acquisition of basic nursing theory, communication, collaboration, and critical thinking necessary for safe, patient-centered nursing care to children and their families. The course incorporates the legal and ethical responsibilities of the Practical Nurse in the care of children.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 30.

Students must enroll in NUR 104, NUR 111, NUR 113, NUR 114, NUR 115, NUR 171, NUR 172 and NUR 173 at the same time.

NUR 115 - Basic Concepts of Mental Health Nursing (1)

Applies knowledge of basic nursing theory, communication, collaboration, and critical thinking necessary for safe, patient-centered nursing care to diverse patients at various levels of mental health promotion and mental illness management. The course incorporates the legal and ethical responsibilities of the Practical Nurse in the care of patients with mental health issues.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 15.

Students must enroll in NUR 104, NUR 111, NUR 113, NUR 114, NUR 115, NUR 171, NUR 172 and NUR 173 at the same time.

NUR 116 - Basic Concepts of Geriatric Nursing (1)

Applies and expands the knowledge and skills learned in the previous and concurrent courses to provide for the acquisition of basic nursing theory, communication, collaboration, and critical thinking necessary for safe, patient-centered nursing care to older adults. The course incorporates the legal and ethical responsibilities of the Practical Nurse in the care of older adults.

Prerequisite: ENG 121, BIO 106, or BIO 201 and BIO 202 and acceptance into the Practical Nursing Program. Contact Hours: 15.

Students must enroll in NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170 at the same time.

NUR 121 - Success in Nursing School (1)

Addresses success strategies for beginning nursing students. Will enable the student to identify and practice strategies to optimize success in nursing school, including identifying stressors and mobilizing personal resources, study and test taking strategies using critical thinking skills, developing familiarity with medical terminology, exploring the evolving roles of the professional nurse. Additionally, explores the concepts of professionalism and collaboration.

Corequisite: NUR 109. Contact Hours: 15.

NUR 150 - Maternal Child Nursing (6)

Nursing 150 provides for the acquisition of maternal/child nursing theory, as well as application of mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, family-centered nursing care to childbearing families and children that is developmentally and culturally appropriate. Incorporates evidence-based practice, standards of practice, quality improvement, and legal and ethical responsibilities of the nurse. Application of knowledge and skills occurs in the nursing skills laboratory and in a variety of maternal/child and pediatric clinical settings.

Prerequisite: NUR 109 and NUR 112 and MAT 103. Contact Hours: 171 (49.5 lecture hours, 31.5 lab hours and 90 clinical hours).

Recommended Preparation: HPR 108 (p. 350) or HWE 100 (p. 353).

NUR 169 - Transition into Practical Nursing (4)

Facilitates the transition into the role of the practical nurse with emphasis on distinguishing the defined practical nurse scope of practice related to clinical practice, communication, nursing process, ethical/legal issues, and leadership skills. The student practices in the role of the practical nurse in the associated clinical experience.

Prerequisite: Completion of preceding nursing course work with a grade of "C" or better.. Contact Hours: 120 (30 lecture hours, 90 clinical hours).

NUR 170 - Clinical I (3)

Offers the clinical practicum to apply the related nursing theory.

Prerequisite: ENG 121, BIO 106, or BIO 201 and BIO 202 and acceptance into the Practical Nursing Program. Contact Hours: 135.

Students must enroll in NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170 at the same time.

NUR 171 - Clinical II (2)

Offers the clinical practicum to apply the related nursing theory.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 90.

Students must enroll in NUR 104, NUR 111, NUR 113, NUR 114, NUR 115, NUR 171, NUR 172 and NUR 173 at the same time.

NUR 172 - Clinical III (1)

Offers the clinical practicum to apply the related nursing theory.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 45.

Students must enroll in NUR 104, NUR 111, NUR 113, NUR 114, NUR 115, NUR 171, NUR 172 and NUR 173 at the same time.

NUR 173 - Clinical IV (3)

Offers the clinical practicum to apply the related nursing theory.

Prerequisite: NUR 101, NUR 102, NUR 103, NUR 105, NUR 110, NUR 116 and NUR 170. Contact Hours: 135.

Students must enroll in NUR 104, NUR 111, NUR 113, NUR 114, NUR 115, NUR 171, NUR 172 and NUR 173 at the same time.

NUR 185 - Independent Study (0.5-6)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

Prerequisite: Completion of preceding nursing course work with a grade of "C" or better.. Contact Hours: 30 contact hours per credit.

NUR 189 - Transition from Licensed Practical Nurse to Associate Degree Nursing Student (4)

Focuses on assisting the Licensed Practical Nurse (LPN) to transition into a new role as an Associate Degree Nursing Student (ADN). Emphasis will be placed on roles and responsibilities of the ADN, nursing process, critical thinking, legal and ethical issues and nursing practice issues related to specialized skills and the care of special populations. The clinical focus will be care of pediatric and obstetric clients.

Prerequisite: Completion of preceding nursing course work with a grade of "C" or better.. Contact Hours: 90 (30 lecture hours, 30 lab hours, 30 clinical hours).

NUR 206 - Advanced Concepts of M/S Nursing I (6.5)

NUR 206 builds on NUR 106 (p. 375) focusing on advanced concepts of nursing applied to care of patients with high acuity medical/surgical conditions. Builds on medical/surgical nursing theory, mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, patient-centered nursing care to developmentally and culturally diverse adult patients. Incorporates evidence-based practice, quality improvement, professional standards, and legal and ethical responsibilities of the professional nurse as applied in a variety of healthcare settings. Application of knowledge and skills occurs in the nursing skills laboratory and in a variety of clinical settings.

Contact Hours: 202.5 (45 lecture hours, 22.5 lab hours, 135 clinical hours).

Recommended Preparation: Completion of preceding nursing coursework with a grade of "C" or above including BIO 216 (p. 307).

NUR 211 - Psychiatric-Mental Health Nursing (4)

Develops concepts of psychosocial integrity and emphasizes the function and responsibility of nursing in promoting and maintaining mental health of individuals and families. This course emphasizes communication and caring through the application of the therapeutic relationship and nursing process in the care and treatment of common psychiatric clinical conditions/disorders.

Contact Hours: 99 (2.7/40.5 theory hours; 1.3/58.5 clinical hours).

Recommended Preparation: Completion of preceeding nursing coursework with a grade of "C" or above, including BIO 216 (p. 307).

NUR 212 - Pharmacology (2)

Builds on previously introduced pharmacological concepts and applies that learning to pharmacologic therapy to provide safe, quality, evidence-based nursing care to patients with complex healthcare needs. Focuses on safety and quality improvement factors in the administration of medications within a variety of healthcare systems. Advanced dosage calculations included.

Contact Hours: 30.

Recommended Preparation: Completion of preceeding nursing coursework with a grade of "C" or above, including BIO 216 (p. 307).

NUR 216 - Advanced Concepts of M/S Nursing II (5)

Nursing 216 is a continuation of Nursing 206, focusing on complex medical/surgical conditions of the high acuity patient. Builds on medical/surgical nursing theory, mental health concepts, communication, collaboration, caring, and critical thinking/clinical reasoning necessary for safe, patient-centered nursing care to developmentally and culturally diverse adult patients experiencing high acuity medical/surgical conditions. Incorporates evidence-based practice, quality improvement, professional standards, and legal and ethical responsibilities of the professional nurse as applied in the acute care and high acuity settings. Application of knowledge and skills occurs in a variety of clinical settings.

Prerequisite: Completion of preceding nursing coursework with a grade of C or above. Contact Hours: 156 (34.5 lecture hours, 121.5 clinical hours).

NUR 230 - Transition to Professional Nursing Practice (4)

Nursing 230 is a seminar and practice capstone course that provides an integrative experience applying all dimensions of the professional nurse in the care of diverse patient populations across a variety of healthcare settings. All major concepts of the nursing program are addressed. Leadership and the management of multiple patients are emphasized. Application of knowledge and skills occurs in the clinical setting to facilitate an effective transition from student to registered professional nurse.

Prerequisite: Completion of preceding nursing coursework with a grade of C or above. Contact Hours: 132 (24 lecture hours, 108 clinical hours).

NUR 254 - RN Licensing Exam Preparation (1.5)

Will provide a review of the RN NCLEX test plan content areas, review of NCLEX style question formats and the Computerized Adaptive Testing method. Students will review study options for preparing for the RN NCLEX exam and have the opportunity to develop a customized preparation plan for success on the RN NCLEX for Professional Nursing Licensure.

Corequisite: NUR 216 or NUR 230.

OSH - Occupational Safety Technician

OSH 127 - 10-HR Construction Industry Standards (1)

Provides a 10-Hour Occupational Safety and Health Administration (OSHA) certification course for the construction industry and participants will review the current OSHA standards contained in 29 Code of Federal Regulations (CFR) 1926. Participants that complete the course will receive a certificate of completion from the United States Department of Labor, Occupational Safety and Health Administration. The course is taught by instructors certified by the Occupational Safety and Health Administration.

Contact Hours: 22.5.

OTE - Optics Technology

OTE 100 - Fundamentals of Lights & Lasers (4)

Introduces the fundamentals of light, optics and lasers. This course covers the nature and properties of light (such as energy, amplitude, wavelength, frequency, period, phase, propagation). This course also addresses geometrical optics (reflection, refraction, imaging, thin lens formula, lens maker's equation), wave optics (interference, diffraction, polarization), and the basic principles and practical applications of lasers.

Contact Hours: 90.

OTE 101 - Quality Assurance of Precision Optics (3)

Introduces precision optics fabrication, as well as quality assurance practices required to identify, inspect, and measure optical components. Hands-on labs will provide the opportunity to apply concepts covered in the course.

Corequisite: MAT 108. Contact Hours: 67.5.

OTE 102 - Intro to Manufacturing Technology (GDT/SPC/Print Reading/Lean) (3)

Evaluates topics and practices central to the optics manufacturing industry. This course covers major topics in optics manufacturing technology including reading optical engineering drawings/prints, lean manufacturing, statistical process control, and geometric dimensioning and tolerancing for optics, focusing on the unique practices and toolsets within each.

Contact Hours: 67.5.

OTE 103 - Laboratory Operations (3)

Evaluates topics and practices central to working in laboratory and cleanroom environments within the optics manufacturing industry, with emphasis on manufacturing, integration, and testing. Major topics include lab safety, lab organization and operations, and laboratory soft skills. Specific subjects within each of these topics are examined independently, focusing on the unique practices and toolsets within each and their applicability to lab operations in optics manufacturing.

Prerequisite: MAT 108. Contact Hours: 67.5.

OTE 104 - Optics: Electronic Instrumentation (3)

Introduces the basic electronic instrumentation skills needed when working in optics and photonic labs and related fields. Covers the basic components used in AC and DC electronics, optical detectors and photonic 'circuits', common instruments and interfaces used in test and troubleshooting of photonic systems, and basic data analysis tools and techniques.

Contact Hours: 67.5.

OTE 105 - Fabrication Methods for Precision Optics (4)

Provides a basic understanding of the methodology and processes used in the fabrication of precision optical elements. Emphasis is placed on the selection and use of tooling, materials and equipment used in the manufacturing process with specific examples.

Prerequisite: MAT 108. Contact Hours: 90.

OTE 130 - Metrology of Optical Systems (3)

Provides students with a basic understanding of the optical system measurement and testing techniques used to determine overall quality of an optical system's performance. It presents a comprehensive review of measurement practices essential to ensuring the quality of optical systems.

Prerequisite: MAT 108. Contact Hours: 67.5.

OTE 160 - Advanced Topics in Optics & Photonics (3)

Provides an understanding of thin film optical coatings and fiber optics. Topics include the theory of propagation of light through optical thin films, use of modern design tools, overview of manufacturing techniques, instrumentation, technologies and equipment for thin film deposition, applications of thin film optical coatings, the theory of propagation of light through optical fibers, applications of fiber optics, handling of optical fiber and fiber components, and basic manufacturing concepts for fiber optics and components.

Contact Hours: 67.5.

OUT - Outdoor Studies**OUT 126 - Mountain Biking (1)**

Introduces basic mountain biking skills and techniques. The primary emphasis is to gain an understanding of the basic principles of mountain biking. Students develop skills and techniques for all riding situations, review bicycle anatomy and basic maintenance and repairs.

Contact Hours: 30.

OUT 131 - Rock Climbing I (2)

Introduces basic rock climbing, improving dexterity, problem solving skills and the physical work capacity of an individual. Enables the student to gain an understanding of the general principles of climbing; how equipment works and how it is used; basic climbing skills and techniques; safety and climbing etiquette and terminology.

Contact Hours: 45.

OUT 132 - Rock Climbing II (2)

Introduces lead climbing skills and techniques, problem solving skills and physical fitness. Emphasizes the general principles of lead climbing; proper usage of climbing equipment; development of lead climbing skills and techniques; climbing ethics and safety; and terminology.

Contact Hours: 45.

Recommended Preparation: OUT 131 or permission of instructor.

OUT 142 - Hiking (1)

Provides skills related to hiking and wilderness travel. Emphasizes hiking skills, proper conditioning, route finding,

equipment, and hiking hazards and ethics. The course involves conditioning in the fitness center and weekend hikes.

Contact Hours: 30.

OUT 143 - Backpacking (2)

Provides skills related to wilderness travel and outdoor adventure. Emphasizes knowledge of backpacking skills, survival techniques, proper physical conditioning, route finding, equipment selection, and an understanding and respect for the environment. The course incorporates lecture and discussion sessions followed by a weekend trip in the mountains.

Contact Hours: 45.

OUT 151 - Snowshoeing (1)

Emphasizes the basic skills, equipment, clothing and techniques of snowshoeing. It includes the objective dangers involved with winter recreation.

Contact Hours: 30.

OUT 156 - Survival Plants in Summer I (2)

Introduces the student to the summer season genus and species recognition of wild useful plants (edible, medicinal, poisonous and tool-craft) in all life zone categories (alpine subalpine, montane, foothill and desert) of Colorado. Other topics covered will be summertime identification challenges, macro and micro environments, and dangerous lookalikes, and soils, latitudinal and elevational effects. Note: The Survival Plant series of classes can be taken in any order because each course academia is seasonal specific not nomenclature specific.

Contact Hours: 45.

OUT 157 - Survival Plants in the Fall (2)

Introduces the student to the fall season genus and species recognition of wild useful plants (edible, medicinal, poisonous and tool-craft) in all life zone categories (alpine subalpine, montane, foothill and desert) of Colorado. Other topics covered will be wilderness survival as it relates to wild useful botany, definition of a "weed", natives vs. non-natives, parasites and saprophytes, poisoning and habitat synergy. Note: The Survival Plant series of classes can be taken in any order because each course academia is seasonal specific not nomenclature specific.

Contact Hours: 45.

OUT 158 - Survival Plants in Spring I (2)

Introduces the student to spring season genus and species recognition of wild useful plants (edible, medicinal, poisonous and tool-craft) in all life zone categories (alpine subalpine, montane, foothill and desert) of Colorado. Other topics covered will be early ethno botany, botanical nomenclature, annuals, biennials and perennials, harvesting ethic, rare plants and seasonal changes. Note: The Survival Plant series of classes can be taken in any order because each course academia is seasonal specific not nomenclature specific.

Contact Hours: 45.

OUT 168 - Avalanche Awareness Level I (1)

Emphasizes the latest information available about the study of avalanches, snow science, rescue equipment, and rescue techniques. Provides students with the knowledge and skills necessary to help instill good judgment and sound skills when making day-to-day travel decisions in the winter environment.

This course fulfills the National Ski Patrol's Basic (Level 1) Avalanche course requirements.

Contact Hours: 30.

OUT 201 - Scuba Diving (1)

Provides basic instruction in scuba diving. Focuses on the knowledge and skills related to swimming and snorkeling, diving equipment, communications, the environment, safety, dive tables, and other pertinent information a student needs for safe scuba diving. This course prepares the student for open-water professional certification.

Contact Hours: 30.

Recommended Preparation: PED 108 or equivalent

OUT 202 - Open Water Diver (1)

Requires student divers to demonstrate mastery of performance requirements for four (4) different open water dives to become a certified open water diver through the Professional Association of Diving Instructors (PADI) or Scuba Schools International (SSI).

Contact Hours: 30.

Recommended Preparation: OUT 201 (p. 380) or equivalent

OUT 203 - Advanced Open Water Diver (2)

Extends the student's prior knowledge of diving by introducing them to advanced techniques including: deep diving, underwater navigation, night diving, peak performance buoyancy and multilevel diving. The classroom focuses on developing the student's knowledge, while the pool sessions focus on further developing the student's underwater skills. The open water training dives focus on improving the student's diving skills as well as introducing the student to the different types of dives available.

Prerequisite: OUT 202 or instructor approval. Contact Hours: 60.

OUT 204 - Rescue Diver (2)

Introduces the student to being able to help others in a rescue scenario. Teaches the student how to recognize problems at all stages in the rescue process. The classroom sessions focus on theories including stress management. The pool sessions focus on the practical application of assisting divers in trouble. The open water sessions focus on realistic situations. This fine tunes the student's ability to handle different situations and prepares the student for the Divemaster course.

Prerequisite: OUT 203 or instructor approval. Contact Hours: 60.

OUT 205 - Divemaster (3)

Introduces the student to leadership level diving. It trains the student in several areas of focus: dive theory, waterman ship skills, problem solving abilities, role model behavior, student diver management and certified diver management. These skills are learned in both pool and classroom sessions. The practical application phase teaches the student how to deal with student divers as well as certified divers in a leadership role.

Prerequisite: OUT 204 or instructor approval. Contact Hours: 90.

OUT 206 - Assistant Scuba Instructor (3)

Introduces the student to the skills needed to teach scuba diving. The classroom sessions start to develop the student's ability to set up teaching presentations, confined water presentations, open water presentations, standards and procedures for conducting Scuba diving courses and marketing of scuba to the

general public. The pool sessions fine tune the student's ability to teach skills and demonstrate skills to training divers. The open water sessions show students how to evaluate divers' skills in a real world environment.

Prerequisite: OUT 205 or instructor approval. Contact Hours: 90.

PAR - Paralegal

PAR 115 - Introduction to Law (3)

Provides an understanding of the role of paralegals, issues facing paralegals, the working of the legal system, and ethical questions. Legal terminology and an overview of the substantive areas of law will be discussed.

Contact Hours: 45.

PAR 116 - Torts (3)

Focuses on tort law, including negligence, intentional torts, and strict liability with an emphasis on personal injury litigation.

Contact Hours: 45.

PAR 117 - Family Law (3)

Emphasizes domestic law, common property, dissolutions, adoptions, legal separation, and other family law issues.

Contact Hours: 45.

PAR 118 - Contracts (3)

Examines the basic principles of contract law.

Contact Hours: 45.

PAR 125 - Property Law (3)

Focuses on real estate law, ownership, sale, leasing, financing and government regulation of land.

Contact Hours: 45.

PAR 126 - Administrative Law (3)

Introduces administrative and regulatory agencies, their jurisdiction, rule-making and decision-making processes.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 127 - Legal Ethics (3)

Explores the parameters of professional responsibilities and value systems for paralegals and related occupations.

Contact Hours: 45.

PAR 201 - Civil Litigation (3)

Focuses on an intensive study of the legal process including the Federal and Colorado Rules of Civil Procedure.

Contact Hours: 45.

PAR 202 - Evidence (3)

Introduces the student to State and Federal Rules of Evidence and application to the trial process.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 205 - Criminal Law (3)

Introduces basic concepts of criminal law and criminal procedure, including Colorado statutes and Rules of Procedure.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 206 - Business Organizations (3)

Focuses on the study of the major types of business organizations.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 208 - Probate and Estates (3)

Provides an understanding of the creation and administration of an estate, including wills and trusts and the probate process.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 209 - Constitutional Law (3)

Emphasizes the study of the powers of government as they are allocated and defined by the United States Constitution.

Contact Hours: 45.

PAR 211 - Legal Research (3)

Introduces the student to basic legal research tools, including statutes, digests, case law, citations, encyclopedias, dictionaries, and online data bases.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 212 - Legal Writing (3)

Enables the student to practice the content and conventions of legal writing.

Prerequisite: ENG 121, PAR 115, and PAR 211. Contact Hours: 45.

PAR 215 - Alternative Dispute Resolution (3)

Introduces the student to negotiating, mediation, arbitration and other forms of dispute resolution.

Contact Hours: 45.

PAR 216 - Employment Law (3)

Provides an understanding of current legal issues in the area of employer/employee relationships.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 217 - Environmental Law (3)

Covers state and federal laws concerning the environment, including chemical safety laws, workplace safety, and hazardous waste.

Contact Hours: 45.

PAR 218 - Bankruptcy Law (3)

Focuses on the federal and state laws and procedures involving bankruptcy.

Prerequisite: PAR 115. Contact Hours: 45.

PAR 219 - E-Discovery and Litigation Technology (3)

Provides students with an understanding of the discovery process of electronically stored information (ESI) issues and software relating to complex litigation.

Prerequisite: Prerequisite/Corequisite: PAR 201, course may be taken concurrently. Contact Hours: 45.

PAR 227 - Immigration Law (3)

Provides an understanding of the United States Immigration Laws.

Contact Hours: 45.

Recommended Preparation: PAR 115 (p. 380)

PAR 228 - Intellectual Property (3)

Covers the federal and state laws regarding intellectual property.

Contact Hours: 45.

PAR 280 - Internship (3)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

Contact Hours: 45.

PAR 287 - Cooperative Education (3)

Provides students an opportunity to gain practical experience in applying their occupational skills and/or to develop specific skills in a practical work setting. The instructor will work with the student to select an appropriate work site, establish learning objectives and to coordinate learning activities with the employer or work site supervisor.

Contact Hours: 45.

PAR 289 - Capstone (3)

Emphasizes a synthesis of the information and skills that students learned throughout their paralegal studies.

Contact Hours: 45.

PED - Physical Education

PED 101 - Conditioning Lab (1)

Offers an independent self-paced format of conditioning exercises to meet individual needs. Emphasizes the value of lifetime fitness and its contribution to achieving personal health and wellness. Students utilize cardio respiratory, muscular strength and endurance exercises to promote positive changes in health-related fitness components.

Contact Hours: 30.

PED 102 - Weight Training I (1)

Offers basic instruction and practice in weight training. Students utilize weight-training equipment in accordance to their abilities and goals. Emphasizes weight training equipment orientation, correct lifting techniques, and basic program design for men and women.

Contact Hours: 30.

PED 103 - Weight Training II (2)

Offers guided instruction and independent practice in weight training for men and women. Students practice various weight-training techniques in accordance with their abilities. Emphasizes physiological considerations, equipment orientation, correct lifting techniques, program design, and nutrition.

Contact Hours: 45.

PED 104 - Cross Training (1)

Introduces basic cross-training techniques designed to improve physical work capacity of an individual. Enables the student to gain an understanding of the basic principles of cross training, the effects cross training has upon the body's energy systems and muscles, program design and terminology.

Contact Hours: 30.

PED 112 - Fitness Center Activity III (1)

Serves as an advanced exercise course designed for individuals interested in attaining a high level of total fitness. Includes an individual fitness evaluation, computerized analysis of results, and a prescribed exercise program. Focuses on the basic

components of fitness including flexibility, muscular strength and endurance, cardiovascular fitness, and body composition. The primary mode of training is Aerobic Circuit Training. The circuit training is supplemented with additional work on specialized weight machines, dumbbells, treadmills, rowers, stair climbers, cross trainers, Nordic track, versa climbers, and running track available in the Fitness Center.

Contact Hours: 30.

PED 122 - Step Aerobics (1)

Introduces basic step aerobics and exercise techniques to improve physical fitness. Emphasizes the basic principles of step aerobics including the effects upon the cardio-respiratory system and skeletal muscles, various step patterns and choreography.

Contact Hours: 30.

PED 129 - Zumba (1)

Zumba is a compilation of high energy, motivating music with unique moves and choreography combinations. Zumba fuses Latin and international music and dance themes to create a dynamic, exciting, effective fitness system. The routines feature aerobic/fitness interval training with a combination of fast and slow rhythms that tone and sculpt the body. Zumba utilizes the principles of fitness interval training and resistance training to maximize caloric output, fat burning and total body toning. It is a mixture of body sculpting movements with easy to follow dance steps.

Contact Hours: 30.

PED 140 - Body Sculpting and Toning (1)

Introduces exercise techniques to improve overall physical fitness. Emphasizes the interaction between cardiovascular conditioning, muscular strength and endurance, flexibility and program design integrated into an aerobic format. Focuses on blending together different combinations and sequences of exercises while conditioning the entire body. Students exercise using various types of resistance equipment.

Contact Hours: 30.

PED 141 - Pilates Matwork I (1)

Focuses on Pilates matwork to increase core strength, overall muscle tone and flexibility with focused and precise floor work techniques. A physical education class built upon the philosophies and exercises of Josef Pilates.

Contact Hours: 30.

PED 143 - Yoga I (1)

Offers a guided instruction in yoga. Students practice yoga according to their individual fitness levels and abilities. Emphasizes enhancing general health and well being through the performance of yoga strength, flexibility, balance and relaxation techniques and exercises.

Contact Hours: 30.

PED 144 - Yoga II (1)

Continues to build on the concepts of basic yoga. Increases awareness of yoga including physical and mental benefits.

Contact Hours: 30.

PED 151 - Walking and Jogging (1)

Enables the student to understand the values in walking and jogging. Safety precautions and emphasis on personal programs are emphasized.

Contact Hours: 30.

PED 152 - Stretch 'N Relax (1)

Teaches proper stretching techniques to all parts of the body.

Contact Hours: 30.

PED 161 - Tai Chi I (1)

Introduces Tai Chi as an expression of understanding of self-control, exercise and self-defense. The primary emphasis is to gain an understanding of the history (origins and changes) of Tai Chi, the movements and their names, application of movements and terminology.

Contact Hours: 30.

PED 163 - Martial Arts I (1)

Introduces basic martial arts techniques and forms designed to improve the physical and mental capacity of an individual. Enables the student to gain an understanding of the basic philosophies and concepts around the martial arts and the approach to ethics. Provides a clear-cut guide for developing a powerful sense of character and will.

Contact Hours: 30.

PED 202 - Golf I (1)

Introduces a basic course in golf designed for those who have had little or no formal instruction or for those with some experience who are interested in improving some aspect of their game. Includes driving range, putting green, and on-course play.

Contact Hours: 30.

PED 211 - Bowling (1)

Introduces bowling fundamentals to improve the student's skill level. The primary emphasis is on teaching the student the elements of bowling, rules and regulations, footwork, courtesies, delivery, selection of ball, scoring, and team individual competition.

Contact Hours: 30.

PED 230 - Volleyball I (1)

Introduces and improves student skill level in volleyball. The primary emphasis is on teaching the student the elements of volleyball including rules, offensive and defensive play, passing, serving, setting, attacking, team play and game strategies.

Contact Hours: 30.

PED 234 - Basketball (1)

Introduces basketball and focuses on improving student skill level. Emphasizes teaching the student the elements of basketball rules, offensive and defensive footwork, shooting, passing dribbling, rebounding, team play, and game strategies.

Contact Hours: 30.

PHI - Philosophy

PHI 111 - Introduction to Philosophy (3)

Introduces significant theoretical and practical questions and emphasizes understanding the meaning and methods of

philosophy. Includes: the human condition, logic, reality, knowledge, freedom, history, ethics, and religion.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 112 - Ethics (3)

Examines human life, experience, and thought in order to discover and develop the principles and values for pursuing a more fulfilled existence. Theories designed to justify ethical judgments are applied to a selection of contemporary personal and social issues.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 113 - Logic (3)

Studies effective thinking using language-oriented logic. Provides tools and develops skills for creative and critical thinking. Emphasizes the development of decision-making and problem solving.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 114 - Comparative Religions (3)

Introduces students to the major world religions from both the Eastern and Western world such as Hinduism, Buddhism, Confucianism, Taoism, Zoroastrianism, Judaism, Christianity, Islam, Baha'i, and influential pre-literate traditions. Utilizes religious studies methods (historical, sociological, legal, psychological, and phenomenological), to understand the historical development of each religious tradition in terms of communities, cultural context, and modern manifestations; paying particular attention to differences between sects, denominations, schools, and factions within each tradition. Focus will include the examination of the charismatic leaders, prophets, and narratives that inform the worldview of each tradition.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 115 - World Religions - West (3)

Introduces students to religions of the Western world: Zoroastrianism, Judaism, Christianity, Islam, Baha'i, and influential pre-literate traditions. Utilizes religious studies methods (historical, sociological, legal, psychological, and phenomenological), to understand the historical development of each religious tradition in terms of communities, cultural context, and modern manifestations; paying particular attention to differences between sects, denominations, schools, and factions within each tradition. Focus will include the examination of the charismatic leaders, prophets, and narratives that inform the worldview of each tradition.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR

094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 116 - World Religions - East (3)

Introduces students to religions of the Eastern world: Hinduism, Buddhism, Jainism, Taoism, Confucianism, Sikhism, Shinto, and influential pre-literate traditions. Utilizes religious studies methods (historical, sociological, legal, psychological, and phenomenological), to understand the historical development of each religious tradition in terms of communities, cultural context, and modern manifestations; paying particular attention to differences between sects, denominations, schools, and factions within each tradition. Focus will include the examination of the charismatic leaders, prophets, and narratives that inform the worldview of each tradition.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 142 - New Testament (3)

This course surveys the literature of the early Christian era, from its inception to approximately 150 C.E. The New Testament as well as selected non-canonical writings from the period are examined. The course focuses on the interpretation of these texts in light of the cultural milieu from which they arose. Particular attention is paid to the influence of ancient literary conventions upon the Christian writers of this time.

Contact Hours: 45.

PHI 201 - Social and Political Philosophy (3)

Addresses a single topic among those relevant to social and political philosophy such as political rights, political freedom, social obligations, or democracy.

Contact Hours: 45.

PHI 203 - Introduction to Buddhism (3)

Introduces students to the history, philosophy and practices of the Buddhist tradition. This course in no way intends to be comprehensive but rather surveys the many manifestations of Buddhism through an exploration of foundational aspects, the evolution and spread of Buddhist philosophical and spiritual ideals, and aspects of Buddhism as it exists in the modern world.

Contact Hours: 45.

PHI 205 - Business Ethics (3)

Analyzes ethical behavior for businesses. The premise is that ethics deals with right and wrong standards of behavior that are determined by the ethical and social expectations of society in general, and further, that we expect responsible people to observe the ethical standards of our society. A case approach is used throughout the course. The ethical issues involve trade-offs among ethical decisions and economics, legal, social, and cultural concepts.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 213 - Symbolic Logic (3)

Covers basic information in semantics and syntax of sentential and predicate logic, construction of truth trees and derivations of natural deductive systems.

Contact Hours: 45.

PHI 214 - Philosophy of Religion (3)

Focuses on the critical examination of the fundamental concepts, ideas, and implications of religion. Includes the nature of God, the varieties of religious experience, argument concerning God's existence, the Problem of Evil, faith and reason, religion and human destiny, and the connection between religion and ethics.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 215 - The Meaning of Life (3)

Examines theistic and non-theistic, subjective and objective approaches to the question: What is the meaning of life? Additionally, the question itself is dissected, as students are challenged to understand what is really being sought and how to begin formulating an answer.

Contact Hours: 45.

PHI 218 - Environmental Ethics (3)

Critically analyzes theories of value of the natural world. Topics include the relation between scientific and moral principles; theories of the moral worth of persons, animals, plants and other natural objects; historical, religious and cultural influences on conceptions of nature: alternative accounts of human relationships and responsibilities to nature, including deep ecology and eco-feminism; and the connection between moral and political values and economic policies.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHI 220 - Philosophy of Death and Dying (3)

Explores the major philosophical questions surrounding death and dying: the metaphysical arguments for and against the existence of a soul and life after bodily death, the epistemological assessment of arguments for the soul and life after death, the ethical justifications taken on positions such as rational suicide and physician assisted suicide, as well as a focus on philosophy's existentialist contribution to questions about the meaning of life and the meaning of death.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH3). Contact Hours: 45.

PHT - Pharmacy Technician**PHT 111 - Introduction to Pharmacy (3)**

Introduces the practice of pharmacy and the work that pharmacy technicians perform. The course provides an overview of careers within the field; educational, certification and accreditation requirements; ethical and legal responsibilities;

pharmacology; as well as a variety of issues that touch on attitudes, values and beliefs of successful pharmacy technicians.

Contact Hours: 67.5.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

PHT 112 - Pharmacy Law (2)

Introduces the laws, regulations and agencies that pertain to pharmacy practice and the role that technicians play to ensure compliance. Establishes a foundation of ethical behavior and decision making and discusses the consequences of violating laws and ethical principles.

Prerequisite: PHT 111 may be taken concurrently. Contact Hours: 30.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

PHT 115 - Pharmacology I (3)

Provides the basic concepts of normal body function as well as the diseases which impact the various body systems and the drugs used to treat such diseases. Emphasizes disease state management and drug therapy.

Prerequisite: PHT 111 may be taken concurrently. Contact Hours: 45.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

PHT 116 - Institutional Pharmacy (3)

Provides a basic understanding of general and specific tasks as well as the responsibilities involved in the practice of pharmacy in an institutional pharmacy setting. Emphasizes in-patient hospital pharmacy practice and other related practice settings (such as Homecare and Nursing Home or Long-Term Care). A laboratory experiential component provides a "hands-on" experience in the preparation of intravenous admixtures, aseptic technique, unit-dose distribution, dispensing for greater than 24 hours.

Prerequisite: PHT 111 and PHT 235 may be taken concurrently. Contact Hours: 67.5.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

PHT 118 - Pharmacology II (3)

Reviews the disease states which impact the various body systems and the drugs used to treat such diseases. Emphasizes disease state management and drug therapy. Serves as the second part of the two-part presentation of the basic concepts of pharmacology.

Prerequisite: PHT 115 may be taken concurrently. Contact Hours: 45.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

PHT 119 - Community Pharmacy (3)

Provides a basic understanding of both general and specific tasks and responsibilities involved in the practice of pharmacy in a community setting. Emphasizes chain and independent community pharmacy practices and other related practice settings (such as consultant pharmacy, mail order pharmacy and nuclear pharmacy). Enables the student to obtain hands-on

experience in the important technical duties of dispensing and compounding. Utilizes a lecture-informal discussion format combined with a series of practice skills laboratory sessions.

Prerequisite: PHT 111 and PHT 235 may be taken concurrently. Contact Hours: 67.5.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

PHT 170 - Pharmacy Clinical: Institutional (4)

Provide students with hands on experience in an institutional pharmacy setting. Students must be supervised by a licensed pharmacist or qualified designee, and are expected to participate in activities delineated in the Clinical Site Manual, such as dispensing, compounding, inventory handling and control, drug distribution, and/or preparation of intravenous products. The preceptor, student, and instructor complete evaluations at completion of the rotation.

Prerequisite: PHT 111, PHT 112, PHT 115, PHT 116, PHT 118, PHT 119, and PHT 235. Contact Hours: 105.

PHT 171 - Pharmacy Clinical: Community (4)

Provide students with hands on experience in a community pharmacy setting. Students must be supervised by a licensed pharmacist or qualified designee, and are expected to participate in activities delineated in the Clinical Site Manual, such as dispensing, inventory handling and control, drug distribution, processing of third-party claims, and communication with patients. The preceptor, student, and instructor complete evaluations at the completion of the rotation.

Prerequisite: PHT 111, PHT 112, PHT 115, PHT 116, PHT 118, PHT 119, and PHT 235. Contact Hours: 105.

PHT 207 - Drug Classification (3)

Emphasizes the drug classes, such as over-the-counter vs. prescription drugs, scheduled drugs, and the laws pertaining to each. Includes the drug development process, the different pregnancy classifications and the degree of potential harm for each class, and the commonly used drugs that can be addictive, abused and potentially lethal. Examines dosage forms, routes of administration, selection and recommendation of OTC drugs and natural products, and memorize trade and generic names.

Prerequisite: PHT 115 or PHT 118. Contact Hours: 45.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

This is not a required course for completion of the Pharmacy Technician Program.

PHT 235 - Pharmaceutical Calculations & Compounding Techniques (4)

Develops the skills necessary to perform calculations essential to the duties of pharmacy technicians in a variety of contemporary settings. This course also applies these skills in hands-on compounding of pharmaceutical products emphasizing the importance of accuracy, quality and infection control.

Prerequisite: PHT 111 may be taken concurrently. Contact Hours: 75.

Recommended Preparation: Placement into CCR 092 (or higher) and MAT 050 (or higher).

PHT 250 - Sterile Compounding & Aseptic Technique (2)

Provides overview of methods and regulation of sterile products as well as instruction and training for the mastery of aseptic technique and the successful production of sterile preparations. This course prepares students for passing process validation checklists and provides comprehensive coverage of all procedures and techniques related to the skill sets necessary for sterile compounding.

Contact Hours: 45.

PHY - Physics

PHY 105 - Conceptual Physics with Lab (4)

Focuses on mechanics, heat, properties of matter, electricity and magnetism, light, and modern physics. Incorporates laboratory experience.

Prerequisite: MAT 050 or higher. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 75 (45 lecture hours and 30 lab hours).

PHY 107 - Energy Science and Technology with Lab (4)

Explores the science of energy and energy technologies, with a focus on renewable energy resources and clean technologies. It provides a background in the physics of energy, energy transfer, and the current state of technology. Students will evaluate the future utilization of renewable technologies. Activities may include investigating conservation of energy, mechanical, electrical, heat and fluid power systems; energy transfer and loss; understanding energy audits; testing solar collectors and wind generators; investigating hydrogen fuel cells.

Prerequisite: MAT 050 or higher. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 75 (45 lecture hours and 30 lab hours).

PHY 111 - Physics: Algebra-Based I with Lab (5)

Explores the physical world through reasoning, mathematics and experimentation. Examines kinematics, force, circular motion, energy, momentum, torque, rotational dynamics, simple harmonic motion, temperature, heat and thermodynamics. The concepts and theories presented are explored through demonstrations and hands-on experiments. It is a general physics course that is recommended for all of the health sciences and all other interested students. Students entering engineering or one of the advanced sciences should register for PHY 211 (p. 385).

Prerequisite: MAT 121. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

PHY 112 - Physics: Algebra-Based II with Lab (5)

Expands upon PHY 111 (p. 385) and explores sound waves, electric fields, electric circuits, magnetic fields, light, optics, and modern physics. Explores the concepts and theories presented in class through demonstrations and hands-on experiments.

Prerequisite: PHY 111 or PHY 211 or PHY 212. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (60 lecture hours, 30 lab hours).

PHY 211 - Physics: Calculus-Based I with Lab (5)

Explores the physical world through reasoning, mathematics and experimentation. Covers kinematics, force, gravity, energy, momentum, torque, rotational dynamics, and fluids, and may include thermodynamics. The concepts and theories presented in class are explored through demonstrations and hands-on experiments. This first semester calculus-based physics course is recommended for students entering engineering or one of the advanced sciences.

Prerequisite: MAT 201 or MAT 202 or MAT 203. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 105 (60 lecture hours, 45 lab hours).

PHY 212 - Physics: Calculus-Based II with Lab (5)

Expands upon PHY 211 and examines waves, electric fields, electric circuits, magnetic fields, light and optics, and modern physics. The concepts and theories presented in class are explored through demonstrations and hands-on experiments.

Prerequisite: PHY 211. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 105 (60 lecture hours, 45 lab hours).

PHY 213 - Physics III: Calculus-Based Modern Physics (3)

Expands upon PHY 212 and explores twentieth century advances in physics. Topics may include special and general relativity, quantum theory, atomic physics, solid state physics, nuclear physics, semiconductor physics, and cosmology.

Prerequisite: PHY 212 and CCR 092, CCR 093, or CCR 094 or equivalent testing scores. CCR courses may be taken concurrently.. Contact Hours: 45.

PLU - Plumbing

PLU 120 - Residential Plumbing (4)

Enables the student to design and install residential plumbing systems. Students work in the shop installing systems and in the classroom designing systems. Includes the application of code requirements, fuel piping systems, water piping systems, rough-in measurements and installation practices. Also covers installation of components, such as water heaters, tub/shower valves, a variety of shower enclosures and other fixtures. Offered fall semester only.

Contact Hours: 90.

PLU 282 - Internship (2)

Students with prior course work in a specific area are eligible for internship. The internship provides the student an opportunity to apply their course studies.

Contact Hours: 90.

PLU 289 - Capstone: Plumbing (2)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: CON 110 and PLU 120. Contact Hours: 90.

POS - Political Science

POS 105 - Introduction to Political Science (3)

Focuses on a survey of the discipline of political science, including political philosophy and ideology, democratic and non-democratic governments, and processes, and international relations.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

POS 111 - American Government (3)

Includes the background of the U.S. Constitution, the philosophy of American government, general principles of the Constitution, federalism, and civil liberties. Examines public opinion and citizen participation, political parties, interest groups, and the electoral process, and the structure and functions of the national government.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

POS 125 - American State and Local Government (3)

Emphasizes the structure and function of state, county, and municipal governments including their relations with each other and with national government. Includes a study of Colorado government and politics.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

POS 136 - The American Presidency (3)

Focuses on the office of the president as a branch of government. Examines the individuals who have occupied and shaped the presidency, and changes in the office itself.

Contact Hours: 45.

POS 205 - International Relations (3)

Examines relationships among modern nation states. Topics include diplomacy, nationalism, ideologies, power and influence, conflict and cooperation, the role of nonstate actors, the international economy and theoretical attempts to understand international behavior.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

POS 215 - Current Political Issues (3)

Incorporates an in-depth analysis of the background and nature of political science issues and themes.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR

094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

POS 225 - Comparative Government (3)

Focuses on a comparison of the basic features of selected developed and developing countries. Topics include ideologies, political parties, interest groups, and governmental institutions.

Prerequisite: Prerequisite/Corequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS1). Contact Hours: 45.

PPT - Powerplant Technology

PPT 105 - Basic Plant Operation (2)

Provide an introduction to the major systems and components that make up a modern power plant. Students learn how electric power is produced and distributed; how boilers, turbines, and condensers operate; and what the general responsibilities of plant operators are during all phases of plant operation. Specific attention is given to the flow of water and steam through the steam cycle, how combustion occurs, types of boilers and turbines, operation of steam cycle support systems, bearings and lubrication, turbine control, pollution control, and plant safety.

Contact Hours: 45.

PPT 116 - Instrumentation and Control (3)

Introduces students to power plant process control. Emphasis will center on the full range of pertinent equipment. Students will learn how to use pneumatic and electronic controls, actuators, sensors, transmitters, relays, and indicators. Students are introduced to terms such as setpoint, control point, deviation, proportional band, reset, rate, span, feedback, and feedforward. Combustion control diagrams for the following systems are also explained: a typical three-element boiler drum level control system, a fuel and air flow metering and control system, a typical hotwell level control system, and a steam temperature control system.

Prerequisite: ELT 106. Contact Hours: 67.5.

PSY - Psychology

PSY 101 - General Psychology I (3)

Focuses on the scientific study of behavior including motivation, emotion, physiological psychology, stress and coping, research methods, consciousness, sensation, perception, learning and memory.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 102 - General Psychology II (3)

Focuses on the scientific study of behavior including cognition, language, intelligence, psychological assessment, personality, abnormal psychology, therapy, life span development and social psychology.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR

094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

Recommended Preparation: PSY 101.

PSY 116 - Stress Management (3)

Identifies the physiological, emotional and behavioral aspects of stress. Techniques of stress reduction and management are explored and applied, including nutrition, exercise, assertiveness, time management, and financial management. This course is not designed for transfer.

Contact Hours: 45.

PSY 200 - Research Methodology (4)

Introduces research methods and designs including correlational studies, experimental designs and quasi-experimental designs. Additional topics include evaluations of scientific research, data analysis, report writing and research ethics.

Prerequisite: PSY 101. Contact Hours: 60.

PSY 205 - Psychology of Gender (3)

Examines gender comparisons in work, courtship, family life and sexual behavior throughout the lifespan.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 207 - Intro Forensic Psychology (3)

Introduction to Forensic Psychology is a course in an overview of Forensic Psychology. As such it explores both current research and practice in five areas. These areas are police psychology, criminal psychology, victimology, correctional psychology and the interface of psychology and the courts. The course facilitates an understanding of the numerous careers related to forensic psychology, how to prepare for them and current research and practice in each of the five broad areas of forensic psychology.

Contact Hours: 45.

PSY 217 - Human Sexuality (3)

Surveys physiological, psychological and psychosocial aspects of human sexuality. Topics include relationships, sexual identity, and sexual health.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 226 - Social Psychology (3)

Focuses on the behavior of humans in social settings including attitudes, aggression, conformity, cooperation and competition, prejudice and interpersonal attraction.

Prerequisite: PSY 101 or PSY 102. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Corequisite: CCR 092, CCR 093, or CCR 094 or equivalent testing score.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 227 - Psychology of Death and Dying (3)

Examines the philosophies of life and death emphasizing dying, death, mourning and the consideration of one's own death.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 235 - Human Growth and Development (3)

Examines human development from conception through death emphasizing physical, cognitive, emotional, and psychosocial factors.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 238 - Child Development (3)

Focuses on the growth and development of the individual from conception through childhood, emphasizing physical, cognitive, emotional, and psychosocial factors.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 239 - Adolescent and Adult Psychology (3)

Examines growth and development of the individual from adolescence to death, emphasizing physical, cognitive, emotional and psychosocial factors.

Contact Hours: 45.

PSY 249 - Abnormal Psychology (3)

Examines abnormal behavior and its classifications, causes, treatment and prevention.

Prerequisite: PSY 101 or PSY 102. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

PSY 258 - Introduction to Neuropsychology (3)

Focuses on introduction to basic neuropsychological terms and concepts with emphasis on application of thinking and behavior in humans.

Prerequisite: PSY 101 or PSY 102. Contact Hours: 45.

PSY 265 - Psychology of Personality (3)

Examines the structure, function, and development of personality. Investigates the major contemporary theories of personality. Covers psychodynamic, behavioral, cognitive-social learning, humanistic, trait, and, optionally, neurobiological, existential, and/or Eastern perspectives. The underlying assumptions and research support for these theories are appraised. Enables the student to gain an appreciation of the value of alternative theoretical approaches to this sub field of psychology.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SS3). Contact Hours: 45.

REC - Recreation

REC 210 - Principles of Outdoor Recreation (3)

Includes lecture and practical outdoor experience relating to problems and trends in outdoor recreation.

Contact Hours: 60.

REC 212 - Outdoor Recreation Programming (3)

Provides effective planning, staffing, and budgeting for the outdoor experience for the maximum opportunity for a successful program. Issues of marketing and promotion, agency coordination, risk management, environmental impact, logistics and the customer needs and expectations are addressed.

Contact Hours: 45.

RUS - Russian

RUS 101 - Conversational Russian I (3)

Introduces beginning students to conversational Russian and focuses on understanding and speaking Russian. Covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

RUS 102 - Conversational Russian II (3)

Continues the sequence for students who wish to understand and speak Russian. Covers basic conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: RUS 101

RUS 111 - Russian Language I (5)

Begins a sequence dealing with the development of functional proficiency in listening, speaking, reading, and writing the Russian language. Note: The order of the topics and methodology will vary according to individual texts and instructors.

Contact Hours: 75.

RUS 112 - Russian Language II (5)

Continues Russian I in the development of functional proficiency in listening, speaking, reading, and writing the Russian language. Note: The order of the topics and methodology will vary according to individual texts and instructors.

Contact Hours: 75.

Recommended Preparation: RUS 111

RUS 201 - Conversational Russian III (3)

Continues the sequence for students who wish to advance their study of understanding and speaking Russian. Includes intermediate level vocabulary, grammar, and expressions.

Contact Hours: 45.

Recommended Preparation: RUS 102

RUS 202 - Conversational Russian IV (3)

Continues the sequence for students who wish to advance their study of understanding and speaking Russian. Focuses on intermediate level conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: RUS 201 or equivalent.

RUS 211 - Russian Language III (3)

Continues Russian Language I and II in the development of increased functional proficiency in listening, speaking, reading, and writing the Russian language. Note: The order of topics and methodology will vary according to individual texts and instructors.

Prerequisite: RUS 112. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

RUS 212 - Russian Language IV (3)

Continues Russian Language I, II and III in the development of increased functional proficiency in listening, speaking, reading, and writing the Russian language. Note: The order of topics and methodology will vary according to individual texts and instructors.

Prerequisite: RUS 211. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

SCI - Science**SCI 105 - Science in Society (3)**

Examines issues relating to the way science affects society. Students will investigate issues in information technology, the environment, physics and astronomy, biology, medicine and the interaction of science with politics. The class will focus on gathering accurate scientific information and applying critical thinking skills and the scientific method to analyze how science plays both positive and negative roles in society. Emphasis will be on student research, inquiry and analysis of science related issues. This course is one of the guaranteed statewide transfer agreements: GT-SC2.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC2) . Contact Hours: 45.

SCI 155 - Integrated Science I with Lab (4)

Examines the nature of energy and matter, their interactions and changes, and the application of fundamental concepts to the study of our natural world. These concepts will be explored in hands-on laboratory experiments. This course integrates the fundamental concepts and ideas about the nature of physics and chemistry with the natural world.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1). Contact Hours: 90 (45 lecture hours, 45 lab hours).

SCI 155 and SCI 156 are intended for Early Childhood Education & Elementary Education Students ONLY. Students MUST pass BOTH SCI 155 & 156 with a C or higher to satisfy the gtPathways science requirement. Students looking to take these courses should do so understanding that these courses are only guaranteed transferable for students following the subsequent agreements: Early Childhood Teacher Education or Elementary Teacher Education and should seek advisement from the four-

year college/university and Front Range Community College advisors before enrolling.

SCI 156 - Integrated Science II with Lab (4)

Examines earth and biological systems, living and non-living environments, through the application of fundamental energy and matter concepts. These systems and concepts will be explored in hands-on laboratory experiments.

Prerequisite: SCI 155. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SC1) . Contact Hours: 90 (45 lecture hours, 45 lab hours).

SCI 155 and SCI 156 are intended for Early Childhood Education & Elementary Education Students ONLY. Students MUST pass BOTH SCI 155 & 156 with a C or higher to satisfy the gtPathways science requirement. Students looking to take these courses should do so understanding that these courses are only guaranteed transferable for students following the subsequent agreements: Early Childhood Teacher Education or Elementary Teacher Education and should seek advisement from the four-year college/university and Front Range Community College advisors before enrolling.

SOC - Sociology**SOC 101 - Introduction to Sociology I (3)**

Examines the basic concepts, theories, and principles of sociology as well as human culture, social groups, and the social issues of age, gender, class, and race.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 102 - Introduction to Sociology II (3)

Examines social institutions and organizations from the macro perspective. Emphasizes issues of social change, demography, social movements, and conflicts and trends within education, religion, family, political, and economic structures.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 205 - Sociology of Family Dynamics (3)

Develops an understanding of marriage, family and kinship. It examines the family as an institution and how social, cultural and personal factors influence family relations. The stability and diversity of the family will be explored, along with current trends and some alternative life styles.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 207 - Environmental Sociology (3)

Examines humans and the environment from an ecological perspective. Focuses on industrial and economic growth versus sustainability, natural resources development and management, environmental values and social movements, and comparative perspectives on people's relationship to the environment.

Review of the "Green" movement and other environmental movements and their impacts upon social dynamics, the environment, and the evolution of social movements.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 208 - Restorative Justice I (3)

Provides an introduction to the principles and practices of Restorative Justice, an important approach to harm, crime and community. Examines the history and theory behind this paradigm, comparing and contrasting restorative and retributive approaches. Looks at applications in a number of settings, including schools and the criminal justice system. National and international examples will be discussed.

Contact Hours: 45.

SOC 215 - Contemporary Social Problems (3)

Explores current social issues that result in societal problems. It focuses on such issues as civil liberties, gender discrimination, substance abuse, crime, poverty, and social change.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 216 - Sociology of Gender (3)

Gives students the theoretical and factual background necessary to understand the phenomenon of gender stratification in American and other cultures. Students will be exposed to a history of gender stratification in human societies, theoretical explanations for this and insights into the consequences of gender differentiation in our world today.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 218 - Sociology of Diversity (3)

Explores the variety of intergroup relations regarding race, nationality, ethnicity, gender, sexual orientation, and other diversity issues. Patterns of prejudice, discrimination and possible solutions to these issues will be addressed.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 220 - Sociology of Religion (3)

Provides an introduction to the sociology of religion, including a comparative and critical examination of world religions, by focusing on sociological interpretation and explanation of the role of religion in human culture. The interaction between society and religion is thus examined as are a wide variety of religious beliefs and practices.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 231 - Sociology of Deviant Behavior (3)

Examines the nature, identification and explanation of deviant categories. Theories and philosophies as well as methods of treatment related to deviancy will be considered. The course will study society's attempts to control, change and institutionalize those acts, individuals or groups that a population may deem unacceptable.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 237 - Sociology of Death and Dying (3)

Provides an opportunity to familiarize students and professionals with the needs and issues surrounding dying and death. This course will provide sociological, psychological, religious, historical and anthropological perspectives for interpreting contemporary American customs dealing with dying, death and bereavement. We will examine the professions associated with death and dying, such as hospice, funeral and crematory institutions, and medical care.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-SS3). Contact Hours: 45.

SOC 265 - Violence and Culture (3)

Examines the concepts, relationships, organizations, and research as they relate to violence in multiple cultural settings. SOC 265 assists in developing an understanding of societal and institutional causes of violence; explores resources for intervention and treatment; and provides service learning applications in violence assessment, treatment, and victim assistance.

Contact Hours: 45.

SPA - Spanish

SPA 101 - Conversational Spanish I (3)

Offers beginning students the skills necessary to understand and speak Spanish. The material includes basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

Contact Hours: 45.

SPA 102 - Conversational Spanish II (3)

Offers students the skills necessary to understand and speak Spanish. The material continues to cover basic conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: SPA 101 or equivalent.

SPA 111 - Spanish Language I (5)

Develops students' interpretive, interpersonal, and presentational communicative abilities in the language. Integrates these skills in the cultural contexts in which the language is used. Offers a foundation in the analysis of culture.

Contact Hours: 75.

SPA 112 - Spanish Language II (5)

Expands students' interpretive, interpersonal, and presentational communicative abilities in the language across

the disciplines. Integrates these skills with the study of the cultures in which the language is used. Offers a foundation in the analysis of culture and develops intercultural communicative strategies.

Contact Hours: 75.

Recommended Preparation: SPA 111 or equivalent.

SPA 114 - Fast-Track Spanish I and II (5)

Designed to bridge beginning SPA courses with intermediate SPA courses. It is designed for students who have studied two years of the target language in high school and possess linguistic and cultural knowledge that true beginners do not, but are not ready yet to move to the intermediate level because they need an in-depth review of essential structures.

Contact Hours: 75.

Recommended Preparation: SPA 111 or equivalent.

SPA 115 - Spanish for the Professional I (3)

Introduces students to a working knowledge of the target language, cultural behaviors and values useful in various professional fields such as health care, law enforcement, bilingual education, business and others.

Contact Hours: 45.

SPA 194 - Service Learning (1-12)

Allows the student to provide a service to the community utilizing knowledge and skills acquired from a course in which the student is currently enrolled or has previously taken at the student's respective college.

Contact Hours: 45 contact hours per credit.

SPA 201 - Conversational Spanish III (3)

Provides students with the skills necessary to continue their study of understanding and speaking Spanish. The material includes intermediate level vocabulary, grammar, and expressions.

Contact Hours: 45.

Recommended Preparation: SPA 102 or equivalent.

SPA 202 - Conversational Spanish IV (3)

Provides students the skills necessary to continue their study of understanding and speaking Spanish. The material will continue to cover intermediate level conversational patterns, expressions, and grammar.

Contact Hours: 45.

Recommended Preparation: SPA 201 or equivalent.

SPA 211 - Spanish Language III (3)

Continues Spanish Language I and II in the development of increased functional proficiency in listening, speaking, reading, and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. This course is one of the Statewide Guaranteed Transfer courses. GT-AH4

Prerequisite: SPA 112 or SPA 114. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

SPA 212 - Spanish Language IV (3)

Continues Spanish Language I, II and III in the development of increased functional proficiency in listening, speaking, reading, and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors. This course is one of the Statewide Guaranteed Transfer courses. GT-AH4

Prerequisite: SPA 211. Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH4). Contact Hours: 45.

SPA 215 - Spanish for the Professional II (3)

Continues SPA 115 in the development of a working knowledge of the target language, cultural behaviors and values useful in various professional fields such as health care, law enforcement, bilingual education, business and others.

Contact Hours: 45.

Recommended Preparation: SPA 115 or equivalent.

SPA 235 - Spanish Reading/Writing (3)

Builds vocabulary and develops reading and writing strategies in Spanish to be able to analyze fictional and non-fictional texts and gain further cultural insight of the Hispanic world.

Contact Hours: 45.

Recommended Preparation: SPA 212 or equivalent.

SPA 261 - Grammar for Heritage Language Speaker (3)

Provides formal grammatical instruction to Foreign Language students whether native or bilingual who want to develop their existing proficiency in the target language.

Contact Hours: 45.

Recommended Preparation: SPA 212 or equivalent.

SPA 262 - Composition for the Heritage Language Speaker (3)

Provides formal composing instruction to Spanish Language students whether native or bilingual who want to develop their existing proficiency in the target language.

Contact Hours: 45.

Recommended Preparation: SPA 212 or equivalent.

STE - Surgical Technology

STE 100 - Fundamentals of Surgical Technology (6)

Emphasizes the theoretical basis of surgical technology practice.

Prerequisite: BIO 201, BIO 204, ENG 121 or ENG 122 or ENG 131, HPR 208, and MAT 107 or higher. Contact Hours: 90.

Recommended Preparation: PSY 235 (p. 388) and BIO 202 (p. 307)

STE 101 - Surgical Technology Skills Lab (4)

Provides the opportunity to learn and practice basic surgical technology skills.

Prerequisite: Prerequisite or Corequisite: STE 100. Contact Hours: 90.

STE 105 - Pharmacology for the Surgical Technologist (2)

Covers basic surgical pharmacology including the metric system, pharmacology theory, surgical drugs, and aspects of anesthesia.

Prerequisite: Prerequisite or Corequisite: STE 100. Contact Hours: 45.

STE 110 - Surgical Procedures I (3)

Reviews general, obstetric/gynecological and orthopedic surgical procedures. Includes a review of the equipment and supplies utilized during the pre-operative, intraoperative and post-operative phases of these procedures.

Prerequisite: STE 100, STE 101, STE 105. These courses can be taken concurrently. Contact Hours: 67.5.

STE 115 - Surgical Procedures II (3)

Reviews plastic, otorhinolaryngological, ophthalmologic, and urologic surgical procedures. Includes a review of the equipment and supplies utilized during the pre-operative, intra-operative and post-operative phases of these procedures.

Prerequisite: Prerequisite or Corequisite STE 110. Contact Hours: 67.5.

STE 120 - Surgical Procedures III (3)

Reviews cardiac, peripheral vascular, neurosurgical and maxillofacial surgical procedures. Includes a review of the equipment and supplies utilized during the pre-operative, intra-operative and post-operative phases of these procedures.

Prerequisite: STE 110 and STE 115. Contact Hours: 67.5.

STE 179 - Surgical Technical Seminar (2)

Allows Surgical Technology students to learn techniques helpful in passing the required national certification exam for surgical technology from the Association for Surgical Technologists.

Prerequisite: STE 100, STE 101, STE 105, STE 110, and STE 115. Corequisite: STE 181, STE 182, and STE 183. Contact Hours: 30.

STE 181 - Internship I (4)

Allows students to integrate theoretical concepts in a clinical surgical setting.

Prerequisite: STE 100, STE 101, STE 105, STE 110, and STE 115. Corequisite: STE 182 and STE 183. Contact Hours: 180.

STE 182 - Internship II (4)

Allows students to integrate advanced theoretical concepts in a clinical surgical setting.

Prerequisite: STE 100, STE 101, STE 105, STE 110, and STE 115. Corequisite: STE 181 and STE 183. Contact Hours: 180.

STE 183 - Internship III (6)

Allows students to integrate advanced theoretical concepts in a clinical surgical setting.

Prerequisite: STE 100, STE 101, STE 105, STE 110, and STE 115. Corequisite: STE 181 and STE 182. Contact Hours: 270.

**TEL-Teaching English as a Second Language-
TESL****TEL 100 - TESL (Teaching English as a Second Language) English Study (3)**

Provides an overview of the English language for the purpose of teaching English to speakers of other languages. It includes

descriptive and contrastive analyses of English phonology, morphology, syntax, semantics and discourse.

Contact Hours: 45.

TEL 102 - Procedures and Techniques for the English as a Second Language Classroom (3)

Focuses on the teaching of English grammar, speaking and listening, and reading and writing in the English as a Second Language (ESL) classroom. Instruction includes writing lesson plans, selecting and adapting instructional resources and technology, developing classroom management skills, and integrating cultural awareness. TESL students have the opportunity to observe various working models.

Contact Hours: 45.

TEL 103 - Career Strategies for the TESL Workplace (1)

Presents professional English as a Second Language (ESL) representatives from various area domains such as community college, teaching TESL abroad, community-based ESL adult schools, K-12 options, entrepreneurial use in workplace literacy, virtual ESL possibilities, private ESL institutions, and business technical areas for ESL abroad and locally. It provides interaction with professional teachers working in the field. An additional workshop will help students develop TESL job search skills and resume writing.

Contact Hours: 15.

TEL 188 - TESL Teaching Practicum (2)

Provides a supervised student teaching practicum in an ESL school, class or community agency. Students will work with an ESL mentor for planning and delivering lessons to a group of ESL students.

Contact Hours: 60.

Recommended Preparation: TEL 100 (p. 392) and TEL 102 (p. 392). These courses may be taken concurrently.

TEL 225 - Second Language Acquisition (3)

Examines the intricate web of variables that interact in the second language learning process. The emphasis in the course will be on examining each of these variables and then attempting to understand how they work together to foster or inhibit successful second language learning and acquisition.

Contact Hours: 45.

See the list of Specialized Courses on the first page of this Course Offerings section.

TEL 245 - ESL in the Content Areas (3)

Prepares teachers who work with limited English proficient students to integrate effective instructional strategies that will assist in the development of English Language learners' (ELLs) social and academic English and support their transition to US culture and schools. This course is appropriate in a variety of program models, mainstream classrooms, self-contained ESL classrooms, and bilingual programs and may be adapted for use with pre-service teachers and para-educators.

Contact Hours: 45.

THE - Theatre Arts

THE 105 - Theatre Appreciation (3)

Includes discussions, workshops, and lectures designed to discover, analyze and evaluate all aspects of the theatre experience: scripts, acting, directing, staging, history, criticism, and theory.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

THE 106 - Cross-Cultural Storytelling (4)

Offers international and American students the opportunity to share ethnic/cultural experiences by using the theatre techniques of storytelling, improvisation, mime, verbal and non-verbal language, scripting, and staging techniques resulting in performance projects.

Contact Hours: 60.

THE 108 - Theatre Script Analysis (3)

This course introduces students to methods of reading and analyzing literature for the stage. In addition, students will apply staging and design concepts in visualizing and analyzing how a play looks, sounds, and feels when produced.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

THE 111 - Acting I (3)

Covers basic acting techniques and approaches including scene study, improvisation, and script analysis. It includes practical application through classroom performance.

Contact Hours: 45.

THE 112 - Acting II (3)

Continues to explore basic acting techniques and approaches including scene study, improvisation, and intermediate script analysis. It includes practical application through classroom performance.

Contact Hours: 45.

THE 115 - Stage Movement for Actors (3)

Introduces the vocabulary of human movement, techniques of physical training, and anatomy and kinesiology for the actor. The course includes forms of basic dance and the coordination of movement with vocal delivery.

Contact Hours: 45.

THE 116 - Technical Theatre (3)

Introduces hands-on methods of constructing and painting scenery and properties and operating stage lighting. Students also learn the proper procedures of using shop equipment and serving on stage crews.

Contact Hours: 45.

THE 131 - Theatre Production I (3)

Allows students to put into practice theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage-managing, and administration is available.

Contact Hours: 45.

THE 132 - Theatre Production II (3)

Allows students to put into practice theories of theater production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage-managing, and administration is available.

Contact Hours: 45.

THE 135 - Stage Makeup I (3)

Covers makeup design and application techniques. Techniques include basic corrective, character, old age, and fantasy application.

Contact Hours: 45.

THE 136 - Stage Makeup II (3)

Continues to explore theatrical makeup design and application techniques. In addition, prosthetics, hair design and other more advanced applications will be explored.

Contact Hours: 45.

THE 141 - Improvisation I (1)

Helps students learn improvisation skills for performance and character development. Emphasis is placed on "Second City" style of improvisation.

Contact Hours: 15.

THE 211 - Development of Theatre: Greek-Renaissance (3)

Surveys the history and evolution of drama from ancient Greece to the Renaissance, emphasizing all aspects of the art form from period values to analysis of dramatic literature and performance.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

THE 212 - Development of Theatre: Restoration-Modern (3)

Surveys the history and evolution of drama from the Renaissance to the present, emphasizing all aspects of the art form from period values to the analysis of dramatic literature and performance.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

THE 213 - Intermediate Acting I (3)

Continues Acting Theatre 112. Emphasis is on artistic concentration of voice and movement. A detailed character biography is required.

Contact Hours: 45.

THE 215 - Playwriting (3)

Gives students the opportunity to learn and practice playwriting techniques, thereby improving creative writing skills. Elements of dramatic structure, dialogue, styles and theatrical practices are emphasized.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course.. Offered: *(GT-AH1). Contact Hours: 45.

THE 231 - Theatre Production III (3)

Allows students to put into practice theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing, and administration is available.

Contact Hours: 45.

THE 232 - Theatre Production IV (3)

Allows students to put into practice theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing, and administration is available.

Contact Hours: 45.

THE 237 - History of Costumes and Fashion (3)

Provides an examination of the clothing and accessories used by humans around the world from Prehistoric to Modern times.

Contact Hours: 45.

THE 240 - Theatre Voice and Diction (3)

Provides students with individual tutorials which define, design and apply specific vocal techniques to abate singing and speech difficulties. Master class performances provide the opportunity to conjure the energy, charisma and stage command necessary for presentations.

Contact Hours: 45.

THE 245 - Basic Costume Design and Construction (3)

Explores the basics of costume design and color theory. Construction techniques using regular and industrial sewing machines will be applied in constructing costumes and accessories. Students will be introduced to pattern drafting.

Contact Hours: 45.

THE 255 - Advanced Playwriting (3)

This course continues to explore playwriting techniques developed in THE 215 for theatre and applies concepts of writing for Description: movie, television, radio, and animation scripts, with emphasis on the dramatic process and form.

Contact Hours: 45.

THE 283 - Internship: Summer Stock Theatre (1-3)

Allows students to participate in summer play production that often includes outdoor performances and touring opportunities. Plays by classic authors, such as Shakespeare and Moliere, are frequently performed. Participation in all aspects of theatre production is available.

Contact Hours: 15 contact hours per credit.

See the list of Specialized Theatre Arts Courses on the first page of this Course Offerings section.

VET - Veterinary Technology**VET 102 - Veterinary Medical Terminology (1)**

Introduces the student to the structure of veterinary medical terms with emphasis on using and combining the most common prefixes, roots and suffixes. Includes terms related to major body systems, oncology, psychiatry, as well as clinical laboratory and diagnostic procedures and imaging. Class structure provides accepted pronunciation of terms and relative use in the veterinary specific setting.

Contact Hours: 15.

VET 103 - Veterinary Assistant Restraint and Handling (2)

Introduces students to basic animal care skills and clinical procedures common to a veterinary assistant in practice. Laboratories provide practice in restraint, grooming and physical exam techniques.

Prerequisite: Admission to the VET Tech Assistant program.

Contact Hours: 45.

VET 106 - Exotic Animal Handling (2)

Designed to provide students knowledge and skills required for veterinary technicians. This course focuses on exotic and laboratory animal husbandry, handling, restraint, and specific problems encountered with exotic and laboratory animals.

Prerequisite: Admission to the VET program. NOTE: Handling of animals will include exotic pets and laboratory animals. Contact Hours: 45.

VET 108 - Introduction to Laboratory Procedures (3)

Studies the biology, clinical appearance and laboratory diagnosis of parasitic diseases of veterinary and zoonotic importance.

Prerequisite: Admission to the VET program and BIO 111.

Contact Hours: 60.

VET 109 - Applied Companion Animal Behavior (3)

Explores the topic of companion animal behavior through: critical reviews of behavioral literature and its implications for applied techniques in behavior, demonstrations of applied techniques for modifying animal behavior and the application of the principles of companion animal body posture and communication to everyday treatment of animals. Focuses on treatment of animals in veterinary practice, including improving handling techniques and safety.

Prerequisite: Completion of BIO 105 or higher or must be a credentialed technician or an approved veterinary assistant.

Contact Hours: 45.

VET 113 - Veterinary Assistant Surgical & Nursing Care (3)

Introduces surgical assisting of the veterinarian and/or the veterinary technician, including basic knowledge of surgical instruments and surgery room hygiene. Also introduces basic nursing care of animal patients including safety concerns and nursing procedures.

Prerequisite: Admission to the VET Tech Assistant program.

Contact Hours: 60.

VET 114 - Veterinary Assistant Laboratory and Clinical Procedures (3)

Covers selected areas of common laboratory and diagnostic imaging procedures performed in a veterinary hospital. Emphasis is on assisting the veterinarian and/or veterinary technician with these procedures.

Prerequisite: Admission to the VET Tech Assistant program.

Contact Hours: 60.

VET 115 - Surgical Nursing (2)

Constructed for the student with limited background in veterinary medicine. The course expresses the need for familiarity with instruments, surgical support equipment, and proficiency in the proper preparation of the operating room.

Prerequisite: VET 205. Corequisite: VET 206. Contact Hours: 45.

VET 116 - Humane Treatment and Handling of Animals (3)

Designed to give students knowledge and skills required for veterinary technicians. The course focuses on animal welfare and humane treatment during handling and restraint, behavior, safety, equipment choice, and typical clinical procedures.

Prerequisite: Admission to VET Program. NOTE: Handling of animals will include domestic small and large species. Contact Hours: 75.

VET 120 - Office Procedures and Relations (2)

Presents commonly encountered clinical procedures with the emphasis on the role of the veterinary technician in the management of veterinary patients and records. The course also includes introduction to veterinary management software and on-line veterinary services.

Prerequisite: Admission to VET or VET assistant program. Contact Hours: 45.

VET 134 - Diagnostic Imaging (2)

Covers selected areas of diagnostic imaging with an emphasis on radiology. Topics will include radiation properties, x-ray production, radiographic equipment, darkroom procedures, the radiographic image, animal positioning and radiation safety. An introduction to special imaging techniques such as computed tomography (CT scan) and ultrasound will also be included.

Prerequisite: MAT 103 or MAT 107 or MAT 121 and VET 205. VET 205 can be taken concurrently with this course. Corequisite: VET 205 can be taken concurrently with this course.. Contact Hours: 45.

VET 180 - Internship: Private Practice (3)

Participate in a 135 hour externship experience in a private practice. The student is involved in the day-to-day work of the practice including restraint and handling of animals, office procedures, clinical laboratory techniques, radiology, pharmacy and surgery preparation.

Prerequisite: VET 108, VET 115, VET 116, VET 120, VET 134, VET 224 and VET 241. Contact Hours: 135.

VET 181 - Internship: Laboratory Animal Technology (2)

Provides externship experience through Laboratory Animal Resources at Colorado State University. The course introduces career opportunities in a laboratory animal setting

Prerequisite: VET 116. Contact Hours: 90.

VET 183 - Internship (1.5)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. This internship provides students with practical day to day experience in handling and restraint of animals, assisting with office procedures, clinical laboratory techniques, and surgical preparation.

Prerequisite: Completion of VET 120, VET 103, VET 113 and VET 114. Contact Hours: 67.5.

VET 205 - Veterinary Anatomy and Physiology I (4)

Provides background in the anatomy and physiology of animals. The class covers the structure and function of each body system, including skeletal, muscular, circulatory, integumentary, and

respiratory. Other subjects include principles of metabolism and unique characteristics of common domestic species. Applied laboratory experiences are included.

Prerequisite: Admission to the VET program and BIO 111. Contact Hours: 75.

VET 206 - Veterinary Anatomy and Physiology II (4)

Provides additional detail in anatomy and physiology of companion and farm animal species. The class covers interrelationships between body systems, such as respiratory, cardiovascular, urogenital, and reproductive. Additional topics include metabolism and digestion, acid/base balance, neurology, and reproductive endocrinology. Applied laboratory experiences are included as well as clinical applications of anatomy.

Prerequisite: VET 205. Contact Hours: 75.

VET 224 - Pharmacology for Veterinary Technicians (3)

Provides background in pharmacology principles including topics such as: mechanism of drug action, types of drugs, anesthetic agents, pharmacy management and calculations related to drug dosages.

Prerequisite: MAT 103 or MAT 107 or MAT 121 and VET 205 or VET 206. Corequisite: VET 206. Contact Hours: 60.

VET 225 - Anesthesiology (3)

Covers appropriate forms of injectable and gaseous anesthesia for surgical and diagnostic procedures. Other topics include anesthetic monitoring, emergency procedures, and pain management.

Prerequisite: VET 206 and VET 224. Contact Hours: 60.

VET 227 - Animal Nutrition (2)

Gives students a foundation in the principles of animal nutrition. The course focuses on the basic elements of nutrition including the major categories of nutrients, and their sources, digestion, and metabolism. Both large and small animal feeds and feeding will be covered. The course emphasizes the relationship between nutrition and health.

Prerequisite: VET 206. Contact Hours: 45.

VET 238 - Small Animal Nursing (2)

Promotes commonly encountered medical and surgical conditions of the dog and cat with emphasis on the role of the veterinary technician. This course focuses on nursing concepts and specific skills necessary for the profession. Laboratory sessions will provide a hands-on teaching experience.

Prerequisite: VET 116. Contact Hours: 45.

VET 239 - Large Animal Nursing (2)

Presents commonly encountered medical and surgical conditions of common large animal species with emphasis on the role of the veterinary technician. This course focuses on nursing concepts and specific skills necessary for the profession. Laboratory sessions will provide a hands-on teaching experience.

Prerequisite: VET 116. Contact Hours: 45.

VET 241 - Clinical Laboratory Procedures (4)

Discusses the biochemical derangements that characterize disease. Topics include proper collection and analysis of urine, blood, and cytological samples; basic principles of anatomic pathology; necropsy procedure and sample collection.

Prerequisite: VET 108 and VET 205. Contact Hours: 90.

VET 242 - Veterinary Critical Care (2)

Provides instruction in appropriate nursing assessment, monitoring and intervention with emergencies. Uses knowledge and understanding of overall anatomy, physiology, and disease or accident process to assist in veterinarian's diagnoses and treatment.

Prerequisite: Admission to the VET program or Certification as a Veterinary Technician. Contact Hours: 30.

VET 243 - Veterinary Diagnostic Microbiology (3)

Includes the biology, clinical appearance and laboratory diagnosis of bacterial and viral diseases of veterinary and zoonotic importance.

Prerequisite: Admission to the VET program and BIO 111. NOTE: Laboratories will include microscope analysis of samples. Contact Hours: 60.

VET 250 - Clinical Competency Evaluation (1)

Evaluates the students' clinical skills and knowledge after successful completion of the internship courses, in order to prepare them for the national board examination and clinical practice. Evaluation of clinical skills and knowledge includes selected clinical laboratory techniques (parasitology, hematology, urinalysis, cytology, chemistry, serology, microbiology); diagnostic imaging; office procedures; surgical preparation, instrumentation and assistance; anesthesia induction, maintenance and monitoring; restraint and handling techniques; small, large and laboratory animal diagnostic and therapeutic techniques; and pharmacology calculations, labeling and drug classification.

Prerequisite: VET 180. Contact Hours: 22.5.

See the list of Specialized Courses on the first page of this Course Offerings section.

VET 280 - Internship (11)

Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/ coordinator.

WEL - Welding Technology

WEL 100 - Safety for Welders (1)

Covers the hazards of welding on health and safety, locating essential safety information from a code or other standard, and identifying and applying shop safety procedures.

Contact Hours: 22.5.

WEL 101 - Allied Cutting Processes (4)

Covers setting up equipment and performing cutting and gouging operations utilizing the oxyacetylene, air carbon arc, exothermic, and plasma arc cutting processes. This course will also provide an introduction to blueprint reading.

Prerequisite: Prerequisite or Corequisite: WEL 100 or MTE 105 may be taken concurrently. Contact Hours: 90.

WEL 103 - Basic Shielded Metal Arc I (4)

Covers performing safety inspections, making minor repairs, adjusting operating parameters, and operating SMAW equipment utilizing E-6010, E-6013, and E-7018 electrodes. Layout procedures and practices will also be introduced.

Prerequisite: Prerequisite or Corequisite: WEL 100 or MTE 105 may be taken concurrently. Contact Hours: 90.

WEL 104 - Basic Shielded Metal Arc II (4)

Covers performing safety inspections, making minor repairs, adjusting operating parameters, and operating SMAW equipment utilizing E-7018 and E-6010 electrodes. Layout procedures will be practiced during this course.

Prerequisite: Prerequisite or Corequisite: WEL 103. Contact Hours: 90.

WEL 106 - Blueprint Reading for Welders and Fitters (4)

Covers interpreting weld symbols on blueprints, identifying proper layout methods and tools, and proper joint design necessary for various welding processes.

Contact Hours: 60.

WEL 110 - Advanced Shielded Metal Arc I (4)

Covers performing safety inspections, minor repairs, operating parameters, operation of SMAW equipment, and SMAW operations on groove and fillet welds utilizing E-6010 and E-7018 electrodes. Layout procedures will be practiced during this course.

Prerequisite: Prerequisite/Corequisite: WEL 101 and WEL 104. Contact Hours: 90.

WEL 124 - Introduction to Gas Tungsten Arc Welding (4)

Covers welding in all positions and on various joint configurations using the Gas Tungsten Arc Welding (Tungsten Inert Gas) welding process on carbon steel, stainless steel and aluminum. Student should be familiar with basic metallurgy pertaining to the weldability of metals, structural joints, and safety in the welding industry.

Prerequisite: Prerequisite or Corequisite: WEL 100 or MTE 105 may be taken concurrently. Contact Hours: 90.

WEL 125 - Introduction to Gas Metal Arc Welding (4)

Covers welding in all positions and on various joint configurations using the Gas Metal Arc Welding (Metal Inert Gas) welding process and flux core welding on carbon steel, stainless steel and aluminum. Student should be familiar with basic metallurgy pertaining to the weld ability of metals, structural joints, and safety in the welding industry.

Prerequisite: Prerequisite or Corequisite: WEL 100 or MTE 105 may be taken concurrently. Contact Hours: 90.

WEL 145 - Introduction to Robotic Welding (2)

Introduces the use of the teaching pendant to program a robotic welding machine. Will cover basic terminology, machine safety, programming of all six axis points, and weld sequencing. Provides practical application in programming and operating a robot welding machine.

Prerequisite: Prerequisite or Corequisite: WEL 125 and MAT 107 may be taken concurrently. Contact Hours: 45.

WEL 150 - AWS Qualification Testing (1)

Provides students with the opportunity to complete a welding qualification test in accordance with an American Welding Society code or specification.

Prerequisite: Prerequisite or Corequisite: WEL 101 and WEL 106 or MTE 106, WEL 110 and WEL 224 and WEL 225. Contact Hours: 22.5.

WEL 224 - Advanced Gas Tungsten Arc Welding (4)

Covers welding in all positions on carbon steel, stainless steel and aluminum plate and carbon steel pipe with the GTAW process and welding 3G and 4G vee groove plates. Student should be familiar with basic metallurgy pertaining to the weld ability of metals, structural joints, and safety in the welding industry.

Prerequisite: Prerequisite/Corequisite: WEL 124 may be taken concurrently. Contact Hours: 90.

WEL 225 - Advanced Gas Metal Arc Welding (4)

Covers welding in all positions on carbon steel plate with the Gas Metal Arc Welding process. Student should be familiar with basic metallurgy pertaining to the weld ability of metals, structural joints, and safety in the welding industry.

Prerequisite: Prerequisite/Corequisite: WEL 125 may be taken concurrently. Contact Hours: 90.

WEL 230 - Pipe Welding I (4)

Covers safety inspections, minor repairs, operating parameters, and operation of Shielded Metal Arc Welding, Gas Metal Arc Welding, and Flux Cored Arc Welding equipment in a variety of positions on plain carbon steel pipe joints. Also covers evaluating and solving complex welding and fabrication problems and administering hands-on training and supervision to other students during assigned fabrication and welding operations.

Prerequisite: Prerequisite/Corequisite: WEL 110 may be taken concurrently. Contact Hours: 90.

WEL 231 - Pipe Welding II (4)

Covers safety inspections, minor repairs, operating parameters, and operation of Shielded Metal Arc Welding, Gas Metal Arc Welding, and Flux Cored Arc Welding equipment in a variety of positions on plain carbon steel pipe joints. Also covers evaluating and solving complex welding and fabrication problems and administering hands-on training and supervision to other students during assigned fabrication and welding operations.

Prerequisite: Prerequisite/Corequisite: WEL 230 may be taken concurrently. Contact Hours: 90.

WEL 250 - Layout and Fabrication (4)

Develops welding and associated skills in the use of drawings and blueprints in planning. Includes designing and layout of projects.

Prerequisite: Prerequisite or Corequisite: WEL 101 and WEL 125 and MTE 106 or WEL 106 may be taken concurrently. Contact Hours: 90.

WEL 251 - Design, Layout and Fabrication (4)

Develops advanced welding and associated skills in the use of drawings and blueprints in planning. This course includes designing and layout projects.

Contact Hours: 90.

WEL 264 - Creative Welding (4)

Introduces design and construction of welded sculptures with the use of different fabrication techniques. This course includes uses of different metalworking machines, hot and cold working practices, and demonstration of coloring and texturing metal.

Prerequisite: Prerequisite or Corequisite: WEL 101 and WEL 125 may be taken concurrently. Contact Hours: 90.

WEL 289 - Capstone (1)

Focuses on demonstrated culmination of learning within a given program of study.

WST-Women's Studies**WST 200 - Introduction to Women's Studies (3)**

Examines the nature and function of women in society from an interdisciplinary perspective, focusing on the similarity and diversity of women's experience over time and across cultures. The course will examine topics such as sex roles, socialization, political and philosophical perspectives on women's issues, and women's accomplishments in history, art, literature, science, health issues, and the family. Students will gain an awareness of the limitations of traditional scholarship on women, and gain a means of practical application of the new scholarship on women's roles and nature.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SS3). Contact Hours: 45.

WST 225 - Women and Social Action (3)

Enables students to gain an understanding of the role of the systems of oppression in society and avenues available to them to create both individual and collective change through social action. Each student becomes aware of their ability to enact change and the empowerment that process provides. We will explore issues of diversity including, but not limited to, race, class, gender, age and disability. The course emphasizes critical thinking skills and is informed by feminist pedagogy.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SS3). Contact Hours: 45.

WST 240 - Goddesses and Women in the Ancient World (3)

Surveys gender socialization and the roles, challenges, contributions, and images of women in the development of cultures. Through a study of arts, literature, music, politics, religion, philosophy, laws, and social standards, students are introduced to the history of ideas that have defined women's place in societies. It examines goddesses, rituals, and ceremonies and how the image of the Feminine Divine changed from matriarchal cultures through the establishment of patriarchal cultures. These topics will be viewed through diverse cultures, including European and non-European, from the Ancient World through the Middle Ages.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SS3). Contact Hours: 45.

WST 249 - Women's Sexuality (3)

Explores how different cultures have understood women's sexuality and the power of femininity. The course addresses theories of sexuality and erotic power, women's sexualities across cultures and throughout the lifespan, the perception of sexuality in religion and history, and creative visualizations of women's sexuality in literature, visual, musical and performance art.

Prerequisite: Equivalent testing score (e.g., ENG 121 or higher,) or enrollment in or completion of CCR 092 or CCR 093 or CCR 094. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SS3). Contact Hours: 45.

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