

FRONT RANGE COMMUNITY COLLEGE

CATALOG

2020-2021



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FRONT RANGE
COMMUNITY COLLEGE

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

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2020-2021 CATALOG

WELCOME

Catalog Usage

Which Catalog to Use?

This catalog is effective beginning Summer Semester 2020 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 in the Catalog Updates section of this 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 2020

Class Sessions: START 1

10-Week Classes	May 26 - Aug 3
1st 5-Week Classes	May 26 - June 29
Weekend Classes	May 29 - Aug 2

Class Sessions: START 2

8-Week Classes	June 9 - Aug 3
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Class Sessions: START 3

2nd 5-Week Classes	June 30 - Aug 3
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Special Days & Holidays

Independence Day - College Closed	July 3 - July 4
Friday-Saturday July 3-4	
Grades Due (Noon)	Thur Aug 6

Fall Semester 2020

Faculty Work Days

9-Month Faculty Report	Mon Aug 17
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Class Sessions: START 1

Weekend Classes	Aug 21 - Dec 13
15-Week Classes	Aug 24 - Dec 14
1st 12-Week Classes	Aug 24 - Nov 16
1st 10-Week Classes	Aug 24 - Nov 2
1st 7-Week Classes	Aug 24 - Oct 12
1st 5-Week Classes	Aug 24 - Sept 28
14-Week Classes	Aug 31 - Dec 14

Class Sessions: START 2

13-Week Classes	Sept 8 - Dec 14
2nd 12-Week Classes	Sept 15 - Dec 14

Class Sessions: START 3

2nd 10-Week Classes	Sept 29 - Dec 14
2nd 5-Week Classes	Sept 29 - Nov 2
2nd 7-Week Classes	Oct 20 - Dec 14
3rd 5-Week Classes	Nov 3 - Dec 14

Special Days & Holidays

Labor Day - College Closed, No Classes	Mon Sept 7
All College In-Service - College Open, Limited Services	Tues Sept 1
Fall Break - All Campuses - College Closed	Nov 26 Only
Fall Break - All Campuses - No Classes	Nov 23 - Nov 29
Grades Due (Noon)	Thur Dec 17

Spring Semester 2021

Faculty Work Days

9-Month Faculty Report	Mon Jan 11
------------------------	------------

Class Sessions: START 1

Weekend Classes	Jan 22 - May 8
15-Week Classes	Jan 19 - May 10
1st 12-Week Classes	Jan 19 - Apr 19
1st 10-Week Classes	Jan 19 - Apr 5
1st 7-Week Classes	Jan 19 - Mar 8

1st 5-Week Classes	Jan 19 - Feb 22
14-Week Classes	Jan 26 - May 10
Class Sessions: START 2	
13-Week Classes	Feb 2 - May 10
2nd 12-Week Classes	Feb 9 - May 10
Class Sessions: START 3	
2nd 5-Week Classes	Feb 23 - Apr 5
2nd 10-Week Classes	Feb 23 - May 10
2nd 7-Week Classes	Mar 16 - May 10
2nd 7-Week Classes LC	Mar 23 - May 10
3rd 5-Week Classes	Apr 6 - May 10
Special Days & Holidays	
Martin Luther King, Jr. - College Open, No Classes	Mon Jan 18
Spring Break - LC - College Open, No Classes	Mar 15 - 21
Spring Break - BCC/WC/BG - College Open, No Classes	Mar 22 - 28
Grades Due (Noon)	Thur May 13
Commencement - Larimer Campus	Tues May 11
Commencement - Boulder County Campus	TBD
Commencement - Westminster/Brighton Campuses	Thur May 13

Summer Semester 2021

Class Sessions: START 1	
10-Week Classes	May 25 - Aug 2
1st 5-Week Classes	May 25 - June 28
Weekend Classes	May 28 - Aug 1
Class Sessions: START 2	
8-Week Classes	June 8 - Aug 2
Class Sessions: START 3	
2nd 5-Week Classes	June 29 - Aug 2
Special Days & Holidays	
Independence Day - College Closed July 5, No Weekend Classes	Mon July 5
Grades Due (Noon)	Thur Aug 5

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:

- Complete an Application for Admission online at www.frontrange.edu/apply
- 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.

Student Classification

Students are classified by academic year and admission status according to the following definitions:

Academic Year

- **Freshman:** Successful completion of fewer than 30 college-level semester credit hours.
- **Sophomore:** Successful completion of 30 or more college-level semester credit hours.
- **Unclassified:** Awarded a degree at the associate level or above.

Admission Status

- **New Student:** Attending FRCC for the first time.
- **Continuing Student:** Attended FRCC within the past 12 months.
- **Readmitted Student:** Not attended FRCC within the past 12 months and re-entering the college.
- **Transfer Student:** Some prior college or university experience.

Residency

Students are classified as either a resident or non-resident of Colorado for tuition purposes at the time of admission. Colorado Tuition Classification is governed by State Law (Title 23, Article 7, of the Colorado Revised Statutes of 1973, as amended) and by judicial decisions that apply to all public institutions of higher education in Colorado and is subject to change at any time. Residency decisions do not transfer between Colorado colleges. Front Range Community College must apply the rules set forth in the residency statutes and is not free to make exceptions to the rules except as specifically permitted by law.

General Qualifications

- Resident status requires domicile in Colorado for one year immediately prior to the first day of class. Domicile is defined as a true, fixed, and permanent home and place of habitation. Domicile is a legal characteristic that everyone has, and students can have only one domicile at any one time. A student's domicile is a legal, primary residence.
- During the one-year domicile period, the student should comply with all legal obligations of a Colorado resident such as demonstrating proof of voter registration, Colorado income tax payment, Colorado motor vehicle registration, Colorado issued driver's license or ID card, and/or proof of employment.

- Students under the age of 23 (un-emancipated minors) may be eligible for in-state tuition if a parent or court-appointed legal guardian has been domiciled and complied with legal obligations in Colorado for one year.

- Students whose parents are not domiciled in Colorado *may also qualify to begin the one-year domiciliary period* if the student is: at least 23 years old, married, or emancipated. Emancipation requires documentation of financial independence and the ability to maintain your own residence and associated expenses in addition to tuition. If you receive financial support from your parents, extended family, friends, or other similar sources, including trusts and loans, you are not considered emancipated.

- There are several amendments to the Tuition Classification Law for certain populations of students including Olympic athletes, military personnel, inmates, recent Colorado high school graduates, GED recipients, etc. Please contact the Tuition Classification Officer at Front Range Community College to determine if you may be in an eligible population.

- FRCC sets a priority deadline for each semester that is typically one week before the start of the fifteen-week semester. Students who meet this priority deadline should know the petition decision before the deadline to drop courses for the fifteen-week semester. However, all students have up to 30 days after the first day of his/her term of admission or enrollment to petition for in-state tuition. The Tuition Classification Officer may request additional documentation as the burden of proof rests upon the petitioner to substantiate the claim of resident for tuition classification purposes. The Tuition Classification Officer notifies the student of the outcome within 30 days of the decision via email and/or standard letter.

Initial Classification

The initial tuition classification decision is made by the designated Tuition Classification Officer in the Registrar's Office for the semester in which the student is admitted. The classification is based on the information provided on the application for admission. Failure to answer all questions could lead to a non-resident classification. After the tuition classification is determined, it remains unchanged in the absence of further action and evidence to the contrary.

Changes in Tuition Classification

Any student who believes that the tuition classification decision is not correct or whose information has changed and now wishes to prove eligibility for in-state tuition may petition for in-state tuition or resident classification. Petition forms are available online at www.frontrange.edu/residency or at the Registrar's Office.

Correction of Residency Determination Due to an Error

FRCC reserves the right to correct a residency determination after the 30-day deadline in cases where the college believes an error was made.

Appeal Procedures for Residency and Tuition Classification

Any student who is denied in-state tuition classification after petitioning for in-state tuition may appeal the decision of the Tuition Classification Officer. The student must appeal to the Registrar's Office in writing and provide any additional supporting documentation available to substantiate the claim to

in-state tuition classification within 30 days of the denial, but no later than the end of the semester.

Non-Resident Students and the Western Undergraduate Exchange (WUE) Program

WUE is the Western Undergraduate Exchange, a program coordinated by the Western Interstate Commission for Higher Education (WICHE). Through WUE, students in some western states may enroll in many two-year and four-year public college programs at a reduced tuition rate, which at FRCC is 150% of the total cost of resident tuition. WUE students are not eligible for the College Opportunity Fund stipend, but WUE tuition is considerably less than non-resident tuition. For more information, go to <http://wiche.edu/wue>.

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** (p. 71): - Accredited by ASE Education Foundation.

- **Dental Assisting** (p. 35): 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. 110): Accredited by the National Association for the Education of Young Children (NAEYC)

- **Emergency Medical Services** (p. 36): 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. 93): Accredited by the North American Wildlife Technology Association (NAWTA)

- Forestry Technology (p. 92): Accredited by the Society of American Foresters (SAF)

- **Health Information Technology** (p. 37): Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)

- **Heating, Air Conditioning and Refrigeration** (p. 79): Accredited by the Partnership for Air Conditioning, Heating and Refrigeration Accreditation (PAHRA)

- **Kitchen and Bath Design** (p. 83): Certificate in Interior Design is Accredited by the National Kitchen and Bath Association (NKBA)

- **Medical Assisting** (p. 41): The Medical Assistant certificate programs at the Boulder County Campus, Larimer Campus, and Westminster Campus are accredited by the Commission on Accreditation of Allied Health and Education Programs (CAAHEP) upon the recommendation of the Medical Assisting Education Review Board (MAERB). Commission on Accreditation of Allied Health Education Programs, 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33763, (727) 210-2350

- **Nurse Aide** (p. 47): Approved Nurse Aide Education Program by the Colorado State Board of Nursing

- **Nursing** (p. 43): 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. 48): Accredited by the American Society of Health System Pharmacists (ASHP)

- **Surgical Technology** (p. 49): Commission on Accreditation of Allied Health Education Programs (CAAHEP)

- **Veterinary Technology** (p. 50): 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 website 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

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*Please work with your advisor to select the best pathway for you.

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*Offered only with our partnering high schools. Program is not offered on campus or online.

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English

English AA Degree (p. 53)

Fermentation Sciences

Fermentation Sciences AS Degree (p. 90)

Forestry, Wildlife & Natural Resources

Natural Resources Technology AAS Degree (p. 91)

Forestry Technology AAS Degree (p. 92)

Wildlife Technology AAS Degree (p. 93)

Natural Resources Certificate (p. 94)

Natural Resources Geographic Information Systems Certificate (p. 94)

Natural Resources Recreation Certificate (p. 94)

Environmental Education Certificate (p. 95)

Forestry Certificate (p. 95) (p. 96)

Wildland Fire Certificate (p. 95)

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French

French AA Degree (p. 54)

Geography

Geography AA Degree (p. 98)

Geology*

Geology AS Degree (p. 99)

General AS Degree (p. 51)

*Please work with your advisor to select the best pathway for you.

Geospatial Science

Geospatial Science BAS Degree (p. 96)

Geospatial Science AAS Degree (p. 97)

Geographic Information Systems Certificate (p. 97)

Foundations of Geographic Information Systems Certificate (p. 98)

Health Information Technology

Health Information Technology AAS Degree (p. 37)

Medical Coding Certificate (p. 37)

Heating, Ventilation, Air Conditioning, & Refrigeration

Heating, Ventilation, Air Conditioning & Refrigeration AAS Degree (p. 79)

Residential Air Conditioning and Heating Certificate (p. 80)

Light Commercial Air Conditioning and Heating Certificate (p. 81)

Commercial Refrigeration Certificate (p. 81)

HVAC/R Fundamentals Certificate (p. 82)

Highway Maintenance Management

Highway Maintenance Management AAS Degree (p. 32)

History

History AA Degree (p. 116)

Horticulture & Landscape Technologies

Horticulture & Landscape Technologies AAS Degree (p. 100)

Horticulture Business Management AS Degree (p. 101)

Environmental Horticulture-Landscape Business AS Degree (p. 102)

Floral Design Certificate (p. 102)

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Landscape Design Certificate (p. 103)
 Landscape Contracting Technician (p. 103)
 Landscape Maintenance Technician Certificate (p. 104)
 Nursery, Greenhouse, & Garden Center Management Certificate (p. 104)
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Hospitality & Culinary Arts

Culinarian & Restaurant Management AAS Degree (p. 33)

Hotel & Event Management AAS Degree (p. 34)

Culinarian Certificate (p. 34)

Restaurant Management Certificate (p. 35)

Foundations of Culinary Arts Certificate (p. 35)

Integrative Health & Massage Therapy

Integrative Health Professions AAS Degree (p. 38)

Integrative Health & Wellness Coaching Certificate (p. 38)

Reflexology Certificate (p. 39)

Massage Therapy Certificate (p. 39)

Aromatherapy Certificate (p. 40)

Integrative Health Professions Certificate (p. 40)

Yoga Teacher Training Certificate (p. 40)

Interior Architecture & Design

Interior Architecture & Design AAS Degree (p. 82)

Kitchen & Bath Design Certificate (p. 83)

Fundamentals in Interior Design, Drafting & Communication Certificate (p. 83)

Math

Mathematics AS Degree (p. 105)

Medical Assisting & Medical Office Technology

Medical Assisting AAS Degree (p. 41)

Medical Office & Billing Specialist AAS Degree (p. 42)

Medical Assisting Certificate (p. 41)

Medical Office Specialist Certificate (p. 42)

Medical Billing Specialist Certificate (p. 43)

Multimedia Technology

Digital Animation AAS Degree (p. 55)

Graphic Design AAS Degree (p. 56)

Video Production & Editing AAS Degree (p. 56)

Web Design AAS Degree (p. 57)

Digital Animation Certificate (p. 58)

Digital Imaging Certificate (p. 58)

Graphic Design Certificate (p. 59)

Multimedia Certificate (p. 59)

Video Production & Editing Certificate (p. 60)

Web Design Certificate (p. 60)

Fundamentals in Multimedia Technology Certificate (p. 61)

Music & Recording Arts Technology

Music AA Degree (p. 61)

Recording Arts Technology AAS Degree (p. 62)

Recording Arts Technology Certificate (p. 63)

Foundations of Recording Arts Technology Certificate (p. 64)

Nursing

Nursing Bachelor of Science Degree (p. 43)

Nursing AAS Degree (p. 44)

Nursing Advanced Placement Bridge Program LPN to ADN AAS Degree (p. 45)

Practical Nursing - Exit Option Certificate (p. 46)

Practical Nursing Certificate (p. 46)

Nurse Aide

Nurse Aide Certificate (p. 47)

Optics Technology

Optics Technology Certificate (p. 83)

Paralegal/Legal Assistant

Paralegal/Legal Assistant AAS Degree (p. 116)

Paralegal/Legal Assistant Certificate (p. 117)

Foundations of Paralegal/Legal Assistant Certificate (p. 117)

Patient Care Technician

Patient Care Technician Certificate (p. 47)

Electrocardiogram Certificate (p. 47)

Health Care Customer Service Basics Certificate (p. 48)

Nurse Aide Certificate (p. 47)

Pharmacy Technician

Pharmacy Technician Certificate (p. 48)

Phlebotomy

Phlebotomy Certificate (p. 48)

Philosophy

Philosophy AA Degree (p. 64)

Physics*

Physics AS Degree (p. 106)

General AS Degree

*Please work with your advisor to select the best pathway for you.

Political Science

Political Science AA Degree (p. 118)

Precision Machining Technology

Precision Machining Technology Certificate (p. 84)

CNC Machining Certificate (p. 84)

Manual Machining Certificate (p. 85)

Psychology

Psychology AA Degree (p. 119)

Psychology AS Degree (p. 120)

Sociology

Sociology AA Degree (p. 121)

Spanish

Spanish AA Degree (p. 65)

Sterile Processing Technology

Sterile Processing Certificate (p. 49)

Surgical Technology

Surgical Technology AAS Degree (p. 49)

Teaching English as a Second Language

Teaching English as a Second Language/Abroad Cert (p. 121)

Teaching English as a Second Language/K-12 Cert (p. 122)

Theatre

Theatre AA Degree (p. 67)

Veterinary Technician

Veterinary Technology AAS Degree (p. 50)

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Welding Technology

Welding Technology AAS Degree (p. 85)

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Welding Fundamentals Certificate (p. 88)

PROGRAM INFORMATION

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. 132) 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, please review DegreeCheck in the eWOLF Student Dashboard or view your program MAP listed by Career and Academic Community by clicking on the icon on the left.

To learn more about the different types of degrees at FRCC, please see Degree & Elective Information (p. 127) and meet with an advisor to select the best program for you.

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Accounting

Accounting AAS Degree (p. 19)

Bookkeeping Certificate (p. 19)

Tax Preparation Certificate (p. 20)

Business

Business AA Degree (p. 20)

Business AAS Degree (p. 21)

Business Logistics AAS Degree (p. 22)

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Logistics Certificate (p. 23)

Small Business Ownership Certificate (p. 23)

Foundations of Business Certificate (p. 23)

Business Specialization Certificate (p. 24)

Foundations of Leadership & Management Certificate (p. 24)

International Business Basics Certificate (p. 24)

Project Management Certificate (p. 25)

Small Business Operations Certificate (p. 25)

Computer Information Systems

Computer Information Systems AAS Degree (p. 25)

Database Administration AAS Degree (p. 26)

Programming AAS Degree (p. 26)

Web Developer Certificate (p. 27)

Programming Certificate (p. 27)

Database Certificate (p. 28)

Applications Specialist Certificate (p. 28)

Cybersecurity - Networking & Virtualization

Cybersecurity AAS Degree (p. 28)

Networking & Virtualization AAS Degree (p. 29)

Windows Server Administration Certificate (p. 30)

Cybersecurity Fundamentals Certificate (p. 30)

Cloud Computing and Virtualization Certificate (p. 31)

Network Infrastructure Certificate (p. 31)

Network Technician Certificate (p. 31)

Linux Server Administration Certificate (p. 32)

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Highway Maintenance Management

Highway Maintenance Management AAS Degree (p. 32)

Hospitality & Culinary Arts

Culinarian & Restaurant Management AAS Degree (p. 33)

Hotel & Event Management AAS Degree (p. 34)

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Health Sciences & Wellness

Dental Assisting

Dental Assisting Certificate (p. 35)

Emergency Medical Technician

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Sterile Processing Certificate (p. 49)

Surgical Technology

Surgical Technology AAS Degree (p. 49)

Veterinary Technician

Veterinary Technology AAS Degree (p. 50)

Veterinary Assistant Certificate (p. 50)

Liberal Arts, Communication & Design

Associate of Arts - General

Associate of Arts Degree (p. 51)

Art History & Studio Art

Art History AA Degree (p. 51)

Studio Art AA Degree (p. 66)

Communication

Communication AA Degree (p. 52)

English

English AA Degree (p. 53)

French

French AA Degree (p. 54)

Multimedia Technology

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Foundations of Recording Arts Technology Certificate (p. 64)

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Philosophy AA Degree (p. 64)

Spanish

Spanish AA Degree (p. 65)

Theater

Theatre AA Degree (p. 67)

Manufacturing, Automotive, Construction & Design Technologies

ARCHITECTURAL ENGINEERING & CONSTRUCTION TECHNOLOGY

Architectural & Building Science AAS Degree (p. 68)

Architectural Drafting Certificate (p. 68)

AUTOMATION & ENGINEERING TECHNOLOGY

Automation & Engineering Technology AAS Degree (p. 69)

Industrial Maintenance Certificate (p. 69)

Industrial Automation & Robotics Certificate (p. 70)

Manufacturing Fundamentals Certificate (p. 70)

AUTOMOTIVE TECHNOLOGY

Automotive Technology AAS Degree (p. 71)

Engine Performance Certificate (p. 72)

Engine Repair Certificate (p. 72)

Automotive Electrical/Electronic Systems Certificate (p. 72)

Automatic Transmission/Transaxle Certificate (p. 73)

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General Automotive Maintenance & Repair Certificate (p. 73)

Manual Drivetrain & Axles Certificate (p. 74)

Suspension & Steering Certificate (p. 74)

Automotive Heating & Air Conditioning Certificate (p. 74)

COMPUTER-AIDED DRAFTING & DESIGN

Computer Aided Drafting & Design AAS Degree (p. 74)

3D Printing & 3D Scanning Certificate (p. 75)

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Sketchup Certificate (p. 76)

Solidworks Certificate (p. 76)

Basic Computer-Aided Drafting Certificate (p. 76)

CONSTRUCTION TRADES*

Construction Fundamentals Certificate (p. 77)

Electrical Fundamentals Certificate (p. 77)

Plumbing Fundamentals Certificate (p. 77)

Construction Essentials Certificate (p. 77)

*Offered only with our partnering high schools. Program is not offered on campus or online.

ELECTRONICS ENGINEERING TECHNOLOGY

Electronics Engineering Technology AAS Degree (p. 78)

Basic Electronics Certificate (p. 78)

Electronic Systems & Automation Certificate (p. 79)

Electronics Assembly Certificate (p. 79)

HEATING, VENTILATION, AIR CONDITIONING, & REFRIGERATION

Heating, Ventilation, Air Conditioning & Refrigeration AAS Degree (p. 79)

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Interior Architecture & Design AAS Degree (p. 82)

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Fundamentals in Interior Design, Drafting & Communication Certificate (p. 83)

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OPTICS TECHNOLOGY

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Welding Technology AAS Degree (p. 85)

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Math & Science

Associate of Science - General

Associate of Science Degree (p. 51)

Biology*

General AS Degree (p. 51)

Biology AS Degree (p. 88)

*Please work with your advisor to select the best pathway for you.

Chemistry*

Chemistry AS Degree (p. 89)

General AS Degree (p. 51)

*Please work with your advisor to select the best pathway for you.

Fermentation Sciences

Fermentation Sciences AS Degree (p. 90)

Forestry, Wildlife & Natural Resources

Natural Resources Technology AAS Degree (p. 91)

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Wildlife Technology AAS Degree (p. 93)

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Wildlife Certificate (p. 96)

Geospatial Science

Geospatial Science BAS Degree (p. 96)

Geospatial Science AAS Degree (p. 97)

Geographic Information Systems Certificate (p. 97)

Foundations of Geographic Information Systems Certificate (p. 98)

Geography

Geography AA Degree (p. 98)

Geology*

Geology AS Degree (p. 99)

General AS Degree (p. 51)

*Please work with your advisor to select the best pathway for you.

Horticulture & Landscape Technologies

Horticulture & Landscape Technologies AAS Degree (p. 100)
(p. 102)

Horticulture Business Management AS Degree (p. 101)

Environmental Horticulture-Landscape Business AS Degree (p. 102)

Floral Design Certificate (p. 102)

Horticulture Certificate (p. 103)

Landscape Design Certificate (p. 103)

Landscape Contracting Technician Certificate (p. 103)

Landscape Maintenance Technician Certificate (p. 104)

Nursery, Greenhouse, & Garden Center Management Certificate (p. 104)

Tree Care Technician Certificate (p. 104)

Irrigation Technician Certificate (p. 105)

Math

Mathematics AS Degree (p. 105)

Physics*

Physics AS Degree (p. 106)

General AS Degree (p. 51)

*Please work with your advisor to select the best pathway for you.

Social Science, Education & Public Service

Associate of Arts - General

Associate of Arts (p. 51)

Anthropology

Anthropology AA Degree (p. 107)

Criminal Justice & Public Safety

Criminal Justice AA Degree (p. 108)

Criminal Justice AAS Degree (p. 109)

Peace Officers Standards & Training Certificate (p. 109)

Public Safety Dispatch Certificate (p. 110)

Early Childhood Teacher Education

Early Childhood Teacher Education AA Degree (p. 111)

Early Childhood Education AAS Degree (p. 110)

Early Childhood Director Certificate (p. 111)

Early Childhood Education for Paraeducators Certificate (p. 112)

Foundations of Early Childhood Education Certificate (p. 112)

Assistant Early Childhood Teacher Certificate (p. 113)

Economics

Economics AA Degree (p. 113)

Elementary Teacher Education

Elementary Teacher Education AA Degree (p. 114)

Geography

Geography AA Degree (p. 98)

History

History AA Degree (p. 116)

Paralegal/Legal Assistant

Paralegal/Legal Assistant AAS Degree (p. 116)

Paralegal/Legal Assistant Certificate (p. 117)

Foundations of Paralegal/Legal Assistant Certificate (p. 117)

Political Science

Political Science AA Degree (p. 118)

Psychology

Psychology AA Degree (p. 119)

Psychology AS Degree (p. 120)

Sociology

Sociology AA Degree (p. 121)

Teaching English as a Second Language

Teaching English as a Second Language/Abroad Certificate (p. 121)

Teaching English as a Second Language/K-12 Certificate (p. 122)

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 (p. 19)
- Health Sciences & Wellness (p. 35)
- Liberal Arts, Communication & Design (p. 51)
- Manufacturing, Automotive, Construction & Design (p. 67)
- Math & Science (p. 88)
- Social Sciences, Education & Public Service (p. 107)

Business & Information Technology

This Career and Academic Community includes the following programs: Accounting, Business & Business Logistics, Computer Information Systems, Database Administration, Programming, Computer Networking & Virtualization, Cybersecurity, Highway Maintenance Management, Culinary & Restaurant Management, and Hotel & Event Management. To learn more about the program click on the program below.

Accounting

ACCOUNTING ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Accounting and enter the workforce. Students explore business and accounting concepts. Some careers may require a Bachelor's degree. Students interested in transferring to Colorado public universities may complete an AA in Business (p. 20). Students will explore financial ratios, business written communications and skills for software programs, presentations, teamwork, and critical thinking. With an AAS degree in Accounting, the student can work in business, industry, government, and other organizations. They will be ready to work effectively under the supervision of controllers, chief accountants, accounting supervisors, certified public accountants, and other professional accountants.

First Semester

ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
ECO 202	Principles of Microeconomics: GT-SS1	3
GEN EDU	CIS 135/118	3
ENGLISH	ENG 121/122/131	3
		Subtotal: 16

Second Semester

ACC 122	Accounting Principles II	4
MATH	MAT 107 or Higher	3
BUS 217	Business Communication and Report Writing	3
ECO 201	Principles of Macroeconomics: GT-SS1	3
CIS 155	PC Spreadsheet Concepts: Excel	3
		Subtotal: 16

Third Semester

BUS 216	Legal Environment of Business	3
ACC 138	Payroll and Sales Tax	3
ELECTIVE	ACC 131/135 or ACC 132 and ACC 133	3
ELECTIVE	MAN 230 or PHI 205	3
ELECTIVE	ACC 211/226	3
		Subtotal: 15

Semester Notes: ACC 133 is **ONLY** in the spring.

Fourth Semester

BUS 226	Business Statistics	3
ACC 245	Computerized Acct Prof Pkg	3
ELECTIVE	ACC 131/135 or ACC 132 and ACC 133	3
ELECTIVE	ACC 211/212/226/231	3
CAPSTONE	ACC 267/280/289	1
		Subtotal: 13

Semester Notes: ACC 133 is **ONLY** in the spring.

Upon completion of ACC 121, CIS 155, ACC 138, ACC 122, BUS 217, ACC 245, and ACC 267, ACC 280, or ACC 289, you **should apply for the Bookkeeping Certificate** (p. 19).

Upon completion of ACC 121, ACC 131, ACC 132, ACC 138, BUS 217, ACC 133, and ACC 231, you **should apply for the Tax Preparation Certificate** (p. 20).

Total Credit Hours: 60

Important Program Notes:

If you have taken high school accounting courses, 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.

Semester elective credits **may vary depending on prior semester completion**. You **must complete a minimum of 60 credits** to earn your Accounting Associate of Applied Science Degree. You **should not exceed 62 credits**. You may want to check with your Advisor to monitor your completion progress

Accounting Certificates

BOOKKEEPING CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Bookkeeping and enter

the workforce. Students explore accounting principles, payroll and sales tax concepts. This certificate provides immediate entry-level career opportunities upon completion. The Bookkeeping Certificate prepares students for career entry into a wide variety of clerical and technical positions that have a recordkeeping or bookkeeping component. Careers will allow the student to work in business, industry, government, and other organizations. They will be ready to work effectively under the supervision of controllers, chief accountants, accounting supervisors, certified public accountants, and other professional accountants.

First Semester

ACC 121	Accounting Principles I	4
CIS 155	PC Spreadsheet Concepts: Excel	3
ACC 138	Payroll and Sales Tax	3
		Subtotal: 10

Second Semester

ACC 122	Accounting Principles II	4
BUS 217	Business Communication and Report Writing	3
ACC 245	Computerized Acct Prof Pkg	3
CAPSTONE	ACC 267/280/289	1
		Subtotal: 11

Total Credit Hours: 21**TAX PREPARATION CERTIFICATE**

Locations: Boulder County Campus, Westminster Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two-semester) certificate in Tax Preparation and enter the workforce. Students explore reports and taxation processes for individuals and businesses. The Tax Preparation Certificate prepares students with the practical skills needed to perform income tax preparation for individuals, corporations, estates, and trusts. This program provides entry-level career opportunities upon completion. Careers will allow students to work in business, industry, government, and other organizations.

First Semester

ACC 121	Accounting Principles I	4
ACC 131	Income Tax	3
ACC 132	Tax Help Colorado	2
ACC 138	Payroll and Sales Tax	3
		Subtotal: 12

Second Semester

ACC 133	Tax Help Colorado Practicum	1
ACC 231	Business Taxation	3

BUS 217	Business Communication and Report Writing	3
		Subtotal: 7

Total Credit Hours: 19**Important Program Notes:**

You **must take ACC 132 in either Semester 1 or Semester 2**. ACC 132 is offered at Westminster Campus in fall semester and Larimer Campus in spring semester.

You **must take BOTH ACC 138 and BUS 217** to successfully complete this certificate. Campus and Online course offerings vary by semester. You should take the course that is offered at your preferred campus or online depending on course availability.

Business**BUSINESS ASSOCIATE OF ARTS**

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree and transfer to a university to complete a BA or BS in Business. Careers typically require a bachelor's or master's degree. This degree allows students to pursue a BA or BS degree in areas such as Management, Human Resources, Administration, Economics, Marketing, Finance, Accounting, Healthcare Admin and more.

First Semester

ENG 121	English Composition I: GT-CO1	3
MAT 121	College Algebra: GT-MA1	4
BUS 115	Introduction to Business	3
COM 115	Public Speaking	3
		Subtotal: 13

Second Semester

ENG 122	English Composition II: GT-CO2	3
GT- MA1	MAT 125 or Higher Level Calculus Course	4
ECO 202	Principles of Microeconomics: GT-SS1	3
BUS 216	Legal Environment of Business	3
GT- AH	PHI 205 or Any GT-AH	3
		Subtotal: 16

Third Semester

ACC 121	Accounting Principles I	4
ECO 201	Principles of Macroeconomics: GT-SS1	3

BUS 217	Business Communication and Report Writing	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- AH	PHI 205 or Any GT-AH	3
		Subtotal: 17

Fourth Semester

BUS 226	Business Statistics	3
ACC 122	Accounting Principles II	4
GT- SC1/2	Any Science (GT-SC1/2) Course	4
GT- HI1	Any History (GT-HI1) Course	3
		Subtotal: 14

Total Credit Hours: 60**Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), MAT 121 and MAT 125 are the **Mathematics (GT-MA1) required courses**; and ECO 201 and ECO 202 are the **Social & Behavioral Science (GT-SS) required courses**.

You **must complete 60 credits to earn your Business Associate of Arts Degree**. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress.

BUSINESS ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Business and enter the workforce. Students explore business, accounting, and legal principles. Students can choose electives in a specific field that interests them: accounting, business, computer information systems, computer science, computer networking, computer web, finance, management, and marketing. Students interested in transferring to Colorado public four-year universities may complete an AA in Business (p. 20). Some careers may require a Bachelor's degree. Careers will allow the student to work in business, industry, government, and other organizations.

First Semester

ENGLISH	ENG 121/122/131	3
BUS 115	Introduction to Business	3
CIS 118	Introduction to PC Applications	3
ECO 202	Principles of Microeconomics: GT-SS1	3
MATH	MAT 107 or Higher	3
		Subtotal: 15

Second Semester

BUS 226	Business Statistics	3
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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: GT-SS1	3

Subtotal: 16

Semester Note: Students who do not feel prepared for the pace of ACC 121 **may complete ACC 101 for additional preparation**. ACC 101 **will apply as 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 (p. 20).

Upon completion of 3 credits in Business BUS and 6 credits of Business AAS Degree Electives* you **should apply for the Business Specialization Certificate** (p. 24).

Upon completion of BUS 115, ACC 121, BUS 217, and BUS 216, MAN 216, MAN 226, MAR 155, or MAR 216 you **should apply for the Foundations of Business Certificate** (p. 23).

Third Semester

ELECTIVE	MAN 230 or PHI 205	3
MAN 226	Principles of Management	3
ELECTIVE	Any Business AAS Degree Elective*	3
ELECTIVE	Any Business AAS Degree Elective*	3
ELECTIVE	Any Business AAS Degree Elective*	3

Subtotal: 15

Semester Note: Upon completion of BUS 217, MAN 224, and MAN 226, you **should apply for the Foundations of Leadership & Management Certificate** (p. 24).

Upon completion of BUS 115, BUS 203, and MAR 240, you **should apply for the International Business Basics Certificate** (p. 24).

Upon completion of MAN 241, MAN 243, and CIS 202, you **should apply for the Project Management Certificate** (p. 25).

Upon completion of MAN 225 and MAN 216 or BUS 102, you **should apply for the Small Business Operations Certificate** (p. 25).

Fourth Semester

MAR 216	Principles of Marketing	3
CAPSTONE	BUS 281/289/278	2
ELECTIVE	Any Business AAS Degree Elective*	3
ELECTIVE	Any Business AAS Degree Elective*	3
ELECTIVE	Any Business AAS Degree Elective*	3

Subtotal: 14

Semester Note: Upon completion of CIS 118, MAN 128, MAN 226, MAR 216, BUS 217, MAN 200, MAN 225, and MAR 117, you **should apply for the Retail Management Certificate** (p. 22).

Upon completion of MAN 225, BUS 102 or MAN 216, and 9 credits of electives (**Select three courses** from ACC 121, BUS 217, BUS 226, BUS 278, CIS 118, CIS 135, CIS 145, CIS 155, CWB 130, MAN 116, MAN 226, MAR 111, MAR 155, MAR 216, or MAR 220), you **should apply for the Small Business Ownership Certificate** (p. 23).

Total Credit Hours: 60

Important Program Notes:

To fulfill Business AAS degree requirements, you must complete a minimum of 18 Business AAS Degree Elective* credits.

*Business AAS Degree Electives include any of the following areas of study: Accounting (ACC (p. 178)), Business (BUS (p. 190)), Computer Information Systems (CIS (p. 194)), Computer Networking (CNG (p. 195)), Computer Web-Based (CWB (p. 202)), Economics (ECO) (p. 206), Finance (FIN (p. 213)), Management (MAN (p. 237)), Marketing (MAR (p. 238)), and Multimedia Graphic Design (MGD (p. 241)).

You must enroll in BUS 281 or BUS 289 in your final semester.

If you take MAT 121, you will exceed 60 credits by 1 credit. You must complete 60 credits to earn your Business Associate of Applied Science degree. You should not exceed 62 credits. You may want to check with your advisor to monitor your completion progress and select your electives.

This degree is designed for students wanting to complete a two-year AAS Degree in Business and enter the workforce. If you are planning to transfer to a Colorado public four-year college/university, you should view the Business AA degree MAP (p. 20).

BUSINESS LOGISTICS ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and should be completed in the order listed. If you are unable to complete all courses listed in a semester, complete as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

Program is designed for students wanting to complete a two-year AAS Degree in Business Logistics and enter the workforce. Students explore business logistics management. While earning this A.A.S. degree, students can also earn the Business Logistics certificate. In addition to an overview of core business, management, and marketing classes, students receive a comprehensive understanding of distribution, warehousing, purchasing and transportation.

First Semester

ENGLISH	ENG 121/122/131	3
BUS 115	Introduction to Business	3
MAN 105	Logistics Management	3
MATH	MAT 107 or Higher	3
		Subtotal: 12

Second Semester

GEN EDU	CIS 118/135/145/155	3
ACC 121	Accounting Principles I	4
BUS 217	Business Communication and Report Writing	3
GEN EDU	CIS 118/135/145/155	3
ELECTIVE	GIS 101/131	3

Subtotal: 16

Third Semester

ECO 202	Principles of Microeconomics: GT-SS1	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

BUS 202	Purchasing, Supply, and Sourcing Logistics	3
BUS 218	Legal Environment of Business II	3
ECO 201	Principles of Macroeconomics: GT-SS1	3
MAN 230	Corporate Ethics & Social Responsibility	3
CAPSTONE	BUS 281/289	2
MAR 216	Principles of Marketing	3
		Subtotal: 17

Semester Note: Upon completion of BUS 201, BUS 202, BUS 217, BUS 218, and MAN 105, you should apply for the Logistics Certificate (p. 23).

Total Credit Hours: 60

Important Program Notes:

If you take MAT 121, you will exceed 60 credits by 1 credit. You must complete 60 credits to 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 and select your electives.

This degree is designed for students wanting to complete a two-year AAS Degree in Business Logistics and enter the workforce. If you are planning to transfer to a Colorado public four-year college/university, you should view the Business AA degree MAP (p. 20). It is very important to work with your Pathways Advisor to develop the best academic plan for where you are starting and where you are hoping to transfer.

Business Certificates

RETAIL MANAGEMENT CERTIFICATE

Locations: Brighton Center, Westminster Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and should be completed in the order listed. If you are unable to complete all courses listed in a semester, complete as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Retail Management and enter the workforce. Students explore all aspects of retail and

grocery management. 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. Career opportunities in this broad program are targeted to retailers and suppliers and is endorsed by the Western Association of Food Chains (WAFC).

First 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

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

Important Program Notes: This certificate program is offered **entirely online**, please contact online business lead faculty for specifics on course offerings (i.e. Fall vs. Spring Semester).

LOGISTICS CERTIFICATE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Business Logistics and enter the workforce. Students explore business logistics management. This certificate program gives students 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. This certificate provides career opportunities with warehousing, distribution, purchasing and transportation companies upon completion.

First Semester

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

SMALL BUSINESS OWNERSHIP CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Small Business Ownership and enter the workforce. Students explore small business management, finance and marketing concepts. This certificate prepares students for the entrepreneurial challenge of starting, operating and marketing a business effectively. This program includes additional elective classes in the following areas based on your interests: marketing, employee management, financial management, business support and looks at career options.

First Semester

MAN 225	Managerial Finance	3
ELECTIVE	BUS 102 or MAN 216	3
ELECTIVE	Any SBO Certificate Elective*	2
ELECTIVE	Any SBO Certificate Elective*	3
ELECTIVE	Any SBO Certificate Elective*	3

Subtotal: 14

Total Credit Hours: 14

Important Program Notes:

To fulfill Small Business Ownership (SBO) Certificate requirements, you **must complete a minimum of 8 Small Business Ownership (SBO) Certificate Elective* credits**.

***Small Business Ownership (SBO) Certificate Electives** include: ACC 121, BUS 217, BUS 226, BUS 278, CIS 118, CIS 135, CIS 145, CIS 155, CWB 130, MAN 116, MAN 128, MAR 111, MAR 155, MAR 216, MAR 220.

You **must complete 14 total credits** to earn your Small Business Ownership (SBO) Certificate. You **should not exceed 16 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

FOUNDATIONS OF BUSINESS CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If

you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Foundations of Business and enter the workforce. Students explore business, management, and marketing concepts. This certificate program prepares students to perform marketing, administration, or support functions in organizations related to promotion, sales, public relations, retailing, or advertising operations. This certificate provides immediate entry-level career opportunities upon completion.

First Semester

BUS 115	Introduction to Business	3
ACC 121	Accounting Principles I	4
BUS 217	Business Communication and Report Writing	3
ELECTIVE	BUS 216, MAN 216/226, or MAR 155/216	3

Subtotal: 13

Total Credit Hours: 13

BUSINESS SPECIALIZATION CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Business Specialization and enter the workforce. Students explore and focus on specific business categories. Courses can be in accounting, business, computer information systems/computer science/computer web based, management, marketing, multimedia graphics design, or finance. This certificate provides immediate entry-level career opportunities upon completion. Careers will allow the student to work in business, industry, government, and other organizations.

First Semester

ELECTIVE	Any Business Course	3
ELECTIVE	Any Business Specialization Certificate Elective*	3
ELECTIVE	Any Business Specialization Certificate Elective*	3

Subtotal: 9

Total Credit Hours: 9

Important Program Notes:

You **must take 3 credits** of Business BUS and **6 credits** of Business Specialization Certificate Electives* to complete this certificate.

***Business Specialization Certificate Electives** include **any** of the following areas of study: Accounting (ACC (p. 178)), Business (BUS (p. 190)), Computer Information Systems (CIS (p.

194)), Computer Networking (CNG (p. 195)), Computer Science (CSC (p. 200)), Computer Web-Based (CWB (p. 202)), Economics(ECO) (p. 206), Finance (FIN (p. 213)), Management (MAN (p. 237)), Marketing (MAR (p. 238)), and Multimedia Graphic Design (MGD (p. 241)).

FOUNDATIONS OF LEADERSHIP & MANAGEMENT CERTIFICATE

Locations: Boulder County Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Foundations of Leadership & Management and enter the workforce. Students explore proven business leadership principles. The certificate program is designed for individuals who seek to develop and improve their business management skills. This certificate provides immediate entry-level career opportunities upon completion.

First Semester

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, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in International Business Basics and enter the workforce. Students explore international business and marketing concepts. This certificate program is designed for individuals who seek to develop and improve skills in international business and understand global trade theories, exporting, and political and economic influences. This certificate provides career opportunities with domestic and international companies upon completion.

First Semester

BUS 115	Introduction to Business	3
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BUS 203	Introduction to International Business	3
MAR 240	International Marketing	3
		Subtotal: 9

Total Credit Hours: 9

PROJECT MANAGEMENT CERTIFICATE

Locations: Brighton Center, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Project Management and enter the workforce. Students explore all aspects of project management planning. This program introduces the tools and skills used to develop and implement project management plans used in various industries. Upon completion this certificate provides career opportunities in the biotech, construction, information systems, marketing, telecommunications, engineering, and manufacturing industries.

First Semester

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

SMALL BUSINESS OPERATIONS CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Small Business Operations and enter the workforce. Students explore successful small business managerial principles. This certificate program prepares students to consider careers related to the entrepreneurial challenge of starting and operating a business effectively.

First Semester

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

Total Credit Hours: 6

Computer Information Systems

COMPUTER INFORMATION SYSTEMS ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Computer Information Systems and enter the workforce. Students explore computer information systems, networking and computer sciences. Consult with program faculty to create an individualized CIS degree to meet the student's needs. Depending on the student's focus, they could qualify for a career as an entry-level programmer, web developer, or database administrator. Some careers may require a Bachelor's degree.

First Semester

REQUIRED	CIS 118/145/155	3
ELECTIVE	Any Emphasis Course	3
ELECTIVE	Any Computer Emphasis Course	3
ELECTIVE	Any Computer Emphasis Course	3
MATH	Any GT-MA1, MAT 121 or Higher	3
		Subtotal: 15

Semester Note: Upon completion of CIS 118, CIS 135, CIS145, and CIS 155, you **should apply for the Applications Specialist Certificate** (p. 28).

Upon completion of CIS 145, CIS 240, CIS 243, and CIS 246, CIS 252, or CSC 252, you **should apply for the Database Certificate** (p. 28).

Second Semester

CNG 201	Linux Configuration: (OS)	3
ELECTIVE	Any Emphasis Course	3
ELECTIVE	Any Computer Emphasis Course	3
ELECTIVE	Any Computer Emphasis Course	3
ENGLISH	ENG 131/121/122	3
		Subtotal: 15

Semester Note: If you have already completed CIS 223, this course **may be applied to the CNG 201 requirement**.

Upon completion of CIS 145, CIS 243, CSC 119, CWB 110, CWB 205, CWB 206 or CWB 208, MGD 141 or CWB 130, and 3 elective credits (**Select one** course from MGD, CIS, CNG, or CWB, you **should apply for the Web Developer Certificate** (p. 27). Upon completion of CIS 145, CIS 160, and select any three CSC courses, you **should apply for the Programming Certificate** (p. 27).

Third Semester

ELECTIVE	Any Computer Emphasis Course	3
ELECTIVE	Any Computer Emphasis Course	3

ELECTIVE	Any Computer Emphasis Course	3
ELECTIVE	Any Emphasis Course	3
GEN EDU	Any Approved Elective List Course	3
		Subtotal: 15

Fourth Semester

ELECTIVE	Any Computer Emphasis Course	3
ELECTIVE	Any Computer Emphasis Course	3
ELECTIVE	Any Emphasis Course	3
GEN EDU	Any Approved Elective List Course	3
GEN EDU	Any Approved Elective List Course	3
		Subtotal: 15

Total Credit Hours: 60**Important Program Notes:**

You **must have 60 credits** to complete the Associate of Applied Science Degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress.

DATABASE ADMINISTRATION ASSOCIATE OF APPLIED SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Database Administration and enter the workforce. Students explore database functions, computer information systems, networking and computer sciences. Students will learn about SQL, database design, technical support, database administration practices for efficiency and security, and server maintenance. Career paths include an entry-level database administrator in various sizes of businesses, corporations or public institutions. Some careers may require a Bachelor's degree. Although some courses may transfer, this AAS degree program is designed for students to enter the workforce.

First Semester

CIS 115	Introduction to Computer Information Systems	3
CIS 118	Introduction to PC Applications	3
ELECTIVE	CSC 119 or Any Database AAS Degree Elective*	3
ENGLISH	ENG 131/121/122	3
MATH	MAT 121 or Higher	3
		Subtotal: 15

Second Semester

CIS 145	Complete PC Database: ACCESS	3
CIS 155	PC Spreadsheet Concepts: Excel	3

CIS 128	Operating System: Using Linux & Microsoft Windows	3
ELECTIVE	Any Database AAS Degree Elective*	3
GEN EDU	PHI 112/205 or Any Approved Elective List Course	3

Subtotal: 15

Semester Note: Upon completion of CIS 118, CIS 135, CIS145, and CIS 155, you **should apply for the Applications Specialist Certificate** (p. 28).

Third Semester

CNG 201	Linux Configuration: (OS)	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
DATABASE	CIS 268/246/252/254/256/280 or CSC 252	3
BUS 217	Business Communication and Report Writing	3

Subtotal: 15

Semester Note: If you have already completed CIS 223, this course **may be applied to the CNG 201 requirement**. Upon completion of CIS 145, CIS 240, CIS 243, and CIS 246, CIS 252, or CSC 252, you **should apply for the Database Certificate** (p. 28).

Fourth Semester

DATABASE	CIS 254/246/252/256/268/280 or CSC 252	3
DATABASE	CIS 256/246/252/254/268/280 or CSC 252	3
DATABASE	CIS 246/252/254/256/268/280 or CSC 252	3
GEN EDU	PHI 112/205 or Any Approved Elective List Course	3
GEN EDU	PHI 112/205 or Any Approved Elective List Course	3

Subtotal: 15**Total Credit Hours: 60****Important Program Notes:**

***Database AAS Degree Electives** include: Accounting (ACC (p. 178)), Business (BUS (p. 190)), Communication (COM (p. 198)), Computer Information Systems (CIS (p. 194)), Computer Networking (CNG (p. 195)), Computer Web-Based (CWB (p. 202)), Computer Science (CSC (p. 200)), Management (MAN (p. 237)), and Marketing (MAR (p. 238)).

If you **take more credits in database than listed (12 credits)**, it **will reduce the 6 credits of electives needed**. You **must complete 60 credits** to earn your Database Administration Associate of Applied Science Degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

PROGRAMMING ASSOCIATE OF APPLIED SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Programming and enter the workforce. Students explore programming, database functions, computer information systems, networking and computer sciences. Students will learn about writing and testing code as well as programming languages such as C++, Java, and Visual Basic. Career paths include an entry-level programmer position in various sizes of businesses, corporations or public institutions. Some careers may require a Bachelor's degree. Although some courses may transfer, this AAS degree program is designed for students to enter the workforce.

First Semester

ELECTIVE	CIS 115 or Any CIS/CSC/CWB	3
CIS 118	Introduction to PC Applications	3
CSC 119	Introduction to Programming	3
ENGLISH	ENG 131/121/122	3
MATH	MAT 121 or Higher	3
		Subtotal: 15

Second Semester

CIS 145	Complete PC Database: ACCESS	3
CSC 160	Computer Science I: (Language)	4
ELECTIVE	MAT 201 or Higher or Any CIS/CWB/CSC	3
GEN EDU	PHI 112/205, or Any Approved Elective List Course	3
GEN EDU	PHI 112/205, or Any Approved Elective List Course	3
		Subtotal: 16

Semester Note: Upon completion of CIS 118, CIS 135, CIS145, and CIS 155, you **should apply for the Applications Specialist Certificate** (p. 28).

Third Semester

CSC 161	Computer Science II: (Language)	4
CNG 201	Linux Configuration: (OS)	3
COMP SCI	Any CSC Course	3
ELECTIVE	MAT 201 or Higher or Any CIS/CWB/CSC	3
ELECTIVE	MAT 201 or Higher or Any CIS/CWB/CSC	3
		Subtotal: 16

Semester Note: If you have already completed CIS 223, this course **may be applied to the CNG 201 requirement**. Upon completion of CIS 145, CSC 160, and select any three CSC courses, you **should apply for the Programming Certificate** (p. 27).

Fourth Semester

COMP SCI	Any CSC Course	3
COMP SCI	Any CSC Course	3

ELECTIVE	MAT 201 or Higher or Any CIS/CWB/CSC	4
GEN EDU	PHI 112/205, or Any Approved Elective List Course	3

Subtotal: 13

Total Credit Hours: 60

Important Program Notes:

If you **take more credits in computer science than listed (9 credits)**, it **will reduce the 16 credits of electives needed**. You **must complete 60 credits** to earn your Programming Associate of Applied Science Degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

Computer Information Systems Certificates

WEB DEVELOPER CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Web Developer and enter the workforce. Students explore web developer techniques, computer information systems, and web page design. This certificate program prepares students for entry-level careers that require skills for web development including PL/SQL, Javascript, PHP, Adobe Photoshop, HTML, cascading stylesheets, DHTML, JavaScripts, and CGI forms.

First Semester

CIS 145	Complete PC Database: ACCESS	3
CIS 243	Introduction to SQL	3
CSC 119	Introduction to Programming	3
CWB 110	Introduction to Web Authoring	3

Subtotal: 12

Second Semester

CWB 205	Client-Side Scripting: (Software)	3
ELECTIVE	Any MGD/CIS/CNG/CSC/CWB Course	3
ELECTIVE	CWB 206/208	3
ELECTIVE	MGD 141 or CWB 130	3

Subtotal: 12

Total Credit Hours: 24

PROGRAMMING CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete**

as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Programming and enter the workforce. Students explore programming, writing code, computer information systems, and computer sciences. This certificate program prepares students for entry-level employment positions in a business environment that requires programming languages such as C++, Java and Visual Basic. It includes courses in a combination of computer information systems as well as computer science.

First Semester

CIS 145	Complete PC Database: ACCESS	3
CSC 160	Computer Science I: (Language)	4
COMP SCI	Any CSC Course	3
		Subtotal: 10

Second Semester

CSC 161	Computer Science II: (Language)	4
COMP SCI	Any CSC Course	3
COMP SCI	Any CSC Course	3
		Subtotal: 10

Total Credit Hours: 20

Important Program Notes:

You must complete a minimum of 9 credits of Computer Science CSC courses to complete this certificate.

DATABASE CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Database and enter the workforce. Students explore database functions, computer information systems, networking and computer sciences. Career paths include entry-level positions in a business environment that requires an understanding of Structured Query Language (SQL), database design skills, and database administrative tasks.

First Semester

CIS 145	Complete PC Database: ACCESS	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
ELECTIVE	CIS 246/252 or CSC 252	3
		Subtotal: 12

Total Credit Hours: 12

Important Program Notes:

You must have 12 credits to complete the certificate. You should not exceed 14 credits. You may want to check with your advisor to monitor your completion progress.

APPLICATIONS SPECIALIST CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Applications Specialist and enter the workforce. Students explore a wide range of industry standard business applications. This certificate program prepares students for entry-level employment positions as data entry and data processing operators using most major types of business applications including word processing, spreadsheets, databases, and presentation graphics.

First Semester

CIS 118	Introduction to PC Applications	3
CIS 135	Complete PC Word Processing	3
CIS 145	Complete PC Database: ACCESS	3
CIS 155	PC Spreadsheet Concepts: Excel	3
		Subtotal: 12

Total Credit Hours: 12

Cybersecurity

CYBERSECURITY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Cybersecurity and enter the workforce. Students explore cloud and network security management. This AAS degree provides a comprehensive overview of network security, computer forensics, and communication security including remote access, e-mail, the web, directory and file transfer, and wireless data. Students also learn cryptography basics and operational/organizational security as it relates to physical security, disaster recovery, and business continuity. Cloud and virtualization cover the technical skills required to

install, configure and/or manage cloud infrastructure. Students completing this training will be prepared for multiple industry certifications including the CompTIA Security+, CompTIA Cloud+, and CompTIA Cloud Essentials. Some careers may require a Bachelor's degree. Although some courses may transfer, this AAS degree program is designed for students to enter the workforce.

First Semester

CIS 118	Introduction to PC Applications	3
CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
MATH	MAT 121 or Higher	3

Subtotal: 16

Semester 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.

Second Semester

CNG 125	Networking II: Network +	3
CNG 212	Configuring Windows Server	4
CNG 133	Firewalls/Network Security	3
CNG 136	Guide to IT Disaster Recovery	3
ELECTIVE	CNG 142/201	0*

Subtotal: 13

Semester Note: You must take eight credits of CNG Electives.

*If you intend to take three 3-credit electives (CNG 142/CNG 201, CNG 202/CNG 240, and CNG 203/CNG 241), you will complete this degree with 61 credits and need to take CNG 142/CNG 201 this semester.

If you desire to complete a **Linux certificate** you will need to complete **CNG 201** this semester. If you desire to complete a **Cloud Computing & Virtualization certificate**, you will need to complete **CNG 142** this semester. If you are **not taking CNG 142 or CNG 201**, you may want to take either an **English or approved elective course** this semester to lighten your semester load in Semester 3.

Upon completion of CNG 120, CNG 124, CNG 132, CNG 125, CNG 133, CNG 136, and CNG 212, you **should apply for the Cybersecurity Fundamentals Certificate** (p. 30).

Third Semester

CSC 119	Introduction to Programming	3
CNG 256	Vulnerability Assessment I	3
ELECTIVE	CNG 202/213/230/240	4
ENGLISH	ENG 131/121/122	3
GEN EDU	Any Approved Elective Course	3

Subtotal: 16

Fourth Semester

CNG 257	Network Defense & Counter Measures	3
CNG 258	Digital Forensics	4
CNG 259	Enterprise Security	4
ELECTIVE	CNG 203/214/231/241	4

Subtotal: 15

Semester Note: Upon completion of CNG 120, CNG 124, CNG 132, CNG 212, CNG 213, CSC 119, and CNG 214, you **should**

apply for the Windows Server Administration Certificate (p. 30).

Upon completion of CNG 120, CNG 124, CNG 132, CNG 142, CNG 201 or CNG 212, CNG 240, and CNG 241, you **should apply for the Cloud Computing and Virtualization Certificate** (p. 31).

Total Credit Hours: 60

Important Program Notes:

*You **must take eight credits of CNG Electives**. To complete with 60 credits, you **could take CNG 213 and CNG 214** only and not take the elective in second semester for your elective courses. If you take the electives as listed, you **will complete the degree with 61 credits**.

You **need 60 credits to complete the Cybersecurity Associate of Applied Science Degree**. You **should not exceed 62 credits**. You may want to **check with your advisor** to monitor your completion progress.

NETWORKING & VIRTUALIZATION ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Networking & Virtualization and enter the workforce. Students explore network operating system management. This degree prepares students for positions in network administration and infrastructure, including installing, configuring and troubleshooting networking hardware such as wireless equipment, switches and routers. Students are introduced to the concepts of installing, configuring, and managing multiple operating systems, and will gain the knowledge and skills to configure, administer and secure data, users, and services using multiple servers. Cloud and virtualization cover the technical skills required to install, configure and/or manage cloud infrastructure. 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+, CompTIA Cloud+, and CompTIA Cloud Essentials, or the CISCO CCNA certifications. Some careers may require a Bachelor's degree. Although some courses may transfer, this AAS degree program is designed for students to enter the workforce.

First Semester

CIS 118	Introduction to PC Applications	3
CNG 120	A+ Certification Preparation	4
CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
MATH	MAT 121 or Higher	3

Subtotal: 16

Semester Note: Upon completion of CNG 120, CNG 124, and CNG 132, you **should apply for the Networking Basics Certificate** (p. 32).

Second Semester

CNG 125	Networking II: Network +	3
CNG 212	Configuring Windows Server	4
CNG 133	Firewalls/Network Security	3
CNG 142	Intro to Cloud Computing Concepts	3
CNG 201	Linux Configuration: (OS)	3
		Subtotal: 16

Semester Note: Upon completion of CNG 120, CNG 124, CNG 132, CNG 212, and CNG 125, you **should apply for the Network Technician Certificate** (p. 31).

Third Semester

CSC 119	Introduction to Programming	3
ELECTIVE	CNG 230/202	3
ELECTIVE	CNG 213 if selecting CNG 202 above	4
ELECTIVE	CNG 240/202/213	3
ENGLISH	ENG 131/121/122	3
		Subtotal: 14

Semester Note: Complete 8-10 credits from CNG electives this semester. The **Westminster** campus offers **CNG 230 and CNG 240**. The **Larimer** campus offers CNG 230, CNG 240, CNG 202 and CNG 213. Select electives based on interest area of LINUX, Windows and/or Virtualization pathways.

Fourth Semester

ELECTIVE	CNG 231/203	3
ELECTIVE	CNG 214 if selecting CNG 203 above	4
ELECTIVE	CNG 241/203/214	3
ELECTIVE	CNG 136/215/243	3
GEN EDU	Any Approved Elective Course	3
		Subtotal: 14

Semester Note: If you are pursuing the LINUX, Windows & Virtualization pathway, you **will complete CNG 214 as your final elective**. You **will not need to complete** the elective listed as **CNG 136, CNG 215 or CNG 243**.

Upon completion of CNG 124, CNG 132, CNG 230, CNG 125, CNG 133, and CNG 231, you **should apply for the Network Infrastructure Certificate** (p. 31).

Upon completion of CNG 201, CSC 119, CNG 202, and CNG 203, you **should apply for the LINUX Server Administration Certificate** (p. 32).

Total Credit Hours: 60

Important Program Notes:

You **need 60 credits to complete** the Networking and Virtualization Associate of Applied Science Degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress.

Cybersecurity & Cloud Computing Certificates

WINDOWS SERVER ADMINISTRATION CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one year (three-semester) Certificate in Windows Server Administration and enter the workforce. Students explore network administration principles. Students are introduced to the concepts of installing, configuring, and managing multiple operating systems and servers. This program prepares students for career senior roles as network administrators and for the core Microsoft Certified Professional examinations leading to the MCSA and MCSE.

First Semester

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

Semester Note: Upon completion of CNG 120, CNG 124, and CNG 132, you **should apply for the Networking Basics Certificate** (p. 32).

Second Semester

CNG 213	Administering Windows Server	4
CSC 119	Introduction to Programming	3
		Subtotal: 7

Third Semester

CNG 214	Adv Windows Server Admin	4
		Subtotal: 4

Total Credit Hours: 25

CYBERSECURITY FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Cybersecurity Fundamentals and enter the workforce. Students explore all

network security aspects. This certificate program provides a comprehensive overview of network security, including general security, remote access, email, the web, directory and file transfer, and wireless data. Students will learn about common network attacks, computer forensics, cryptography, disaster recovery, and business continuity. This certificate program prepares students for entry-level employment and gives working professionals advancement opportunities in the computer networking field.

First Semester

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

Subtotal: 10

Semester Note: Upon completion of CNG 120, CNG 124, and CNG 132, you **should apply for the Networking Basics Certificate** (p. 32).

Second Semester

CNG 125	Networking II: Network +	3
CNG 133	Firewalls/Network Security	3
CNG 136	Guide to IT Disaster Recovery	3
CNG 212	Configuring Windows Server	4

Subtotal: 13

Total Credit Hours: 23

CLLOUD COMPUTING AND VIRTUALIZATION CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Cloud Computing & Virtualization and enter the workforce. Students explore cloud infrastructure and virtualization technologies. This certificate program prepares students for entry-level employment working with cloud and virtualization technologies that are being broadly adopted and implemented in organizations of all types and sizes. This program provides students with the technical skills required to install, configure, and/or manage cloud infrastructure.

First Semester

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

Semester Note: Upon completion of CNG 120, CNG 124, and CNG 132, you **should apply for the Networking Basics Certificate** (p. 32).

Second Semester

ELECTIVE	CNG 201/212	3
CNG 240	Virtual Environment Admin	3
CNG 241	Information Storage and Management	3

Subtotal: 9

Total Credit Hours: 22

NETWORK INFRASTRUCTURE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-semester Certificate in Network Infrastructure and enter the workforce. Students will 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 to take the entry level CISCO Certifications.

First Semester

CNG 124	Networking I: Network +	3
CNG 132	Network Security Fundamentals	3
CNG 230	Fast Track CCNA 1 and 2	5

Subtotal: 11

Second Semester

CNG 125	Networking II: Network +	3
CNG 133	Firewalls/Network Security	3
CNG 231	Fast Track CCNA 3 and 4	5

Subtotal: 11

Total Credit Hours: 22

NETWORK TECHNICIAN CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Network Technician and enter the workforce. Students explore the skills and role of a network technician. This certificate provides students the basic concepts and skills needed as a career network technician in any network

environment or on a Microsoft system. Students will be prepared for industry certifications, such as the Microsoft Technology Associate (MTA).

First Semester

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

Semester Note: Upon completion of CNG 120, CNG 124, and CNG 132, you **should apply for the Networking Basics Certificate** (p. 32).

Second Semester

CNG 125	Networking II: Network +	3
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Subtotal: 3

Total Credit Hours: 17

LINUX SERVER ADMINISTRATION CERTIFICATE

Locations: Boulder County Campus, Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three-semester Certificate in Linux Server Administration and enter the workforce. Students explore the Linux operating system. This certificate introduces the student 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 environment.

First Semester

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

Subtotal: 6

Second Semester

CNG 202	Unix/Linux Server Administration	3
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Subtotal: 3

Third Semester

CNG 203	Advanced Linux Server Administration	3
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Subtotal: 3

Total Credit Hours: 12

NETWORKING BASICS CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you

are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester certificate in Networking Basics and enter the workforce. Students explore network help-desk technology. This program prepares students for entry-level network help-desk career positions. Students are trained in the competencies found in multiple industry certification exams including CompTIA A+ and CompTIA Networking+, MTA Security Fundamentals and MTA Networking Fundamentals certification exams.

First Semester

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

Subtotal: 10

Total Credit Hours: 10

Highway Maintenance Management

HIGHWAY MAINTENANCE MANAGEMENT ASSOCIATE OF APPLIED SCIENCE

Locations: Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Highway Maintenance Management and enter the workforce. Students explore leadership and management skills in the highway maintenance industry. This AAS degree prepares highway maintenance employees to pursue careers among leaders in Highway Maintenance Management in federal, state, county, and municipal public works agencies and also private sector industry partner organizations. Students develop a firm grasp of highway maintenance while learning leadership and management strategies to increase employee effectiveness through developing skills in project management, planning, supervision, communication, and team building.

First Semester

HWY 101	Intro to Highway Maintenance & Operations	3
MAN 128	Human Relations in Organizations	3
MAN 226	Principles of Management	3
MATH	MAT 107 or Higher or MAT 108	3
ENGLISH	ENG 121/131	3

Subtotal: 15

Second Semester

MAN 116	Principles of Supervision	3
MAN 224	Leadership	3
MAN 241	Project Management in Organizations	3
GEN EDU	CIS 118/155	3
GEN EDU	COM 115/125	3
		Subtotal: 15

Third Semester

MAN 230	Corporate Ethics & Social Responsibility	3
GEN EDU	COM 220 or POS 125	3
HWY 100	Highway Maintenance & Operations Safety	1
HWY 105	Traffic Control	2
HWY 110	Highway Asset Management	1
HWY 115	Pavement Preservation	2
HWY 255	Highway Maintenance Leadership	4
		Subtotal: 16

Fourth Semester

ELECTIVE	HWY 210 or Any Highway AAS Degree Elective*	3
ELECTIVE	HWY 210 or Any Highway AAS Degree Elective*	3
ELECTIVE	HWY 210 or Any Highway AAS Degree Elective*	3
ELECTIVE	HWY 210 or Any Highway AAS Degree Elective*	3
CAPSTONE	HWY 288/289	2
		Subtotal: 14

Total Credit Hours: 60**Important Program Notes:**

***Highway AAS Elective include:** HWY 210, DRV 138, HEQ 140, HWY 180, HWY 181, HWY 182, HWY 183, HWY 184, HWY 280, HWY 281, HWY 283, HWY 283, HWY 284, ACC 101, ACC 121, BUS 217, BUS 226, MAN 225, or MAN 216.

You **will need 12 credits** of electives to complete the program.

You **must have 60 credits** to complete the Highway Maintenance Management Associate of Applied Science Degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress.

Hospitality and Culinary Arts**CULINARIAN & RESTAURANT MANAGEMENT ASSOCIATE OF APPLIED SCIENCE**

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Hospitality Culinarian & Restaurant Management and enter the workforce. Students explore all management facets of the culinary and restaurant industries. The student will be prepared with the necessary skills and knowledge for entry-level career management positions in the lodging, catering, tourism, institutional services, and restaurant fields. Students receive applied experiences in both the food service and operations of the hospitality industry. Students have the option to participate in four culinary laboratory courses, as well as one practicum or internship. National Restaurant Association certification is available for a number of the courses offered in the program. At the completion of any of those courses ServSafe® Food Protection Manager certification can be obtained.

First Semester

CUA 101	Food Safety and Sanitation	2
HOS 110	Introduction to Hospitality	3
HOS 120	Service Management	3
CUA 125	Introduction to Foods	4
CUA 145	Introduction to Baking	4
		Subtotal: 16

Semester Note: Upon completion of CUA 101, CUA 125, and CUA 145, you **should apply for the Foundations of Culinary Arts Certificate** (p. 35).

Second Semester

HOS 226	Supervision in Hospitality Industry	3
CUA 129	Center of the Plate	4
CUA 233	Advanced Line Prep & Cookery	4
MATH	MAT 107 or Higher	3
		Subtotal: 14

Third Semester

HOS 255	Hospitality HR Management	3
CUA 262	Purchasing for the Hospitality Industry	3
HOS 221	Basic Hotel & Restaurant Accounting	3
GEN EDU	BUS 216 or PHI 205	3
ENGLISH	ENG 121/122/131	3
		Subtotal: 15

Fourth Semester

CUA 261	Cost Controls	3
CUA 120	Wines and Spirits	2
HWE 100	Human Nutrition	3
GEN EDU	BUS 217 or COM 115/125	3
CUA 281	Internship	4
		Subtotal: 15

Semester Note: For CUA 281, 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**.

Upon completion of CUA 101, CUA 125, CUA 145, CUA 262, CUA 129, CUA 233, and CUA 261, you **should apply for the Culinarian Certificate** (p. 34).

Upon completion of CUA 101, CUA 125, HOS 255, CUA 262, CUA 120, CUA 261, and HOS 226, you **should apply for the Restaurant Management Certificate** (p. 35).

Total Credit Hours: 60

Important Program Notes:

You **must complete 60 credits** to earn your Culinarian & Restaurant Management Associate of Applied Science Degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

HOTEL & EVENT MANAGEMENT ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Hospitality Hotel & Event Management and enter the workforce. Students explore all management facets of the hotel and event industries. The degree is designed to prepare students with the necessary skills and knowledge for entry level 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® Food Protection Manager Certification.

First Semester

CUA 101	Food Safety and Sanitation	2
HOS 110	Introduction to Hospitality	3
HOS 120	Service Management	3
HOS 131	Planning for Special Events	3
HOS 251	Hotel Operations	3
		Subtotal: 14

Second Semester

HOS 226	Supervision in Hospitality Industry	3
CUA 256	Marketing in Hospitality Industry	3
HOS 141	Convention Management	3
HOS 210	Event Finances	3
MATH	MAT 107 or Higher	3
		Subtotal: 15

Third Semester

HOS 221	Basic Hotel & Restaurant Accounting	3
HOS 255	Hospitality HR Management	3
GEN EDU	BUS 216 or PHI 205	3

ELECTIVE	Any Approved Elective List Course	3
ENGLISH	ENG 131/121/122	3
		Subtotal: 15

Fourth Semester

CUA 261	Cost Controls	3
CUA 120	Wines and Spirits	2
HWE 100	Human Nutrition	3
GEN EDU	BUS 217 or COM 115/125	3
HOS 280	Internship	5
		Subtotal: 16

Semester Note: For HOS 280, you **must obtain Program Director approval to register**. It is offered every semester at LC as a hybrid and requires 225 hours in an approved internship setting.

Total Credit Hours: 60

Important Program Notes:

You **must complete 60 credits** to earn your Hotel & Event Management Associate of Applied Science Degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

Hospitality and Culinary Arts Certificates

CULINARIAN CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Culinarian Certificate and enter the workforce. Students explore all phases of commercial baking and food preparation. This certificate provides immediate entry-level career opportunities upon completion. This 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.

First Semester

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

Semester Note: Upon completion of CUA 101, CUA 125, CUA 145, you **should apply for the Foundations of Culinary Arts Certificate** (p. 35).

Second Semester

CUA 129	Center of the Plate	4
CUA 233	Advanced Line Prep & Cookery	4
CUA 261	Cost Controls	3
		Subtotal: 11

Total Credit Hours: 24**RESTAURANT MANAGEMENT CERTIFICATE**

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Restaurant Management and enter the workforce. Students explore all phases of the restaurant industry. This program provides immediate entry-level career opportunities upon completion. This certificate prepares students to pursue careers in the food and beverage industry, covering food production, service management, menu planning, purchasing, storage, beverage management, and food, beverage, and labor cost control.

First Semester

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

CUA 120	Wines and Spirits	2
CUA 261	Cost Controls	3
HOS 226	Supervision in Hospitality Industry	3
		Subtotal: 8

Total Credit Hours: 20**FOUNDATIONS OF CULINARY ARTS CERTIFICATE**

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Culinary Arts Foundation Certificate and enter the workforce. Students explore the foundational principles and practices of a commercial kitchen. This certificate provides immediate entry-level career opportunities in multiple

commercial kitchen and food service environments. This program introduces students to safety and sanitation applications, use and care of equipment, tools, utensils and knives, recipe use and conversion, baking terminology, principles of baking, and the characteristics of the functions of the main ingredients used in bakery production. Students take the nationally recognized ServSafe Food Production Manager's exam from the Education Foundation of the National Restaurant Association. If passed with a score of 75% or more, students receive the ServSafe Food Production Manager's Certification.

First Semester

CUA 101	Food Safety and Sanitation	2
CUA 125	Introduction to Foods	4
CUA 145	Introduction to Baking	4
		Subtotal: 10

Total Credit Hours: 10**Health Sciences and Wellness**

This Career and Academic Community includes the following programs: Dental Assisting, Emergency Medical Technician, Health Information Technology, Integrative Health Professions, Massage Therapy, Medical Assisting, Medical Office & Billing Specialist, Nursing, Nurse Aide, Patient Care Technician, Phlebotomy, Pharmacy Technician, Sterile Processing, Surgical Technology, and Veterinary Technology. To learn more about the program click on the program below.

DENTAL ASSISTING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Dental Assisting and enter the workforce. Students explore all phases of assisting in the dentist office setting. This certificate program prepares students for a career in assisting dentists in all aspects of dental treatment. The student will graduate with skills in office management, clinical assisting, laboratory procedures, dental radiography, and infection control. The program includes courses at the Larimer Campus and clinical experiences at sites in northern Colorado. The Front Range Dental Clinic, staffed by licensed dentists and dental hygienists, is located on the FRCC campus and offers an additional clinical experience. FRCC's program is nationally accredited by the Commission on Dental Accreditation of the American Dental Association.

First Semester

DEA 121	Dental Science I	3
DEA 126	Infection Control	3

DEA 120	Introduction to Dental Practices	1
DEA 125	Dental Radiography	3
DEA 132	Medical Emergencies in the Dental office	2
DEA 123	Dental Materials I	3
DEA 134	Prevention and Nutrition in Dentistry	3
DEA 111	Dental Office Management	2
DEA 102	Principles of Clinical Practice	3
DEA 181	Clinical Internship I	1

Subtotal: 24**Second Semester**

DEA 122	Dental Science II	3
DEA 124	Dental Materials II	3
DEA 131	Advanced Dental Radiography	3
DEA 104	Specialties in Dentistry	2
DEA 182	Clinical Internship II	2
DEA 183	Dental Clinical Internship III	6
GEN EDU	Any Approved Elective List Course	3

Subtotal: 22**Total Credit Hours: 46****CLINICAL EMT CERTIFICATE**

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Clinical Emergency Medical Technician and enter the workforce. Students explore EMT patient care skills. This certificate program is designed to prepare students for entry-level careers in a variety of healthcare or emergency medical service environments such as fire departments, private ambulance or emergency room facilities. The certificate program consists of didactic and experiential teaching. 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.

First Semester

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

Semester Note: Upon completion of EMS 121, EMS 122, EMS 123, EMS 124, and EMS 170, you **should apply for the Emergency Medical Technician Certificate** (p. 36).

Second Semester

HPR 208	Medical Record Terminology	2
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EMS 132	EMS IV/IO Therapy	2
HPR 190	Basic EKG Interpretation	2
ELECTIVE	Clinical EMT Course	2
ELECTIVE	Clinical EMT Course	2
ELECTIVE	Clinical EMT Course	2

Subtotal: 12**Total Credit Hours: 24****Important Program Notes:**

A part-time format spanning two semesters **may be offered**. **Check with your preferred campus for information.**

Total credits **may vary depending on elective courses** you select. You **must complete 24 credits** to earn your Clinical EMT Certificate. You **should not exceed 26 credits**. You **may want to check with your advisor** to monitor your completion progress.

EMERGENCY MEDICAL TECHNICIAN CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**,

Program Description

This program is designed for students wanting to complete a one-semester certificate in Emergency Medical Technician and enter the workforce. Students explore EMT patient care skills and procedures. Students study medical and trauma emergency procedures and assessment. This certificate program provides students with entry-level skills required for careers with a fire department, ambulance service, hospital emergency room, or disaster relief. This EMT Program also prepares students who are interested in continuing their careers and/or education in nursing, paramedicine, medical school. Students who complete the EMT certificate will be eligible to sit for the National Registry of Emergency Medical Technicians (NREMT) examination. After completing the NREMT exam, you can apply to the state for certification to work as an EMT in Colorado.

First Semester

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****Important Program Notes:**

A part-time format spanning two semesters **may be offered**. **Check with your preferred campus for information.**

Health Information Technology

HEALTH INFORMATION TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Health Information Technology and enter the workforce. Students explore the medical information and records industry. With an AAS degree in Health Information Technology, students can enter a career as a health data analyst, insurance claims analyst, records technician specialist, release of information specialist, coder, patient information coordinator, or supervisor. Students may pursue careers in hospitals, physicians' offices, nursing-care facilities, outpatient care centers, home-health-care services, public health departments, or insurance firms. Students learn how to acquire, analyze, and protect digital and traditional medical information. Students will learn the science of health information management plus the background they will need regarding legal, ethical, medical, and financial areas. Download the HIT Information Packet. Accredited by the Commission on Accreditation for Health Informatics & Information Management (CAHIIM).

- **77%** of our HIT students complete the program and graduate.
- **90%** of our HIT graduates pass the Registered Health Information Technician (RHIT) national examination on their first attempt. National Pass Rate is 71% first attempt.
- **86%** of our HIT graduates who pass the RHIT examination work in a healthcare related position.

First Semester

ENGLISH	ENG 121/122/131	3
MATH	MAT 107 or Higher, or MAT 135	3
CIS 118	Introduction to PC Applications	3
HPR 208	Medical Record Terminology	2
GEN EDU	COM 115/125	3
GEN EDU	PSY 101/102/226/235	3

Subtotal: 17

Second Semester

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

HIT 112	Legal Aspects for Health Records	2
HIT 222	Quality Management	3
HIT 225	Health Information Management	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

Subtotal: 21

Semester Note: Upon completion of HPR 208, MOT 125, MOT 133, MOT 135, HIT 105, HIT 220, HIT 221, HIT 231, and HIT 241, you **should apply for the Health Information Technology Medical Coding Certificate** (p. 37).

Fourth Semester

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

Subtotal: 5

Total Credit Hours: 64

MEDICAL CODING CERTIFICATE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Medical Coding and enter the workforce. Students explore medical coding competencies. This certificate teaches students medical coding skills using the ICD classification system for hospitals, long term care facilities and physician practices. It prepares students for careers in health information management converting diagnoses and procedures from patient health records into the correct medical codes to ensure accurate billing and reimbursement.

First Semester

HPR 208	Medical Record Terminology	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: 14

Second Semester

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: 27**

Integrative Health Professions & Massage Therapy

INTEGRATIVE HEALTH PROFESSIONS ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Integrative Health Professions and enter the workforce. Students explore integrative health and medical professions. The AAS Integrative Health Professions degree prepares the student to practice a career in an area of integrative health such as aromatherapy, teaching yoga, massage therapy, reflexology, energy work and health & wellness coaching. Students can create their own practice or work alongside other practitioners in the integrative health and medical fields including wellness facilities, clinics and hospitals. Students study various integrative health modalities, healing methods, and ethical issues.

First Semester

IHP 101	Introduction to Integrative Health	2
IHP 114	A & P Integrative Therapies	4
IHP 204	Ethics in Integrative Health	2
ENGLISH	ENG 121/122	3
GEN EDU	Any PSY GT-SS3 Course	3

Subtotal: 14

Semester Note: BIO 201 Human Anatomy & Physiology I w/Lab and BIO 202 Human Anatomy & Physiology II w/Lab can be taken in replace of IHP 114.

Second Semester

IHP 201	Integrative Health Keystone	3
ELECTIVE	IHP 240/260/261/262/263	3
GEN EDU	COM 115/125/220	3
MATH	MAT 107 or Higher	3
ELECTIVE	Any IHP or MST Course	3

Subtotal: 15

Third Semester

GEN EDU	Any Approved Elective List Course	3
ELECTIVE	Any IHP or MST Course	3
ELECTIVE	Any IHP or MST Course	3
ELECTIVE	Any IHP or MST Course	3
ELECTIVE	Any IHP or MST Course	3

Subtotal: 15

Semester Note: Electives this semester should be used to work toward completion of one of the Integrative Health (p. 38) or

Massage Therapy (p. 39) certificates. Consult the appropriate MAP for the selected certificate(s) to see which courses to take as electives.

Fourth Semester

IHP 205	Integrative Health Business Practices	2
IHP 289	Integrative Health Capstone	2
ELECTIVE	Any IHP or MST Course	3
ELECTIVE	Any IHP or MST Course	3
ELECTIVE	Any IHP or MST Course	3
ELECTIVE	Any IHP or MST Course	3

Subtotal: 16

Semester Note: Electives this semester should be used to work toward completion of one of the Integrative Health (p. 38) or Massage Therapy (p. 39) certificates. Consult the appropriate MAP for the selected certificate(s) to see which courses to take as electives.

Total Credit Hours: 60

Important Program Notes:

Semester credits **may vary depending on other semester courses** selected. You **need 60 credits to complete the Integrative Health Professions Associate of Applied Science Degree**. You **should not exceed 62 credits**. Consult **with your Pathways advisor** to monitor your completion progress.

Integrative Health Certificates

INTEGRATIVE HEALTH & WELLNESS COACHING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Integrative Health and Wellness Coaching and enter the workforce. Students explore coaching techniques for healthy lifestyles and well-being. 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. Students will also learn about nutrition, fitness and mindfulness. As a career health and wellness coach in professional settings the student will empower clients to make healthy lifestyle choices and lasting behavioral changes 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>).

First Semester

IHP 101	Introduction to Integrative Health	2
IHP 106	Enhancing Personal Empowerment	1

IHP 107	Stress Management for Health	1
IHP 158	Intro to Health & Wellness Coaching	1
IHP 204	Ethics in Integrative Health	2
IHP 240	Holistic Nutrition: Digestive Wellness	3
IHP 258	Advanced Integrative Health Coaching	3
ELECTIVE	Any IHP or MST Course(s)	2

Subtotal: 15

Second Semester

IHP 108	Journaling Towards Wellness	1
IHP 201	Integrative Health Keystone	3
IHP 205	Integrative Health Business Practices	2
IHP 252	Mindfulness for Health & Wellness	2
IHP 259	Specialized Coaching Techniques	2
IHP 262	Foundations of Lifestyle Medicine	3
ELECTIVE	IHP 272 or Any IHP or MST Course(s)	2

Subtotal: 15

Total Credit Hours: 30

Important Program Note:

You can take IHP 205 (Integrative Health Business Practices) any term during cohort enrollment.

REFLEXOLOGY CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Reflexology and enter the workforce. Students explore the techniques and benefits of reflexology. 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. Career options include creating an independent practice. In accordance with national credentialing and membership standards, students will have well over 300 contact hours. 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).

Note: 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.

First Semester

IHP 114	A & P Integrative Therapies	4
IHP 115	Intro to Reflexology	1
IHP 116	Reflexology of Hands & Feet	3
IHP 204	Ethics in Integrative Health	2

Subtotal: 10

Second Semester

IHP 215	Advanced Reflexology	2
IHP 270	Reflexology Clinical	2
IHP 205	Integrative Health Business Practices	2
ELECTIVE	Any IHP or MST Course(s)	4

Subtotal: 10

Total Credit Hours: 20

MASSAGE THERAPY CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a three semester Certificate in Massage Therapy and enter the workforce. Students explore massage therapy theory, techniques and benefits. 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, Kinesiology and Pathology. Career options include clinical, corporate and private settings. Students will complete two clinical rotations. Upon successful completion, students will be prepared to take the national certification exam (MBLEx) through the Federation of State Massage Therapy Boards (FSMTB).

First Semester

IHP 111	Intro to Massage Techniques I	1
NOTE	IHP 114 (A&P Integrative Therapies)*	0*

Subtotal: 1

Second Semester

MST 111	Massage Therapy Fundamentals	4
MST 208	Musculoskeletal Anatomy	2
MST 174	Clinical/Experiential Learning	2

Subtotal: 8

Third Semester

MST 211	Therapeutic Massage Techniques	3
HPR 117	Anatomical Kinesiology	3
MST 216	Pathology for Massage Therapy	3
MST 274	Clinical/Experiential Learning	2

Subtotal: 11

Total Credit Hours: 20

Important Program Notes:

***Taking IHP 114 or having had high school Anatomy & Physiology or college level Anatomy & Physiology coursework within the last 5 years prior to enrolling in the Massage Therapy Program cohort is strongly recommended to serve as**

preparation for successful completion of the Massage Therapy Program.

Program cohorts **start in fall**.

AROMATHERAPY CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Aromatherapy and enter the workforce. Students explore various aromatic essences and their health benefits. This program teaches students how to safely use and apply essential oils for therapeutic benefits. This certificate is recognized by the National Association of Holistic Aromatherapy (NAHA) and can be used in conjunction with training in other integrative health or health-related modalities and careers.

First Semester

IHP 114	A & P Integrative Therapies	4
IHP 230	Applied Aromatherapy	3
ELECTIVE	IHP 204/205	2
		Subtotal: 9

Second Semester

IHP 231	Advanced Aromatherapy	4
IHP 271	Aromatherapy Clinical	2
		Subtotal: 6

Total Credit Hours: 15

Important Program Notes:

This certificate cohort starts only in Fall term. IHP 204 or IHP 205 **may be taken either the first or second term** based on your scheduling preference.

INTEGRATIVE HEALTH PROFESSIONS CERTIFICATE

Locations: Larimer Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Integrative Health Professions and enter the workforce. Students explore expanding integrative therapies. Students study nutrition balance, holistic modalities, body-mind responses, creating an independent practice, and

healing presence. This certificate program supplements a health professional's practice with knowledge of emerging integrative therapies and the overall concepts of holism and health prevention. Nurses, physical/occupational therapists, massage therapists and others with existing medical, integrative health or wellness-promotion backgrounds and careers would benefit most from this certificate for professional development and/or continuing education credits.

First Semester

IHP 200	Creating Healing Presence	1
IHP 201	Integrative Health Keystone	3
IHP 240	Holistic Nutrition: Digestive Wellness	3
ELECTIVE	IHP 260/261/262/263	3
ELECTIVE	Any IHP Course(s)	3
ELECTIVE	IHP 204 or Any IHP Course(s)	2
		Subtotal: 15

Total Credit Hours: 15

Important Program Note:

This certificate **may be completed in one full-time term or two part-time terms**.

YOGA TEACHER TRAINING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Yoga Teacher and enter the workforce. Students explore yoga techniques and benefits. This certificate program prepares students to be a professional career 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.

First Semester

IHP 250	RYT 200 Yoga Teacher Training	10
ELECTIVE	Any IHP Course(s)	2
		Subtotal: 12

Total Credit Hours: 12

Important Program Notes:

For Yoga Alliance approval, a **final grade of "B" or higher is required**.

*The Advanced Yoga Institute (IHP 251) **offers students who successfully complete the RYT200 certification the opportunity to enhance their training** by adding another formal yoga certification. **Must be taken a later term after successful completion of the IHP 250 course**. If you choose to take IHP 251, you will increase your total credits to 15 for this certificate.

Medical Assisting Professional

MEDICAL ASSISTING ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Medical Assisting and enter the workforce. Students explore medical assisting procedures in health care settings. This degree prepares the student for a career in the clinical and administrative functions of the health care system. All students become familiar with the law and ethics of the health care system and medical terminology, and complete an internship at a local health care facility. Clinical skills include assisting with patient intake, physical examinations, diagnostic tests, and treatment procedures including administration of medications and first aid.

First Semester

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4

Subtotal: 19

Second Semester

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: 16

Semester Note: Upon completion of MOT 125, MOT 133, MOT 135, HPR 208, MAP 110, MAP 120, MAP 138, MAP 140, MAP 150, MAP 183, and MAP 189, you **should apply for the Medical Assisting Certificate** (p. 41).

Third Semester

GEN EDU	CIS 118 or Any Approved Elective List Course	3
MATH	MAT 107 or Higher	3
ENGLISH	ENG 121/122/131	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 12

Fourth Semester

GEN EDU	PSY 101 or Higher	3
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GEN EDU	SPA 101 or Any Approved Elective List Course	3
ELECTIVE	HPR 101 or Any Approved Elective List Course	2
ELECTIVE	HIT 105 or Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 13

Total Credit Hours: 60

MEDICAL ASSISTING CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Medical Assisting and enter the workforce. Students explore the administrative and clinical skills required in health care settings. This certificate is designed to prepare individuals for a career 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 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 certificate programs at the Boulder County Campus, Larimer Campus, and Westminster Campus are accredited by the Commission on Accreditation of Allied Health and Education Programs (CAAHEP) upon the recommendation of the Medical Assisting Education Review Board (MAERB). Commission on Accreditation of Allied Health Education Programs, 25400 U.S. Highway 19 North, Suite 158 Clearwater, FL 33763. 727-210-2350.

First Semester

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4

Subtotal: 19

Second Semester

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: 16

Total Credit Hours: 35

Medical Office Technology

MEDICAL OFFICE & BILLING SPECIALIST ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Medical Office & Billing Specialist and enter the workforce. Students explore office/billing skills and procedures necessary in health care settings. This degree prepares the student for a career in a medical office/billing specialist role in a health care facility. Skills are developed in medical account management, computer applications, written communication, medical office procedures, financial management, insurance billing, International Classification of Diseases and Physicians Current Procedural Terminology (CPT) coding, and transcribing medical reports.

First Semester

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4
		Subtotal: 19

Second Semester

CIS 118	Introduction to PC Applications	3
MOT 136	Introduction to Clinical Skills	2
MOT 280	Internship	4
MOT 289	Capstone	1
MAT 107	Career Mathematics	3
		Subtotal: 13

Semester Note: MOT 280 combines the course learning outcomes in MOT 184 and MOT 181. If you already have completed MOT 184 and MOT 181, these courses will replace the need to complete MOT 280.

Third Semester

GEN EDU	PSY 101 or Higher	3
ENGLISH	ENG 121/122/131	3
GEN EDU	SPA 101 or Any Approved Elective List Course	3

ELECTIVE	HPR 101 or Any Approved Elective List Course	2
ELECTIVE	HIT 105 or Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	1

Subtotal: 15

Semester Note: HIT 105 is offered as part of the Medical Coding certificate program available at the Westminster campus and available Fall semesters only. Cohorts **start in Fall** and **require HIT 105 to be taken**. The HIT courses listed as well as *Any Approved Elective List* (p. 131) course **can be used to fulfill the 19 credits of electives** for this degree. Business & Information Technology courses are highly recommended.

Upon completion of MOT 125, MAP 110, CIS 118, MOT 133, HPR 208, MOT 135, MOT 136, MAP 120, MOT 280, and MOT 289, you **should apply for the Medical Office Specialist Certificate** (p. 42).

Fourth Semester

ELECTIVE	HIT 220 or Any Approved Elective List Course	3
ELECTIVE	HIT 221 or Any Approved Elective List Course	2
ELECTIVE	HIT 231 or Any Approved Elective List Course	5
ELECTIVE	HIT 241 or Any Approved Elective List Course	3

Subtotal: 13

Semester Note: The HIT courses listed above are part of the Medical Coding certificate program available at Westminster campus and available spring semesters only. Cohorts **start in Fall** and **require HIT 105 to be taken**. The HIT courses listed as well as *Any Approved Elective List* (p. 131) course **can be used to fulfill the 19 credits of electives** for this degree. Business & Information Technology courses are highly recommended.

Upon completion of MOT 125, ACC 101, CIS 118, MOT 133, HPR 208, MOT 135, MAP 120, MOT 280, and MOT 289, you **should apply for the Medical Billing Specialist Certificate** (p. 43).

Total Credit Hours: 60

Medical Office Technology Certificates

MEDICAL OFFICE SPECIALIST CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Medical Office Specialist and enter the workforce. Students explore computer technology, finances, insurance, business, accounts and office procedures in health care settings. This certificate program prepares the student to pursue a career as a medical office specialist in a health-care facility. Skills are developed in computer

applications, written communication, medical office procedures, financial management, insurance billing, transcribing medical reports, and coding using the *International Classification of Diseases and Physicians Current Procedural Terminology (CPT)*. In addition, students learn basic human anatomy, physiology and disease conditions.

First Semester

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 208	Medical Record Terminology	2
MAP 110	Medical Office Administration	4
MAP 120	Medical Office Financial Management	4

Subtotal: 19

Second Semester

CIS 118	Introduction to PC Applications	3
MOT 136	Introduction to Clinical Skills	2
MOT 181	Administrative Internship	2
MOT 289	Capstone	1

Subtotal: 8

Semester Note: You can completed MOT 280 in place of MOT 181 if pursuing both the Medical Billing Specialist and Medical Office Specialist certificates.

Total Credit Hours: 27

MEDICAL BILLING SPECIALIST CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Medical Billing Specialist and enter the workforce. Students explore computer technology, records, ethics, and business and billing procedures in health care settings. This certificate program prepares the student for a career in an administrative role as a medical insurance billing specialist. Skills are developed in medical account management, health-care coding and billing for reimbursement.

First Semester

MOT 125	Basic Medical Sciences I	3
MOT 133	Basic Medical Sciences II	3
MOT 135	Basic Medical Sciences III	3
HPR 208	Medical Record Terminology	2
MAP 120	Medical Office Financial Management	4
ACC 101	Fundamentals of Accounting	3

Subtotal: 18

Semester Note: You can completed ACC 121 in place of ACC 101 if desired.

Second Semester

CIS 118	Introduction to PC Applications	3
MOT 184	Billing Specialist Internship	3
MOT 289	Capstone	1

Subtotal: 7

Semester Note: You can completed MOT 280 in place of MOT 184 if pursuing both the Medical Billing Specialist certificate and Medical Office Specialist certificate.

Total Credit Hours: 25

Nursing

NURSING BACHELOR OF SCIENCE

Locations: Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a four-year BSN Degree in Nursing and enter the workforce. Students explore procedures to provide and manage care in various health care facilities. Students acquire skills and techniques to perform in nursing care facilities, hospitals, clinics, physician offices, research laboratories, pharmaceutical companies, education institutions, state, public and government institutions, insurance and law firms, and private companies. The RN to BSN program is a continuation of preparation for entry-level nursing practice as a registered nurse. The program is a combination of hybrid and online courses, and can be completed in four semesters full-time. For students currently enrolled in the associate degree nursing program as well as those working full-time as a registered nurse, the program is flexible allowing extended time to earn a degree. As some employers show a preference for baccalaureate prepared nurses, the BSN can increase eligibility for nursing roles in direct patient care and leadership. The student must be licensed as a registered nurse prior to completion of the RN-BSN program.

First Semester

ENG 121	English Composition I: GT-CO1	3
PSY 235	Human Growth & Development: GT-SS3	3
BIO 201	Human Anatomy & Physiology I w/Lab: GT-SC1	4
NUTRITION	HPR 108 or HWE 100	1
BIO 204	Microbiology w/Lab: GT-SC1	4

Subtotal: 15

Semester Note: First Semester courses are **required and must be taken prior to program admittance**. These are fall semester courses. You **should complete the Nursing Program application process** prior to declaring as a nursing student and **take Semester 2 through Semester 9 as a full-time nursing student**.

Second Semester

NUR 109	Fundamentals of Nursing	6
NUR 112	Basic Concepts of Pharmacology	2
BIO 202	Human Anatomy & Physiology II w/Lab: GT-SC1	4
MAT 103	Math for Clinical Calculations	3
		Subtotal: 15

Third Semester

ENG 122	English Composition II: GT-CO2	3
MAT 135	Intro to Statistics: GT-MA1	3
GT- SS	Any Social & Behavioral Science (GT-SS) Course	3
		Subtotal: 9

Semester Note: MAT 135 is a prerequisite to NUR 303.

If you are completing NUR 169 and the first year of the nursing program, you **may apply for the NCLEX® exam** for practical nursing licensure. NUR 169 is **not offered every semester**. Please **check with program director for more information**.

Fourth Semester

NUR 106	Medical Surgical Nursing Concepts	7
NUR 150	Maternal Child Nursing	6
BIO 216	Human Pathophysiology	4
		Subtotal: 17

Fifth Semester

NUR 206	Advanced Concepts of M/S Nursing I	6.5
NUR 212	Pharmacology II	2
NUR 211	Psychiatric-Mental Health Nursing	4
GEN EDU	Any GT-AH or GT-SS Course	3
		Subtotal: 15.5

Sixth Semester

NUR 301	Integration into Baccalaureate Nursing Practice	3
NUR 302	Trends in Nursing Practice	3
GEN EDU	Any Arts & Humanities (GT-AH) Course	3
		Subtotal: 9

Seventh Semester

NUR 216	Advanced Concepts of M/S Nursing II	5
NUR 230	Transition to Professional Nursing Practice	4
NUR 303	Nursing Research/Evidence Based Practice	3
GT- HI1	Any History (GT-HI1) Course	3
		Subtotal: 15

Semester Note: AAS Graduation /Completion

Eighth Semester

NUR 408	Legal/Ethical Issues	3
ELECTIVE	NUR 304/305/306/307	3
NUR 409	Leadership in the Nursing Profession	3.5

ELECTIVE	NUR 304/305/306/307	3
GEN EDU	Any GT-AH, GT-HI, or GT-SS Course	3
		Subtotal: 15.5

Ninth Semester

NUR 410	Community Health Nursing Practicum	6
NUR 411	Senior Seminar	3
		Subtotal: 9

Total Credit Hours: 120

Important Program Notes:

You **must complete this program** as a full-time nursing student beginning in Semester 2 (spring semester). **Contact an advisor** regarding your scheduling needs.

Courses in Semester 3, 6, and 9 **should be completed in summer semesters**.

You **must complete 120 credits** to earn your Nursing Bachelor of Science degree. You **should not exceed 124 credits**. You **may want to check with your advisor** to monitor your completion progress.

NURSING ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a five semester AAS Degree in Nursing and enter the workforce. Students explore procedures to provide and manage care in various health care facilities. Students acquire skills and techniques to perform in acute care hospitals, long term care, clinics, home health and health maintenance organizations. This program prepares students for a career as an entry-level registered nurse (RN) in a variety of health care settings. With an AAS degree in Nursing, students are eligible to apply to take the National Council Licensure Examination (NCLEX-RN) exam for licensure as a RN. FRCC's nursing degree is approved by the Colorado Board of Nursing and accredited by the Accreditation Commission for Education in Nursing Inc. (ACEN).

First Semester

ENGLISH	ENG 121/122	3
PSY 235	Human Growth & Development: GT-SS3	3
BIO 201	Human Anatomy & Physiology I w/Lab: GT-SC1	4
NUTRITION	HPR 108 or HWE 100	1
BIO 204	Microbiology w/Lab: GT-SC1	4
		Subtotal: 15

Semester Note: First Semester courses are **required and must be taken prior to program admittance**. You **should complete the Nursing Program application process** prior to declaring as a nursing student and **take Semester 2 through Semester 5 as a full-time nursing student**.

Second Semester

NUR 109	Fundamentals of Nursing	6
NUR 112	Basic Concepts of Pharmacology	2
BIO 202	Human Anatomy & Physiology II w/Lab: GT-SC1	4
MAT 103	Math for Clinical Calculations	3
		Subtotal: 15

Third Semester

NUR 106	Medical Surgical Nursing Concepts	7
NUR 150	Maternal Child Nursing	6
BIO 216	Human Pathophysiology	4
		Subtotal: 17

Semester Note: If you are completing NUR 169 and the first year of the nursing program, you **may apply for the NCLEX® exam** for practical nursing licensure. NUR 169 is **not offered every semester**. Please **check with program director for more information**.

Fourth Semester

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

Fifth Semester

NUR 216	Advanced Concepts of M/S Nursing II	5
NUR 230	Transition to Professional Nursing Practice	4
GEN EDU	Any GT-AH or GT-SS Course	3
		Subtotal: 12

Total Credit Hours: 71.5

Important Program Notes:

You **must complete this program** as a full-time nursing student beginning in Semester 2. **Contact an advisor** regarding your scheduling needs.

You **must complete 71.5 credits** to earn your Associate of Applied Arts degree in Nursing. You **should not exceed 73.5 credits**. You **may want to check with your advisor** to monitor your completion progress.

NURSING ADVANCED PLACEMENT BRIDGE PROGRAM LPN TO ADN ASSOCIATE OF APPLIED SCIENCE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Nursing Advanced Placement Bridge LPN-ADN and enter the workforce. Students explore human

anatomy and physiology, microorganisms, human development, and pathophysiology. This is an advanced placement option for students who are licensed as a practical nurse in Colorado. Currently licensed LPNs and those interested in transferring into the AAS nursing program should contact wcnursing@frontrange.edu for admissions information. The Nursing Advanced Placement Bridge Program is a four semester program offered at the Westminster Campus only. FRCC's nursing degree is approved by the Colorado Board of Nursing and accredited by the Accreditation Commission for Education in Nursing Inc. (ACEN).

First Semester

ENG 121	English Composition I: GT-CO1	3
PSY 235	Human Growth & Development: GT-SS3	3
BIO 201	Human Anatomy & Physiology I w/Lab: GT-SC1	4
NUTRITION	HPR 108 or HWE 100	1-3
BIO 204	Microbiology w/Lab: GT-SC1	4
BIO 202	Human Anatomy & Physiology II w/Lab: GT-SC1	4
MATH	MAT 103 or Any GT-MA1	3-4
BIO 216	Human Pathophysiology	4
GEN EDU	GT-AH or GT-SS	3
		Subtotal: 29-31

Semester Note: This AAS degree **requires the completion of 25.5 credits of nursing coursework found in Semesters 2-5 and 29 credits of general education and nutrition coursework listed above 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.

Second Semester

NUR 189	Transition from LPN to ADN	4
		Subtotal: 4

Third Semester

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

Semester Note: You **must complete this program** as a full-time nursing student beginning in Semester 3. **Contact an advisor** regarding your scheduling needs.

Fourth Semester

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

PRACTICAL NURSING EXIT OPTION CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two year Certificate in Practical Nursing Exit Option and enter the workforce. Students explore knowledge and skills of safe patient-centered nursing care in a variety of health care settings. This option allows students to complete the first year of the AAS Nursing and NUR 169 (p. 251) to receive a certificate and be eligible to apply to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).

First Semester

ENGLISH	ENG 121/122	3
PSY 235	Human Growth & Development: GT-SS3	3
BIO 201	Human Anatomy & Physiology I w/Lab: GT-SC1	4
NUTRITION	HPR 108 or HWE 100	1
BIO 204	Microbiology w/Lab: GT-SC1	4

Subtotal: 15-17

Semester Note: First Semester courses are **required and must be taken prior to program admittance**. You **should complete the Nursing Program application process** prior to declaring as a nursing student and **take Semester 2 and Semester 3 as a full-time nursing student**.

Second Semester

NUR 109	Fundamentals of Nursing	6
NUR 112	Basic Concepts of Pharmacology	2
BIO 202	Human Anatomy & Physiology II w/Lab: GT-SC1	4
MAT 103	Math for Clinical Calculations	3

Subtotal: 15

Semester Note: You **must complete this program** as a full-time nursing student beginning in Semester 2. **Contact an advisor** regarding your scheduling needs.

Third Semester

NUR 106	Medical Surgical Nursing Concepts	7
NUR 150	Maternal Child Nursing	6

Subtotal: 13

Fourth Semester

NUR 169	Transition into Practical Nursing	4
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Subtotal: 4

Semester Note: If you are completing NUR 169 and the first year of the nursing program, you **may apply for the NCLEX® exam** for practical nursing licensure. NUR 169 is **not offered every**

semester. Please **check with program director for more information**.

Total Credit Hours: 47

PRACTICAL NURSING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three semester Certificate in Practical Nursing and enter the workforce. Students explore knowledge and skills of safe patient-centered nursing care. This program is for students whose primary goal is practical nursing to assist in providing general nursing care under the direction of a registered nurse, physician, or dentist. The program prepares students for careers in long term care facilities, clinics, home care, doctors' offices, and some hospitals. 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®).

Larimer 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.

This nursing education program is a candidate for accreditation by the Accreditation Commission for Education in Nursing, Inc. Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326, 404-975-5000 www.acenursing.org.

First Semester

GEN EDU	BIO 106/201/202	4
ENG 121	English Composition I: GT-CO1	3

Subtotal: 7

Semester Note: First Semester courses are **required and must be taken prior to program admittance**. You **should complete the Practical Nursing Program application process** prior to declaring as a practical nursing student and **take Semester 2 and Semester 3 as a full-time practical nursing student**.

Second Semester

NUR 101	Pharmacology Calculations	1
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

Semester Note: You **must complete this program** as a full-time nursing student beginning in Semester 2. **Contact an advisor** regarding your scheduling needs.

Third Semester

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

NURSE AIDE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Nurse Aide and enter the workforce. Students explore patient care procedures, skills, regulations and ethical issues. Learn the entry-level skills required for a career as a CNA in a long-term care facility, acute care facility or a home health care agency. Not all 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 Nurse Aide certificate from FRCC qualifies the student to take the State Certification Examination to become a Certified Nurse Aide (CNA).

First Semester

NUA 101	Nurse Aide Health Care Skills	4
NUA 170	Nurse Aide Clinical Experience	1
		Subtotal: 5

Total Credit Hours: 5

Program Note:

The program's State Exam pass rates consistently rank above the state average, which indicates the quality of instruction and rigor of the program. A grade of "C" or better is required to be successful in all certificate courses. The Larimer campus packet is available once class begins on D2L - call 970-613-7580. The Westminster campus packet is due two weeks prior to the start of class - call 303-404-5208.

Patient Care Certificates

PATIENT CARE TECHNICIAN CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Patient Care Technician and enter the workforce. Students explore a wide range of skills and techniques required for patient care. The Patient Care Technician certificate is designed to prepare students for entry-level careers in a variety of health care environments such as clinics, hospitals, nursing homes or long term care facilities. Upon completion, students can take the National Certified Patient Care Technician (NCPCT) exam through the National Center for Competency Testing.

First Semester

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
HWE 100	Human Nutrition	3
		Subtotal: 14

Second Semester

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: 11

Total Credit Hours: 25

Important Program Notes:

You may **take HWE 100 in either Semester 1 or Semester 2**.

ELECTROCARDIOGRAM CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Electrocardiogram and enter the workforce. Students explore interpretation of EKG strips and heart rhythm disturbances. This certificate provides students with the entry level career knowledge and practice of administering and reading EKG's in the health care setting. Students may be eligible to sit for the Certified EKG Technician Exam.

First Semester

HPR 190	Basic EKG Interpretation	2
HPR 200	Advanced ECG Interpretations	2
ELECTIVE	HWE 100 or Any EMS, HPR or NUA	2

Subtotal: 6**Total Credit Hours: 6****Important Program Notes:**

You may take 2 credits of electives from any EMS, HPR, or NUA course. You may also take HWE 100 Human Nutrition. The courses found on the Patient Care Technician certificate may apply. These include HPR 101, HPR 119, HPR 208, NUA 101, NUA 170, HWE 100, HPR 112, HPR 179, and HPR 180.

HEALTH CARE CUSTOMER SERVICE BASICS CERTIFICATE

Locations: Brighton Center, Westminster Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Health Care Customer Service Basics and enter the workforce. Students explore all management phases of patient customer service in health care settings. This program trains students for careers as health care administrative assistants knowledgeable in medical terminology and Electronic Health Records (EHR), managing the daily operations of a medical facility, checking patients in, verifying patient insurance, and providing quality customer service to patients.

First Semester

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Pharmacy Technician and enter the workforce. This Advanced Level Pharmacy Technician training program is accredited by the American Society of Health System Pharmacists (ASHP). Our training includes both didactic

and simulated components along with a clinical component. This program will prepare the student to perform pharmacy-related functions, generally working under the direct supervision of a licensed pharmacist. Upon successful completion of the Pharmacy Technician training program, the student is awarded a certificate of completion from Front Range Community College. The program will also prepare the student to sit to take the Pharmacy Technician National Examination. Students will take their core curricular courses the first semester, followed by two experiential practice modules in the second semester. Students may enter the program in either the fall or spring semester.

First Semester

PHT 112	Pharmacy Law and Ethics	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: 18**Second Semester**

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

Subtotal: 8**Total Credit Hours: 26****Important Program Notes:**

You **must attend a Pharmacy Technician Program Information Session** prior to the start of the program.

PHLEBOTOMY CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Phlebotomy and enter the workforce. Students explore the duties in venipuncture, capillary puncture, and special collection procedures. This program is designed to provide students with the entry-level skills required for a career as a phlebotomist in health care settings. Classes, labs and a clinical are usually completed in one semester. Evening and Saturday classes allow students to earn phlebotomy certification while working. Four agencies recognize the FRCC 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).

First Semester

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

Total Credit Hours: 7**Program Note:**

Exam cost is additional and not included in tuition. 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, current BLS for healthcare certification, pass a background check and 10-panel drug screen through an FRCC approved background check company prior to clinical placement.

STERILE PROCESSING CERTIFICATE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Sterile Processing and enter the workforce. A sterile processing technician is an integral member of the surgical team who cleans, sterilizes, and assembles surgical instruments, equipment, and supplies for use in operating rooms and other medical and surgical facilities. Students will receive instruction in sterilization, infection control, decontamination, and surgical instrumentation processing, distribution, and record-keeping. This program develops the knowledge and skills for an entry-level job as a Sterile Processing Technician. This certificate is part of an apprenticeship program partnership with Centura Health and has a selective admission process.

First Semester

SPI 100	Sterile Instrument Processing	4
SPI 101	Sterile Instrument Lab Skills	4
SPI 181	Internship: Sterile Processing	9
SPI 279	Seminar: Sterile Processing	1

Subtotal: 18**Total Credit Hours: 18****SURGICAL TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE**

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Surgical Technology and enter the

workforce. Students explore methods of providing patient care during all phases of surgery. 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 sterile supplies to surgeons and assistants. This four semester program develops the knowledge and skills for an entry level career 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. FRCC Surgical Technology Program has been granted accreditation with the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Accreditation Review Council for Education in Surgical Technology & Surgical Assisting (www.arcstsa.org) which will allow students who successfully complete the program to sit for the National Board of Surgical Technology & Surgical Assisting (NBSTSA) certification and have the credential of Certified Surgical Technologist (CST).

First Semester

BIO 201	Human Anatomy & Physiology I w/Lab: GT-SC1	4
BIO 204	Microbiology w/Lab: GT-SC1	4
ENGLISH	ENG 121/122/131	3
MATH	MAT 107 or Higher	3
HPR 208	Medical Record Terminology	2

Subtotal: 16**Second Semester**

BIO 202	Human Anatomy & Physiology II w/Lab: GT-SC1	4
STE 100	Fundamentals of Surgical Technology	6
STE 101	Surgical Technology Skills Lab	4
STE 105	Pharmacology of Surgical Technology	2

Subtotal: 16**Third Semester**

PSY 235	Human Growth & Development: GT-SS3	3
STE 110	Surgical Procedures I	3
STE 115	Surgical Procedures II	3
STE 120	Surgical Procedures III	3
STE 133	Surgical Instruments Lab I	1.5
STE 134	Surgical Instruments Lab II	1.5

Subtotal: 15**Fourth Semester**

STE 181	Internship I	4
STE 182	Internship II	4
STE 183	Internship III	4
STE 279	CST Exam Review Course	1

Subtotal: 13**Total Credit Hours: 60**

Veterinary Technology

VETERINARY TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Veterinary Technology and enter the workforce. Students explore the technical and problem solving skills required for veterinary health care. This degree trains students in veterinary health and handling of a variety of animals including household pets, food animals, exotics, birds, and common laboratory animal species. The program covers topics such as anatomy and physiology, radiology, parasitology, medical and surgical nursing, anesthesia, and pharmacology. Upon completion of the Veterinary Technician degree, students will be prepared to take the Veterinary Technician National Exam (VTNE). Once they pass the VTNE, they can apply to become certified as a veterinary technician in the state of Colorado and pursue a career in a veterinary clinic or other relevant career path.

First Semester

BIO 111	General College Biology I w/Lab: GT-SC1	5
ENGLISH	ENG 121/122/131	3
VET 102	Veterinary Medical Terminology	1
CIS 109	Management Software: Using AVImark	1
MAT 103	Math for Clinical Calculations	3

Subtotal: 13

Semester Note: MAT 103 and CIS 109 require department approval for registration and should be taken in the same semester prior to taking VET classes. For registration, you must first attend a VET information meeting or meet with the program director.

Second Semester

VET 120	Office Procedures and Relations	2
VET 116	Humane Treatment Handling of Animals	3
VET 205	Veterinary Anatomy & 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 Veterinary Tech	3
VET 241	Clinical Laboratory Procedures	4

Subtotal: 15

Fourth Semester

VET 225	Anesthesiology	3
VET 227	Animal Nutrition	2
VET 238	Small Animal Nursing	2
VET 239	Large Animal Nursing	2
VET 242	Veterinary Critical Care	2
BIO 204	Microbiology w/Lab: GT-SC1	4
VET 180	Internship	3

Subtotal: 18

Fifth Semester

VET 250	Clinical Competency Evaluation	1
VET 280	Internship	11

Subtotal: 12

Total Credit Hours: 72

Important Program Notes:

You may complete the microbiology requirement in any semester including summer semesters. Biology coursework **must be completed within the last seven years**.

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

You will have the unique opportunity to complete 11 weeks of an internship through Colorado State University Veterinary Teaching Hospital. Students will be able to track in their area of interest. For example, Large Animal Medicine, Small Animal Medicine, or general track, which includes large and small animal medicine.

VETERINARY ASSISTANT CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two semester Certificate in Veterinary Assisting and enter the workforce. The Veterinary Assistant certificate program provides training in veterinary health and handling of a variety of domestic animals with the focus on tasks for assisting the Veterinary Technician and Veterinarians to become a part of the veterinary medical team. Completion of all course work is required before the student is eligible for a private-practice internship. After completion of the program graduates are eligible to sit for the National Assistant exam to become an Approved Veterinary Assistant (AVA). Please see the NAVTA web

page at: https://www.navta.net/page/vet_assistants for more information.

First Semester

VET 102	Veterinary Medical Terminology	1
VET 103	Veterinary Assistant Restraint and Handling	2
VET 120	Office Procedures and Relations	2
VET 109	Applied Companion Animal Behavior	3

Subtotal: 8

Semester Note: These courses are **offered only in the fall semester.**

Second Semester

VET 104	Assistant Large Animal Nursing	1
VET 117	Veterinary Assistant Surgery & Nursing Care	2
VET 114	Vet Asst Lab & Clin Procedures	3
VET 183	Internship	2.25

Subtotal: 8.25

Semester Note: These courses are **offered only in the spring semester.**

Total Credit Hours: 16.25

Liberal Arts, Communication & Design

This Career and Academic Community includes the following programs: Art History, Studio Art, Communication, English, French, Digital Animation, Graphic Design, Video Production & Editing, Web Design, Music, Recording Arts Technology, Philosophy, Spanish, and Theater. To learn more about the program click on the program below.

ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA degree. The Associate of Arts (AA) Degree provides students with both breadth and depth of knowledge in Liberal Arts as well as Social and Behavioral Sciences that prepares them for transfer into a bachelor degree program at a four-year college or university. Careers typically require a bachelor's or master's degree. Students may tailor this general 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.

First Semester

ENG 121	English Composition I: GT-CO1	3
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GT- AH	Any Arts & Humanities (GT-AH) Course	3
GT- SS	Any Social & Behavioral Sciences (GT-SS)	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 15

Second Semester

ENG 122	English Composition II: GT-CO2	3
MATH	MAT 120/121/135 or Any GT-MA1	3
GT- SS	Any Social & Behavioral Sciences (GT-SS)	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 15

Third Semester

GT- AH	Any Arts & Humanities (GT-AH) Course	3
GT- HI1	Any History (GT-HI1) Course	3
GT- SC1	Any Science (GT-SC1) Course	4
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 16

Fourth Semester

CHOICE	Student Choice of any GT-AH, GT-SS or GT-HI	3
GT- SC1/2	Any Science (GT-SC1 or GT-SC2) Course	3
GEN EDU	COM 115/125/220	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Credits may vary depending on prior semester completion. You **must complete at least 60 credits**. You **should not exceed 62 credits**. You **should check with your advisor** to monitor your completion progress.

ART HISTORY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree and transfer to a university to complete a BA in Art or Art History. Students explore hands-on and historical aspects of art. Careers often require a master's degree. Art History studies the way that art objects have changed over time, including their style, design, and materials. This program explores the major art forms, including painting, sculpture, and building design, as well as minor art forms, including furniture, ceramics, and decorative objects. This program introduces students to Art History and it includes courses that are common to all four-year institutions in Colorado. Career paths for Art History degree holders include museum and gallery management, government, media, research, and advanced university studies and careers. The Associate of Arts (AA) degree in Art History prepares students to complete the second half of a Bachelor of Arts (BA) or Bachelor of Fine Arts (BFA) in Art or Art History at a four-year university.

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.*

First Semester

ENG 121	English Composition I: GT-CO1	3
ART 111	Art History Ancient to Medieval: GT-AH1	3
ART 121	Drawing I	3
GT- AH	HUM 121/122 or Any GT-AH	3
ELECTIVE	Any Approved Elective List Course	3
		Subtotal: 15

Second Semester

ENG 122	English Composition II: GT-CO2	3
ART 112	Art History Renaissance to 1900: GT-AH1	3
ART 131	Visual Concepts 2-D Design	3
GT- AH	HUM 121/122 or Any GT-AH	3
ELECTIVE	Any Approved Elective List Course	3
		Subtotal: 15

Third Semester

GT- MA1	MAT 120 or Any GT-MA1	3
ART 132	Visual Concepts 3-D Design	3
GT- HI1	HIS 101/102 or Any GT-HI1	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- SS	GEO 105, ANT 101, or Any GT-SS	3
		Subtotal: 16

Fourth Semester

GT- SC1/2	Any Science (GT-SC1/2) Course	3
ART 207	Art History 1900 to Present: GT-AH1	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2
GT- SS	GEO 105, ANT 101, or Any GT-SS	3
		Subtotal: 14

Total Credit Hours: 60**Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).**

Per the Statewide Transfer Articulation Agreement (STAA), if ART 111, ART 112, ART 121, ART 131, ART 132, and/or ART 207 **are not required for the major** at a receiving 4-year institution, they **will be applied to the Bachelor's degree as elective credit** toward graduation. Please **check with the receiving institution** to determine in which these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), if you **are planning to transfer to CSU-FC**, you **will be required to complete 200-level foreign language** for completion of the BA in Art-Art History. You **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.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GT -SC1, GT-SC2).** One of these courses **must have the required laboratory (GT-SC1).**

If you **take MAT 120 and/or more credits in science** than are listed, it **will reduce the 11 credits of electives needed.** You **must complete 60 credits** to 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 and select your electives.

COMMUNICATION ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to earn an Associate of Arts degree (AA) by completing their first two years at a community college, and who plan to transfer to a university to complete the Bachelor of Arts (BA) in Communication. However, it should be noted that some students also transition directly and successfully into the workforce with their Communication AA. The field of Communication Studies, including all of the COM courses offered at our institution, explores a range of human communication contexts from public speaking, to interpersonal conversation, to work groups and teams, to co-cultures, to the media, to communication with ourselves, and many others. This program introduces students to the study and application of Communication, and includes

courses that are common to four-year institutions in Colorado. Career paths for Communication degree holders include law, politics, teaching, business/non-profit, advertising, marketing, journalism, communication/social media directors, public relations, sales, and others.

Students intending to transfer to **Colorado State University-Ft. Collins** as a Communication Studies major should **contact an advisor immediately**. Students intending to transfer to other public universities in Colorado should follow the MAP below.

First Semester

COM 115	Public Speaking	3
ENG 121	English Composition I: GT-CO1	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3
ELECTIVE	Any Approved Elective List Course	3
GT- MA1	MAT 120 or Any GT-MA1	3
		Subtotal: 15

Second Semester

COM 125	Interpersonal Communication	3
ENG 122	English Composition II: GT-CO2	3
GT- SS	Any Social Sciences (GT-SS) Course	3
ELECTIVE	Any Approved Elective List Course	3
GT- HI1	Any History (GT-HI1) Course	3
		Subtotal: 15

Third Semester

COM 220	Intercultural Communication: GT-SS3	3
COM 217	Group Communication	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- AH	Any Arts & Humanities (GT-AH) Course	3
ELECTIVE	Any Approved Elective List Course	3
		Subtotal: 16

Fourth Semester

GT- SC1/2	Any Science (GT-SC1/2) Course	3
REQUIRED	COM 209/225 or Any COM Course	3
REQUIRED	Any GT-SS or Any GT-HI1 Course	3
REQUIRED	Any GT-SS or Any GT-HI1 Course	3
ELECTIVE	Any Approved Elective List Course	2
		Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), additional COM courses beyond the 4 courses (COM 115, COM 125, COM 217, and Any COM prefix course) identified in the Additional Required Courses section of the Statewide Transfer Articulation Agreement **may not count toward the Communication major** at the receiving 4-year institution. **See explanation in Limitations section of the Statewide Transfer Articulation Agreement.**

You **must take COM 217 in either Semester 3 or Semester 4**. COM 217 is **offered at Westminster Campus in fall semester and is offered at Boulder County Campus and Larimer Campus in spring semester**. If you do not take COM 217 in Semester 3, you **should take COM 209 or COM 225 or COM 130**, depending on campus offerings.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GT-SC1, GT-SC2)**. One of these courses **must have the required laboratory (GT-SC1)**.

If you **take more credits in mathematics and science** than are listed, it **will reduce the 11 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

ENGLISH ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in English with Literature emphasis. Students gain literature and writing expertise. Careers often require a BA degree or higher. English Literature explores many different opinions, worldviews, and interesting times and places. Students will read some of the great books and poems and discuss a variety of characters, plots, themes, and styles. Studying successful writers allows students to expand their own writing abilities, recognize key issues, and improve their own writing style and voice. This program introduces students to Literature, and it includes courses that are common to all four-year institutions in Colorado. Career paths for English Literature degree holders include media, public relations, law, marketing, advertising, and teaching. The Associate of Arts (AA) degree in English Literature prepares students to complete the second half of a Bachelor of Arts in English (BA) at a four-year university.

First Semester

ENG 121	English Composition I: GT-CO1	3
REQUIRED	LIT 115 or Any LIT Prefix Course from GT-AH2	3
REQUIRED	COM 115/125/225	3
GT- SS	SOC 101, PSY 101, or Any GT-SS	3
GT- AH	PHI 111, HUM 115, THE 105, or Any GT-AH	3
		Subtotal: 15

Second Semester

REQUIRED	Any 200-Level Literature GT-AH2 Course	3
ENG 122	English Composition II: GT-CO2	3
GT- HI1	Any History (GT-HI1) Course	3
GT- MA1	MAT 120 or Any GT-MA1	3
GT- SS	SOC 101, PSY 101, or Any GT-SS	3
Subtotal: 15		

Third Semester

REQUIRED	Any 200-Level Literature GT-AH2 Course	3
ELECTIVE	ENG 221 or Any Approved Elective List Course	3
REQUIRED	Any 200-Level Literature GT-AH2 Course	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- AH	PHI 111, HUM 115, THE 105, or Any GT-AH	3
Subtotal: 16		

Fourth Semester

REQUIRED	Any 200-Level Literature GT-AH2 Course	3
ELECTIVE	ENG 221 or Any Approved Elective List Course	3
GT- SC1/2	Any Science (GT-SC1/2) Course	3
GT- AH	PHI 111, HUM 115, THE 105, or Any GT-AH	3
ELECTIVE	Any Approved Elective List Course	2
Subtotal: 14		

Total Credit Hours: 60**Important Program Notes:**

You **should contact an advisor if you receive a "C" or lower** in any ENG or LIT course.

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and ENG 201 (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), if COM 115, COM 125, or COM 125 and any of the five LIT courses **are not required for the major** at the receiving 4-year institution, they **will be applied to the Bachelor's degree as elective credit** toward graduation. Please **check with the receiving institution** to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement, ENG 221 Creative Writing I (3 credits) is a "**Recommended Elective**" course.

If you **take more credits in mathematics and science** than are listed, it **will reduce the 8 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

FRENCH ASSOCIATE OF ARTS

Locations: Boulder County Campus, Online Learning

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in French or Modern Languages. Students explore French language and culture. As a foreign language student, they will be prepared to be a responsible citizen, educated worker and culturally prepared for a world that is based on international partnerships. Students will experience classes that are more than lectures because they employ modern learning approaches and techniques. Our innovative and creative instructors will work closely to help each student with language appreciation and acquisition while helping them to master grammatical written work and linguistics. This program is designed for students wanting to complete the first two years of a bachelor's degree and transfer to a university to complete a BA in French or Modern Languages. Careers typically require a bachelor's degree.

First Semester

FRE 111	French Language I	5
ENG 121	English Composition I: GT-CO1	3
GT- MA1	MAT 120 or Any GT-MA1	3
GT- HI1	HIS 101/102/111/112 or Any GT-HI1	3
Subtotal: 14		

Second Semester

ENG 122	English Composition II: GT-CO2	3
FRE 112	French Language II	5
ELECTIVE	COM 115/125 or Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	1
GT- SS	Any Social Sciences (GT-SS) Course	3
Subtotal: 15		

Semester Note: Per the Statewide Transfer Articulation Agreement (STAA), it is **recommended, but not required, that a student take either COM 115 or COM 125**. French **faculty recommend you confirm** with the transfer institution if they accept COM 125.

If you **took MAT 120 in Semester 1**, you **do not need to take the 1 credit Any Approved Elective List Course in Semester 2**.

Third Semester

FRE 211	French Language III: GT-AH4	3
GT- SC1/2	Any Science (GT-SC1/2) Course	3
GT- AH	Any from GT-AH1, GT-AH2, or GT-AH3 Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3
Subtotal: 15		

Fourth Semester

FRE 212	French Language IV: GT-AH4	3
GT- SC1	Any Science (GT-SC1) Course	4
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 16**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), FRE 111 and/or FRE 112 **may be waived**, based on a your proficiency level. You **should consult a department advisor** at the four-year college or university.

Per the Statewide Transfer Articulation Agreement (STAA), if FRE 111 and/or FRE 112 **are not required for the major** at a receiving 4-year institution, they **will be applied to the Bachelor's degree as elective credit** toward graduation. Please **check with the receiving institution** to determine in which way these courses will be applied.

CSU-Ft. Collins **requires two non-US history courses**. **Select one course** to meet the requirement for GT-HI1 and **one** to meet the Electives requirement in order to accomplish this requirement by CSU.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GT-SC1, GT-SC2)**. One of these courses **must have the required laboratory (GT-SC1)**.

If you take MAT 120, as preferred by the Statewide Transfer Articulation Agreement (STAA), and/or **more credits in science** than are listed, it **will reduce the 19 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

Multimedia Technology**DIGITAL ANIMATION ASSOCIATE OF APPLIED SCIENCE**

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Digital Animation and enter the

workforce. Students explore basic design concepts, basic and advanced drawing techniques, story boarding, and 3D animation technology. This digital media degree gives students the foundation to go into a variety of career fields, from traditional advertising agencies to design agencies to video production companies to web production companies. Students learn how to use industry-standard design software and learn about typography, images, and the creative process involved in designing graphics that clearly present information. Our digital media degree program also includes a series of art courses to give students a solid foundation in the core of graphic design.

First Semester

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
MGD 143	Motion Graphic Design I (Software)	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 143, and MGD 153, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 142	Digital Animatics	3
MGD 167	Game Design I	3
ELECTIVE	MGD 165/211/243/257/267	3
ENGLISH	ENG 121/122/131	3
MGD 253	3D Animation II	3

Subtotal: 15**Third Semester**

ELECTIVE	MGD 165/211/243/257/267	3
ELECTIVE	MGD 165/211/243/257/267	3
ART 131	Visual Concepts 2-D Design	3
ART 121	Drawing I	3
MATH	MAT 107 or Higher	3

Subtotal: 15**Fourth Semester**

GEN EDU	Any Approved Elective List Course	3
ELECTIVE	MGD 165/211/243/257/267	3
ELECTIVE	MGD 116/141/164/212 or Any MGD Prefix	3
ELECTIVE	MGD 116/141/164/212 or Any MGD Prefix	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: Take MGD 268 in Semester 4 if associate seeking. It **should be taken the last semester**.

Upon completion of MGD 111, MGD 112, MGD 117, MGD 143, MGD 153, MGD 142, MGD 167, MGD 253, MGD 268, and one course from: MGD 165, MGD 211, MGD 243, MGD 257, or MGD 267, you **should apply for the Digital Animation Certificate** (p. 58).

Total Credit Hours: 60

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with your main campus scheduling.

The Digital Animation Associates of Applied Science (AAS) Degree is valued with higher regard as it requires more education to obtain than a certificate. As such, it is recommended that interested students declare the AAS Degree as the overall goal. Students declaring the AAS Degree will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area by the time of graduation.

GRAPHIC DESIGN ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and should be completed in the order listed. If you are unable to complete all courses listed in a semester, complete as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Graphic Design and enter the workforce. Students explore the traditional aspects of graphic design and print materials, digital illustrations, photography, and dynamic page layouts. This digital media degree gives students the foundation to go into a variety of career fields, from traditional advertising agencies to design agencies to video production companies to web production companies. Students learn how to use industry-standard design software and learn about typography, images, and the creative process involved in designing graphics that clearly present information. Our digital media degree program also includes a series of art courses to give students a solid foundation in the core of graphic design.

First Semester

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
MGD 103	Introduction to Production Design	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 103, and MGD 133, you should apply for the Fundamentals in Multimedia Technology Certificate (p. 61).

Second Semester

MGD 116	Typography I	3
MGD 114	Adobe InDesign	3
MGD 233	Graphic Design II	3
ENGLISH	ENG 121/122/131	3
ELECTIVE	MGD 211/212/202	3

Subtotal: 15**Third Semester**

ART 121	Drawing I	3
ART 131	Visual Concepts 2-D Design	3
ELECTIVE	MGD 141/143/164/165, Any MGD Prefix, ART 139/239	3
ELECTIVE	MGD 211/212/202	3
GEN EDU	Any Approved Elective List Course	3

Subtotal: 15**Fourth Semester**

MATH	MAT 107 or Higher	3
ELECTIVE	MGD 141/143/164/165, Any MGD Prefix, ART 139/239	3
ELECTIVE	MGD 203/256/259 or Any MGD Prefix	3
ELECTIVE	MGD 203/256/259 or Any MGD Prefix	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: You should take MGD 268 in the last semester.

Upon completion of MGD 111, MGD 112, MGD 117, MGD 133, MGD 103, MGD 116, MGD 114, MGD 233, MGD 268 and one course from: MGD 211, MGD 212, or MGD 202, you should apply for the Graphic Design Certificate (p. 59).

Upon completion of MGD 111, MGD 112, MGD 117, MGD 114, MGD 103, MGD 141, MGD 211, MGD 268, either: MGD 163 or MUS 163, and one course from: MGD 143, MGD 153, MGD 164, or MGD 256, MGD 212, MGD 259, or ART 139, you should apply for the Multimedia Certificate (p. 59).

Total Credit Hours: 60**Important Program Information:**

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with their main campus scheduling.

The Graphic Design Associates of Applied Science (AAS) Degree is valued with higher regard as it requires more education to obtain than a certificate. As such, it is recommended that interested students declare the AAS Degree as the overall goal. Students declaring the AAS Degree will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area by the time of graduation.

VIDEO PRODUCTION & EDITING ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and should be completed in the order listed. If you are unable to complete all courses listed in a semester, complete as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Video Production & Editing and enter the workforce. Students explore video editing for television and commercial applications, production of interactive CDs, and

original video production. This digital media degree gives students the foundation to go into a variety of career fields, from traditional advertising agencies to design agencies to video production companies to web production companies. Students learn how to use industry-standard design software and learn about typography, images, and the creative process involved in designing graphics that clearly present information. Our digital media degree program also includes a series of art courses to give students a solid foundation in the core of graphic design.

First Semester

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 104	Videography	3
MGD 164	Digital Video Editing I	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 104, and MGD 164, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 116	Typography I	3
ELECTIVE	MGD 163 or MUS 163	3
MGD 204	Videography II	3
ENGLISH	ENG 121/122/131	3
MGD 264	Digital Video Editing II	3

Subtotal: 15

Third Semester

ART 121	Drawing I	3
MGD 165	After Effects I	3
ART 131	Visual Concepts 2-D Design	3
MATH	MAT 107 or Higher	3
MGD 143	Motion Graphic Design I (Software)	3

Subtotal: 15

Fourth Semester

GEN EDU	Any Approved Elective List Course	3
ELECTIVE	MGD 211/212/243/259 or Any MGD Prefix Course	3
ELECTIVE	MGD 211/212/243/259 or Any MGD Prefix Course	3
ELECTIVE	MGD 211/212/243/259 or Any MGD Prefix Course	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: You should take **MGD 268** in the last semester.

Upon completion of MGD 111, MGD 112, MGD 117, MGD 164, MGD 104, MGD 116, MGD 264, MGD 204, MGD 268, and either: MGD 163 or MUS 163, you **should apply for the Video Production and Editing Certificate** (p. 60).

Total Credit Hours: 60

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged

to register for courses in accord with their main campus scheduling.

The Video Production & Editing Associates of Applied Science (AAS) Degree is valued with higher regard as it **requires more education to obtain than a certificate**. As such, it is **recommended that interested students declare the AAS Degree** as the overall goal. Students declaring the AAS Degree **will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area by the time of graduation.**

WEB DESIGN ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Web Design and enter the workforce. Students explore web and multimedia design, including web design, web programming, web animation, and video editing. This digital media degree gives students the foundation to go into a variety of career fields, from traditional advertising agencies to design agencies to video production companies to web production companies. Students learn how to use industry-standard design software and learn about typography, images, and the creative process involved in designing graphics that clearly present information. Our digital media degree program also includes a series of art courses to give students a solid foundation in the core of graphic design.

First Semester

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

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 141, and MGD 143, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 243	Web Motion Graphic Design II	3
MGD 164	Digital Video Editing I	3
MGD 241	Web Design II	3
ENGLISH	ENG 121/122/131	3
MATH	MAT 107 or Higher	3

Subtotal: 15

Third Semester

ART 121	Drawing I	3
ELECTIVE	MGD 114/116/133	3
ART 131	Visual Concepts 2-D Design	3
ELECTIVE	MGD 211/212/242/258 or Any MGD Prefix	3
GEN EDU	Any Approved Elective List Course	3
		Subtotal: 15

Fourth Semester

ELECTIVE	MGD 114/116/133	3
ELECTIVE	MGD 114/116/133	3
ELECTIVE	MGD 211/212/242/258 or Any MGD Prefix	3
ELECTIVE	MGD 211/212/242/258 or Any MGD Prefix	3
MGD 268	Business for Creatives	3
		Subtotal: 15

Semester Note: You should take MGD 268 in the last semester.

Upon completion of MGD 111, MGD 112, MGD 117, MGD 141, MGD 143, MGD 164, MGD 241, MGD 243, MGD 268, and 3 elective credits from MGD 114/MGD 116/MGD 133, you **should apply for the Web Design Certificate** (p. 60).

Total Credit Hours: 60

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with your main campus scheduling.

The Web Design Associates of Applied Science (AAS) Degree is valued with higher regard as it **requires more education to obtain than a certificate**. As such, it is **recommended that interested students declare the AAS Degree** as the overall goal. Students declaring the AAS Degree **will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area by the time of graduation**.

Multimedia Technology Certificates

DIGITAL ANIMATION CERTIFICATE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Digital Animation and enter the workforce. Students explore the features, skills and techniques of digital animation software. This certificate program prepares students for entry-level career positions dealing with the production of interactive presentations, medical illustration, gaming, web animation, and cartooning. 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.

First Semester

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)	3
MGD 153	3D Animation I	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 143, and MGD 153, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 142	Digital Animatics	3
MGD 167	Game Design I	3
ELECTIVE	MGD 267/243/211/257/165	3
MGD 253	3D Animation II	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: Take MGD 268 in the last semester.

You should apply for completion of the **Digital Animation Certificate at the end of Semester 2**.

Total Credit Hours: 30

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with your main campus scheduling.

The Design Animation Associates of Applied Science (AAS) Degree is **valued with higher regard** as it requires more education to obtain than a certificate. As such, it is recommended that interested students declare the AAS Degree as the overall goal. Students declaring the AAS Degree **will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area by the time of graduation**.

DIGITAL IMAGING CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Digital Imaging and enter the workforce. Students explore visual communications, fine art, design, camera, video and photo processes. This certificate program prepares students for entry-level career positions in digital photo labs, newspaper photo departments, and graphic design production. Students work independently, as well as in

collaborative groups in the design and implementation of mixed media presentations and applications.

First Semester

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
ART 139	Digital Photography I	3
ELECTIVE	MGD 104/133/164/204/259/264, ART 113/140/144, or JOU 121	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, ART 139, and 3 credits of courses (**select one** course from MGD 104, MGD 164, ART 144, or JOU 121), you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 211	Adobe Photoshop II	3
ART 239	Digital Photography II	3
ELECTIVE	MGD 104/133/164/204/259/264, ART 113/140/144, or JOU 121	3
ELECTIVE	MGD 104/133/164/204/259/264, ART 113/140/144, or JOU 121	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: Take MGD 268 in the last semester.

You should apply for completion of the **Digital Imaging Certificate at the end of Semester 2.**

Total Credit Hours: 30

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with your main campus scheduling.

GRAPHIC DESIGN CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your **Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Graphic Design and enter the workforce. Students explore graphic design software programs, techniques, theories and industry principles. This certificate program prepares students for entry-level career positions in digital and graphics firms. Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

First Semester

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
MGD 103	Introduction to Production Design	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 133, and MGD 103, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 116	Typography I	3
MGD 114	Adobe InDesign	3
MGD 233	Graphic Design II	3
ELECTIVE	MGD 211/212/202	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: Take MGD 268 in the last semester.

You should apply for completion of the **Graphic Design Certificate at the end of Semester 2.**

Total Credit Hours: 30

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with your main campus scheduling.

The Graphic Design Associates of Applied Science (AAS) Degree is **valued with higher regard** as it requires more education to obtain than a certificate. As such, it is recommended that interested students declare the AAS Degree as the overall goal. Students declaring the AAS Degree **will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area** by the time of graduation.

MULTIMEDIA CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your **Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Multimedia and enter the workforce. Students explore graphic design software programs, visual communication, and production principles. This certificate program prepares students for entry-level career work as a generalist in digital media. Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

First Semester

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 117	Introduction to Visual Communications	3
MGD 114	Adobe InDesign	3
MGD 103	Introduction to Production Design	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 114, and MGD 103, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 141	Web Design I	3
MGD 211	Adobe Photoshop II	3
ELECTIVE	MGD 163 or MUS 163	3
ELECTIVE	MGD 143/153/164/256/212/259 or ART 139	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: Take MGD 268 in the last semester.

You **should apply for completion of the Multimedia Certificate at the end of Semester 2.**

Total Credit Hours: 30

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with your main campus scheduling.

VIDEO PRODUCTION AND EDITING CERTIFICATE

Locations: Boulder County Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Video Production & Editing and enter the workforce. Students explore video-related software programs, production, digital editing, audio, sound and effects techniques. This certificate program prepares students for entry-level career positions in companies involved in video production, editing, and designing. Students work independently as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

First Semester

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
MGD 104	Videography	3

Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 104, and MGD 164 course, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

MGD 116	Typography I	3
ELECTIVE	MGD 163 or MUS 163	3
MGD 264	Digital Video Editing II	3
MGD 204	Videography II	3
MGD 268	Business for Creatives	3

Subtotal: 15

Semester Note: Take MGD 268 in the last semester.

You **should apply for completion of the Video Production and Editing Certificate at the end of Semester 2.**

Total Credit Hours: 30

Important Program Notes:

Scheduling may vary per campus locations. You are encouraged to register for courses in accord with your main campus scheduling.

The Video Production and Editing Associates of Applied Science (AAS) Degree is **valued with higher regard** as it requires more education to obtain than a certificate. As such, it is recommended that interested students declare the AAS Degree as the overall goal. Students declaring the AAS Degree **will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area** by the time of graduation.

WEB DESIGN CERTIFICATE

Locations: Boulder County Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Web Design and enter the workforce. Students explore web design software programs, graphic and interface design principles, and site architecture. This certificate program prepares students for entry-level career positions with companies involved in web design. Students learn current web coding languages and techniques and create a website. Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

First Semester

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
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Subtotal: 15

Semester Note: Upon completion of MGD 111, MGD 112, MGD 117, MGD 141, and MGD 143, you **should apply for the Fundamentals in Multimedia Technology Certificate** (p. 61).

Second Semester

ELECTIVE	MGD 114/116/133	3
	MGD 164	3
	MGD 241	3
	MGD 243	3
	MGD 268	3

Subtotal: 15

Semester Note: Take MGD 268 in the last semester.

You **should apply for completion of the Web Design Certificate at the end of Semester 2.**

Total Credit Hours: 30**Important Program Notes:**

Scheduling **may vary per campus locations.** You are **encouraged to register for courses in accord with your main campus scheduling.**

The Web Design Associates of Applied Science (AAS) Degree is **valued with higher regard** as it requires more education to obtain than a certificate. As such, it is recommended that interested students declare the AAS Degree as the overall goal. Students declaring the AAS Degree **will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area** by the time of graduation.

FUNDAMENTALS IN MULTIMEDIA TECHNOLOGY CERTIFICATE

Locations: Boulder County Campus, Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a one semester Certificate in Fundamentals in Multimedia Technology and enter the workforce. Students explore a range of multimedia, visual communications and software applications. This certificate provides a basic overview of the field and teaches basic multimedia skills. To enhance skills and career options, students are advised to pursue an additional certificate and/or an AAS degree in Digital Animation, Graphic Design, Video Production and Editing, or Web Design. Students work independently, as well as in collaborative groups in the design and implementation of mixed media presentations and applications.

First Semester

MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3

MGD 117	Introduction to Visual Communications	3
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ELECTIVE	Any Fundamentals in MGD Certificate Elective*	3
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ELECTIVE	Any Fundamentals in MGD Certificate Elective*	3
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Subtotal: 15

Semester Note: You **should apply for completion of the Fundamentals of Multimedia Certificate** at the end of Semester 1.

Total Credit Hours: 15**Important Program Notes:**

*Fundamentals in Multimedia Technology (MGD) Certificate Electives include: MGD 116, MGD 114, MGD 133, MGD 103, MGD 141, MGD 143, MGD 153, MGD 164, MGD 104, ART 139, or ART 144.

Scheduling **may vary per campus locations.** You are **encouraged to register for courses in accord with your main campus scheduling.**

The Multimedia Technology Associates of Applied Science (AAS) Degree is valued with higher regard as it requires more education to obtain than a certificate. As such, it is **recommended that interested students declare the AAS Degree as the overall goal.** Students declaring the AAS Degree **will also complete the Fundamentals of Multimedia Certificate as well as a certificate in the chosen focus area by the time of graduation.**

Music and Recording Arts Technology

MUSIC ASSOCIATE OF ARTS

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Music. Students explore music theory, history, and application. Music, as in all the arts, is an expression and transcendence of the human experience. Music courses serve as an introduction into the examination of sound as a vibrant art form and provide training in performance and composition. The music department offers humanities and performance classes open to all students from beginning through advanced. Our faculty will help students explore their talents and invigorate their passion in music. This program is designed for students wanting to complete the first two years of a bachelor's degree and transfer to a university to complete a BA in Music. Careers typically require a bachelor's degree.

First Semester

ENG 121	English Composition I: GT-CO1	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	1
MUS 121	Music History Medieval - Classical: GT-AH1	3

Subtotal: 14

Semester Note: It is important to **contact Music Faculty for advising, assessment, and placement.** For MUS 110 and MUS 112, faculty **recommend you take MUS 100 as preparation** if you have limited experience in music notation, and this **will count as your music elective.**

Second Semester

ENG 122	English Composition II: GT-CO2	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	1
MUS 122	Music History Romantic - Present: GT-AH1	3
GT- MA1	MAT 120 or Any GT-MA1	3

Subtotal: 15**Third Semester**

MUS 210	Music Theory III	3
MUS 212	Ear Training/Sight-Singing Lab III	1
MUS 251	Ensemble I	1
MUS 241	Private Instruction I	1-2
GT- SS	PSY 101 or Any GT-SS	3
GT- HI1	HIS 101/102/111/112 or Any GT-HI1	3
GT- SC1	Any Science (GT-SC1) Course	4

Subtotal: 16**Fourth Semester**

MUS 211	Music Theory IV	3
MUS 213	Ear Training/Sight-Singing Lab IV	1
MUS 252	Ensemble II	1
MUS 242	Private Instruction II	1-2
GT- SS	PSY 101 or Any GT-SS	3
MUSIC	MUS 123/125/161/163/167	3
GT- SC1/2	Any Science (GT-SC1/2) Course	3

Subtotal: 15**Total Credit Hours: 60****Important Program Notes:**

It is important to **contact Music Faculty for advising, assessment, and placement.** For MUS 110 and MUS 112, faculty **recommend you take MUS 100 as preparation** if you have limited experience in music notation, and this **will count as your music elective.**

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), if credits **are not required for the major** at a receiving 4-institution, they **will be applied to the Bachelor's degree** as elective credit toward graduation. Please **check with the receiving institution** to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GT-SC1, GT-SC2).** One of these courses **must have the required laboratory (GT-SC1).**

If you **take private instruction music courses (MUS 141, MUS 142, MUS 241, or MUS 242) from more than 1 credit, it will reduce the 3 credits of Music electives needed.** You **must complete 60 credits** to 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 and select your electives.

RECORDING ARTS TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Recording Arts Technology and enter the workforce. Students explore music theory, history, sight-singing, music computer applications and audio. Students build digital literacy skills in audio recording, digital editing, audio production, audio post production, live sound engineering, and film, theater, and video sound production. This program develops the knowledge and skills for entry level career options in the music recording and entertainment industry including copyright, labels, publishing, licensing, distribution, marketing, finance, and legal settings.

First Semester

MUS 110	Music Theory I	3
MUS 112	Ear Training/Sight-Singing I Lab	1
REQUIRED	Music Class I-IV, Ensemble I-IV, and/or Private Instruction I-IV	1
ENGLISH	ENG 121/131	3
MUS 161	Computer Music Applications I	3
MUS 163	Music Audio Production I	3

Subtotal: 14

Semester Note: It is important to **contact Music Faculty for advising, assessment, and placement.** For MUS 110 and MUS 112, faculty **recommend you take MUS 100 as preparation** if you have limited experience in music notation, and this **will count as your music elective.**

If you **select a 2-credit course to fulfill your music requirement this semester,** additional credits completed in Music Classes I-IV, Ensemble I-IV, and/or Private Instruction I-IV **will reduce the number of electives required to complete this degree.** You

must complete the Music Requirement (2 credits) and Music Electives (8 credits) to earn the Recording Arts AAS degree.

Second Semester

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: GT-SS3	3
MATH	MAT 107 or Any GT-MA1	3
		Subtotal: 16

Third Semester

MUS 167	Music Business I	3
MUS 121	Music History Medieval - Classical: GT-AH1	3
PHY 105	Conceptual Physics w/Lab: GT-SC1	4
COM 220	Intercultural Communication: GT-SS3	3
ELECTIVE	Any Music Course	2
		Subtotal: 15

Fourth Semester

REQUIRED	Music Class I-IV, Ensemble I-IV, and/or Private Instruction I-IV	1
MUS 265	Live Audio Engineering	3
MUS 122	Music History Romantic - Present: GT-AH1	3
CAPSTONE	MUS 284/289	2
ELECTIVE	Any Music Course	2
ELECTIVE	Any Music Course	2
ELECTIVE	Any Music Course	2
		Subtotal: 15

Semester Note: Upon completion of MUS 161, MUS 163, MUS 265, and MUS 284/MUS 289, you **should apply for the Foundations of Recording Arts Technology Certificate** (p. 64).

Upon completion of MUS 110, MUS 112, MUS 161, MUS 163, MUS 167, MUS 162, MUS 164, MUS 265, MUS 284/MUS 289, Music Requirement* (2 credits of any combination of **Music Class I-IV** and/or **Private Instruction I-IV** and/or **Ensemble I-IV**, and 2 credits of electives from any MUS course, you **should apply for the Recording Arts Technology Certificate** (p. 63).

Total Credit Hours: 60

Important Program Notes:

Music Requirement: You **must complete two credits from a combination** of the following: **Music Class I-IV** (MUS 131, MUS 132, MUS 133, MUS 134, MUS 231, MUS 232, MUS 233, MUS 234), and/or **Private Instruction I-IV** (MUS 141, MUS 142, MUS 143, MUS 144, MUS 241, MUS 242, MUS 243, MUS 244), and/or **Music Ensemble I-IV** (MUS 151, MUS 152, MUS 153, MUS 154, MUS 251, MUS 252, MUS 253, MUS 254) **to complete the music requirement for the Recording Arts Technology AAS Degree.**

You must complete the Music Requirement (2 credits) and Music Electives (8 credits) to earn the Recording Arts Technology AAS degree.

If you take more than 2 credits in Music Class I-IV, Ensemble I-IV, and/or Private Instruction I-IV, these additional credits will be applied to the electives reducing the number of elective credit required to complete this degree. You **must complete 60 credits** to earn your Recording Arts Technology Associate of Applied Science degree. You **should not exceed 62 credits**. You **may want to check with your Pathways Advisor** to monitor your completion progress and select your electives.

You should not repeat a course once successfully completed. Each Music (MUS) course can only be applied once to fulfill degree requirements.

Recording Arts Technology Certificates

RECORDING ARTS TECHNOLOGY CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Music Recording Arts Technology and enter the workforce. Students explore music theory, computer music applications, audio production and engineering, and an overview of the music business. This certificate program prepares students for careers in music industry studios where they learn digital literacy skills, including audio recording, digital editing, audio production and post production, live sound engineering, and film, theater and video sound production.

First Semester

MUS 110	Music Theory I	3
MUS 112	Ear Training/Sight-Singing I Lab	1
MUS 161	Computer Music Applications I	3
MUS 163	Music Audio Production I	3
MUS 167	Music Business I	3
REQUIRED	Music Class I-IV, Ensemble I-IV, and/or Private Instruction I-IV	1
		Subtotal: 14

Semester Note: It is important to **contact Music Faculty for advising, assessment, and placement**. For MUS 110 and MUS 112, faculty **recommend you take MUS 100 as preparation** if you have limited experience in music notation, and this **will count as your music elective currently listed below in semester 2**.

If you **select a 2-credit course to fulfill your music requirement this semester**, additional credits completed in Music Classes I-IV, Ensemble I-IV, and/or Private Instruction I-IV **will reduce the number of electives required to complete this certificate**. You **must complete the Music Requirement (2 credits) and Music Electives (2 credits) to earn the Recording Arts Technology Certificate**.

Second Semester

MUS 162	Computer Music Applications II	3
MUS 164	Music Audio Production II	3
MUS 265	Live Audio Engineering	3
REQUIRED	Music Class I-IV, Ensemble I-IV, and/or Private Instruction I-IV	1
ELECTIVE	Any Music Course	2
CAPSTONE	MUS 284/289	2

Subtotal: 14**Total Credit Hours: 28****Important Program Notes:**

Music Requirement: You must complete two credits from a combination of the following: **Music Class I-IV** (MUS 131, MUS 132, MUS 133, MUS 134, MUS 231, MUS 232, MUS 233, MUS 234), and/or **Private Instruction I-IV** (MUS 141, MUS 142, MUS 143, MUS 144, MUS 241, MUS 242, MUS 243, MUS 244), and/or **Music Ensemble I-IV** (MUS 151, MUS 152, MUS 153, MUS 154, MUS 251, MUS 252, MUS 253, MUS 254) to complete the music requirement for the Recording Arts Technology Certificate.

You must complete the Music Requirement (2 credits) and Music Electives (8 credits) to earn the Recording Arts Technology certificate.

If you take more than 2 credits in Music Class I-IV, Ensemble I-IV, and/or Private Instruction I-IV, these additional credits will be applied to the electives reducing the number of elective credit required to complete this certificate. You must complete 28 credits to earn your Recording Arts Technology Certificate. You may want to check with your Pathways Advisor to monitor your completion progress and select your electives.

You should not repeat a course once successfully completed. Each Music (MUS) course can only be applied once to fulfill degree requirements.

FOUNDATIONS OF RECORDING ARTS TECHNOLOGY CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and should be completed in the order listed. If you are unable to complete all courses listed in a semester, complete as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Foundations of Recording Arts Technology and enter the workforce. Students explore computer music applications, audio production and engineering concepts and skills. This certificate is ideal for elementary and secondary music teachers who need to learn about recording arts technology/sound engineering. The program is designed for students who are working full-time and/or attending school part-time. All credits can be applied to the Recording Arts Technology certificate.

First Semester

MUS 161	Computer Music Applications I	3
MUS 163	Music Audio Production I	3

Subtotal: 6**Second Semester**

MUS 265	Live Audio Engineering	3
CAPSTONE	MUS 284/289	2

Subtotal: 5**Total Credit Hours: 11**

PHILOSOPHY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and should be completed in the order listed. If you are unable to complete all courses listed in a semester, complete as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Philosophy. Students explore hidden meanings behind everyday life. Careers often require a master's degree or higher. Philosophy explores human ideas and problems, such as life, reality, values, knowledge, understanding, and language. It has many areas and the content involves many places, cultures, and periods of history. This program introduces students to the field of Philosophy and it includes courses that are common to all four-year institutions in Colorado. Career paths for Philosophy degree holders include law, government, business, science, teaching, and advanced university studies. The Associate of Arts (AA) degree in Philosophy prepares students to complete the second half of a Bachelor of Arts (BA) in Philosophy at a four-year university.

First Semester

PHI 111	Introduction to Philosophy: GT-AH3	3
PHI 112	Ethics: GT-AH3	3
ENG 121	English Composition I: GT-CO1	3
ELECTIVE	HUM 122 or Any Approved Elective List Course	3
GT- AH	LIT 201 or Any GT-AH1, 2, or 4 Course	3

Subtotal: 15

Semester Notes: You may take PHI 112 and PHI 113 in either Semester 1 or Semester 2. The Larimer campus strongly recommends that PHI 113 be taken first semester and no later than second semester. The Boulder and Westminster campuses recommend that PHI 113 be taken in the second semester. See Philosophy faculty or advisors for more information.

Second Semester

PHI 113	Logic: GT-AH3	3
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ENG 122	English Composition II: GT-CO2	3
GT- AH	MUS 121 or Any GT-AH1, 2, or 4 Course	3
GT- HI1	HIS 255 or Any GT-HI1	3
GT- MA1	MAT 120 or Any GT-MA1	3

Subtotal: 15

Semester Note: You may take PHI 112 and PHI 113 in either Semester 1 or Semester 2. The Larimer campus strongly **recommends that PHI 113 be taken first semester** and no later than second semester. The Boulder and Westminster campuses **recommend that PHI 113 be taken in the second semester.** See Philosophy faculty or advisors for more information.

Third Semester

REQUIRED	PHI 214/218/220	3
ELECTIVE	WST 225 or Any Approved Elective List Course	3
GT- SS	PSY 227 or Any GT-SS	3
GT- SC1/2	ENV 101 or Any GT-SC1/2	3
REQUIRED	PHI 218/220/214	3

Subtotal: 15**Fourth Semester**

ELECTIVE	PHI 220 or Any Approved Elective List Course	3
ELECTIVE	ANT 101 or Any Approved Elective List Course	3
GT- SS	GEO 106 or Any GT-SS	3
GT- SC1	ANT 111 or Any GT-SC1	4
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 15**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), you **are required to take 15 credits of Philosophy courses. PHI 111, PHI 112, and PHI 113 are required.** You **may choose two courses from PHI 114, PHI 218, or PHI 220.** Any Philosophy courses taken in addition to the 15 credits **may transfer as degree elective credits to your 4-year institution**, which are necessary to complete a bachelors. Please **see your advisor and check with your transfer institution** for details on how credits will transfer and be applied.

Per the Statewide Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GTSC1, GT-SC2).** One of these courses **must have the required laboratory (GT-SC1).**

If you take more credits in mathematics and science than are listed, it **will reduce the 14 credits of electives needed.** You **must complete 60 credits** to 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 and select your electives.

SPANISH ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Spanish or Modern Languages. Students explore Spanish language and culture. Careers typically require a bachelor's degree. Spanish is not just about words and grammar; it is also about new sounds, expressions, and ways of seeing things. It is learning about other cultures. Depending on how long students study and how much they practice, they can reach different levels of Spanish fluency. With an AA degree in Spanish, students should be able to reach an Intermediate-Low to Intermediate-Mid ability according to the American Council on the Teaching of Foreign Languages. This program introduces students to the study of Spanish and it includes courses that are common to all four-year institutions in Colorado. Career paths for foreign language degree holders include the medical, dental, legal, educational, and public service professions. The Associate of Arts (AA) degree in Spanish prepares students to complete the second half of a Bachelor of Arts (BA) in Spanish at a four-year university.

First Semester

SPA 111	Spanish Language I	5
ENG 121	English Composition I: GT-CO1	3
GT- MA1	MAT 120/121 or Any GT-MA1	3
REQUIRED	COM 115 /125	3

Subtotal: 14**Second Semester**

SPA 112	Spanish Language II	5
ENG 122	English Composition II: GT-CO2	3
GT- HI1	HIS 244/246 or Any Non-US GT-HI1	3
GT- SS	Any Social & Behavioral Science (GT-SS) Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 17**Third Semester**

SPA 211	Spanish Language III: GT-AH4	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3
GT- SS	Any Social & Behavioral Science (GT-SS) Course	3
ELECTIVE	Any Approved Elective List Course	3
GT- SC1/2	Any Science (GT-SC1/2) Course	3

Subtotal: 15

Fourth Semester

SPA 212	Spanish Language IV: GT-AH4	3
GT- SC1	Any Science (GT-SC1) Course	4
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	1

Subtotal: 14**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), SPA 111 and/or SPA 112 **may be waived**, based on your proficiency level. You **should consult a department advisor** at the four-year college or university.

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).**

When you **are selecting elective courses from the Approved Elective List**, the Statewide Transfer Articulation Agreement (STAA) **suggests 200-level Spanish courses and courses outside the Spanish department with content related to the Spanish-speaking world.**

Per the Statewide Transfer Articulation Agreement (STAA), if you **have a higher proficiency level than is required for SPA 211 or SPA 212**, you **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.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GTSC1, GT-SC2).** One of these courses **must have the required laboratory (GT-SC1).**

If you **take MAT 120 or MAT 121 and more science credits than are listed**, it will **reduce the 13 credits of electives needed.** You **must complete 60 credits** to 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 and select your electives.

STUDIO ART ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Fine Art or Arts. Students explore studio techniques and historical aspects of art. Careers often require a master's degree. Studio Art teaches

students both how to make art and understand how it is made. Students will study drawing, painting, ceramics, and photography in detail. This program introduces students to the study of Studio Art and includes courses that are common to all Colorado four-year institutions. Career paths for Studio Art degree holders include museum and gallery management, building design, media, art restoration, and education. The Associate of Arts (AA) Degree with Designation in Studio Art prepares students to complete the second half of a Bachelor of Arts (BA) or Bachelor of Fine Arts (BFA) in Art or Art History at a four-year university.

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.*

First Semester

ENG 121	English Composition I: GT-CO1	3
ART 111	Art History Ancient to Medieval: GT-AH1	3
ART 121	Drawing I	3
ART 132	Visual Concepts 3-D Design	3
GT- AH	LIT 115, HUM 121/122, PHI 111/112/113, or Any GT-AH	3

Subtotal: 15**Second Semester**

ENG 122	English Composition II: GT-CO2	3
ART 112	Art History Renaissance to 1900: GT-AH1	3
ART 132	Visual Concepts 3-D Design	3
REQUIRED	ART 221/128	3
GT- AH	LIT 115, HUM 121/122, PHI 111/112/113, or Any GT-AH	3

Subtotal: 15**Third Semester**

GT- MA1	MAT 120 or Any GT-MA1	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- SS	GEO 105, ANT 101, or Any GT-SS	3
REQUIRED	Any Studio Art Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 16**Fourth Semester**

GT- SC1/2	Any Science (GT-SC1/2) Course	3
GT- HI1	HIS 101/102 or Any GT-HI1	3
GT- SS	GEO 105, ANT 101, or Any GT-SS	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 14**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), if ART 111, ART 112, ART 121, ART 131, ART 132, and/or ART 207 **are not required for the major** at a receiving 4-year institution, they **will be applied to the Bachelor's degree as elective credit** toward graduation. Please **check with the receiving institution** to determine in which these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GTSC1, GT-SC2)**. One of these courses **must have the required laboratory (GT-SC1)**.

If you **take MAT 120 and/or more credits in science** than are listed, it **will reduce the 8 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

THEATRE ASSOCIATE OF ARTS

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Theatre. Students explore stage design and lighting, history, acting techniques, playwright and script skills. Career paths in theatre include acting, theatre directing, costume design and construction, stage makeup, technical direction, or arts management. Students can earn an Associate of Arts (AA) degree with Theatre designation at FRCC and transfer as a junior to Colorado public four-year institutions.

First Semester

THE 108	Theatre Script Analysis: GT-AH1	3
ENG 121	English Composition I: GT-CO1	3
THE 111	Acting I	3
GT- MA1	MAT 120 or Any GT-MA1	3
THE 105	Theatre Appreciation: GT-AH1	3

Subtotal: 15

Semester Note: Per the Statewide Transfer Articulation Agreement (STAA), if you are planning to attend University of Colorado-Boulder in Theatre, you **should consult University of Colorado-Boulder Theatre advisors regarding THE 105**.

Second Semester

THE 215	Playwriting: GT-AH1	3
ELECTIVE	Any Approved Elective List Course	3
REQUIRED	THE 131/132/231/232	3
THE 116	Technical Theatre	3
GT- HI1	Any History (GT-HI1) Course	3

Subtotal: 15

Third Semester

ENG 122	English Composition II: GT-CO2	3
THE 211	Dev of Theatre Greek-Renaissance: GT-AH1	3
GT- SS	SOC 101, COM 220, or Any GT-SS	3
GT- SC1/2	Any Science (GT-SC1/2) Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 15

Fourth Semester

GT- SC1	Any Science (GT-SC1) Course	4
THE 212	Dev Theatre Restoration - Modern: GT-AH1	3
GT- SS	SOC 101, COM 220, or Any GT-SS	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 15

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and a gtPathways CO3 course (GT-CO3)**.

Per the Statewide Transfer Articulation Agreement (STAA), if **THE 116, THE 111, THE 108, THE 212, THE 215, and THE 131, THE 132, THE 231, or THE 232** 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.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GTSC1, GT-SC2)**. One of these courses **must have the required laboratory (GT-SC1)**.

If you **take MAT 120 and/or more credits in science** than are listed, it **will reduce the 11 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

Manufacturing, Automotive, Construction & Design

This Career and Academic Community includes the following programs: Architectural Engineering & Construction Technology, Automation & Engineering Technology, Automotive Technology, Computer-Aided Drafting & Design, Construction Trades, Electronics Engineering Technology, Heating, Ventilation, Air Conditioning & Refrigeration, Interior Architecture & Design, Precision Machining Technology, Optics Technology, and Welding Technology. To learn more about the program click on the program below.

APPLIED TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have

questions or concerns about your MAP, please **see your Pathways Advisor**.

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 a certificate program approved by the State Board for Community Colleges & Occupational Education (SBCCOE) toward the completion of an AAS degree in Applied Technology. This degree requires the completion of at least 60 credits with at least 15 credits completed at FRCC and selected from the Approved Elective List.

First Semester

MATH	MAT 107 or Higher	3
GEN EDU	Any Approved Elective List Course	12
		Subtotal: 15

Total Credit Hours: 60

Architectural Engineering & Construction Technology

ARCHITECTURAL & BUILDING SCIENCE ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Architectural & Building Science and enter the workforce. Students explore construction and drafting concepts and techniques, materials, and overall building design. This degree prepares the student for a career as an architectural CAD drafting technician for architectural design and construction firms, governmental entities, large corporations, and manufacturers/suppliers or building products. It 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).

First Semester

AEC 101	Basic Architectural Drafting	4
AEC 121	Construction Materials and Systems	3
AEC 122	Construction Practices and Documents	2
CAD 224	Revit Architecture	3
MATH	MAT 107 or Higher, MAT 121	3
		Subtotal: 15

Second Semester

AEC 102	Residential Construction Drawing	4
CAD 227	Advanced Revit Architecture	3
AEC 208	Building Environmental Systems I	3
ELECTIVE	IND 112 or Any AEC, CAD, or IND Course	3
ART 121	Drawing I	3
		Subtotal: 16

Semester Note: You may **take AEC 123 this semester instead of an elective course**. If you complete AEC 123 in semester 2, you should apply for the **Architectural Drafting Certificate** (p. 68).

Third Semester

AEC 123	Commercial Construction Drawing	4
AEC 218	Sustainable Building Systems	3
ELECTIVE	IND 211 or Any AEC, CAD, or IND Course	3
COM 115	Public Speaking	3
ENGLISH	ENG 121/122/131	3
		Subtotal: 16

Semester Note: Upon completion of AEC 101, AEC 121, CAD 224 (semester 1) and AEC 102 (semester 2) and AEC 123 (semester 3), you should apply for the **Architectural Drafting Certificate** (p. 68).

Fourth Semester

AEC 200	Building Design Development	3
AEC 289	Capstone	3
ELECTIVE	Any AEC, CAD, or IND Course	3
PHYSICS	PHY 105 or Higher	4
		Subtotal: 13

Total Credit Hours: 60

Important Program Notes:

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.

ARCHITECTURAL DRAFTING CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Architectural Drafting and enter the workforce. Students explore architectural drafting techniques, residential and commercial construction plans, and CAD software programs. This certificate program provides entry-level careers with architectural firms and builders with drafting and CAD skills and emphasizes foundation concepts in building information modeling (BIM).

First Semester

AEC 101	Basic Architectural Drafting	4
AEC 121	Construction Materials and Systems	3
CAD 224	Revit Architecture	3
		Subtotal: 10

Second Semester

AEC 102	Residential Construction Drawing	4
AEC 123	Commercial Construction Drawing	4
		Subtotal: 8

Total Credit Hours: 18

Automation & Engineering Technology

AUTOMATION & ENGINEERING TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Automation & Engineering Technology and enter the workforce. Students explore industries requiring automation, robotics, process control, electro-mechanical, and related troubleshooting skills. This AAS degree program focuses on preparing students for entry-level technician careers with hands-on interaction with devices and systems including electric motors and their controls, solenoids and relays, fluid power systems and controls, pumps and valves, PLCs, industrial robots, sensors and actuators, and other components. Career paths include electro-mechanical technician, robotics technician, automation technician, process and instrumentation technician, industrial maintenance technician, or quality assurance technician. Crossover skills may qualify students for avionics or manufacturing production technician positions.

First Semester

MTE 105	Safety Manufacturing Environment	1
MTE 106	Print Reading for Manufacturing	3
MAC 101	Introduction to Machine Shop	3
MATH	MAT 108/121/122/125/166/201 or Higher	3
ELT 106	Fundamentals of DC/AC	4
		Subtotal: 14

Semester Note: ELT 106 is offered in fall semesters.

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.

Upon completion of MTE 105, MTE 106, MAC 101, MAT 108 or higher, and ELT 106, you **should apply for the Manufacturing Fundamentals Certificate** (p. 70).

Second Semester

ELT 254	Industrial Wiring	3
ELT 252	Motors and Controls	3
GEN EDU	COM 115/125 or MTE 110	3
EIC 168	Maintenance Management	1
MIL 101	Lifting Devices	1
MTE 238	Fluid Power Control	3
IMA 120	Industrial Rotating Equipment	3
		Subtotal: 17

Semester Note: Upon completion of MTE 105, MTE 106, MAC 101, MATH (MAT 108 or higher, MAT 121), ELT 106 (semester 1) and ELT 254, ELT 252, EIC 168, MIL 101, MTE 238, and IMA 120 (semester 2), you should apply for **your Industrial Maintenance Certificate** (p. 69).

Third Semester

MTE 135	Lean Six Sigma	4
ELT 258	Programmable Logic Controllers	3
HVA 235	Specialty Refrigeration Units	4
EIC 230	Instrument & Process Control II	4
		Subtotal: 15

Semester Note: The Industrial Automation and Robotics Certificate **cannot be started** until you have completed the Industrial Maintenance Technology Certificate.

Fourth Semester

PHYSICS	PHY 105 or Higher	4
ENGLISH	ENG 121 or Higher, ENG 131	3
CIS 118	Introduction to PC Applications	3
ELT 268	Robotics Technologies	3
ELT 267	Introduction to Robotics	1
CAPSTONE	MTE 280/ELT 280 or MTE 289/ELT 289	1
		Subtotal: 15

Semester Note: Upon completion of MTE 135, ELT 258, HVA 235, EIC 230 (semester 1) and ELT 268 and ELT 267 (semester 2), you should apply for **your Industrial Automation and Robotics Certificate** (p. 70).

Total Credit Hours: 61

Important Program Notes:

If you take MAT 108 or more credits in mathematics than are listed, it **will increase the total credits for the degree**. You **must complete 61 credits** to earn your Associate of Applied Science degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

Automation & Engineering Technology cohort **begins in the fall semester**.

INDUSTRIAL MAINTENANCE CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete**

as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two semester Certificate in Industrial Maintenance Technology and enter the workforce. This is the second in a series of three stackable certificates. During the first semester students study manufacturing fundamentals such as safety, print reading, basic machining, and electrical fundamentals. The second semester engages students in an intensive hands-on study of industrial wiring and control cabinets, hydraulic and pneumatic fluid power systems, safe rigging practices, preventive maintenance and documentation, and mechanical power transmission systems. Students who complete this certificate are prepared to enter the workforce as industrial maintenance technicians.

First Semester

MTE 105	Safety Manufacturing Environment	1
MTE 106	Print Reading for Manufacturing	3
MAC 101	Introduction to Machine Shop	3
MATH	MAT 108/121/122/125/166/201 or Higher	3
ELT 106	Fundamentals of DC/AC	4

Subtotal: 14

Semester Note: ELT 106 is offered in fall semesters.

Upon completion of MTE 105, MTE 106, MAC 101, MAT 108 or higher (p. 239), and ELT 106, you should apply for the Manufacturing Fundamentals Certificate (p. 70).

Second Semester

ELT 254	Industrial Wiring	3
ELT 252	Motors and Controls	3
EIC 168	Maintenance Management	1
MIL 101	Lifting Devices	1
MTE 238	Fluid Power Control	3
IMA 120	Industrial Rotating Equipment	3

Subtotal: 14

Total Credit Hours: 28

Important Program Notes:

If you take MAT 108 or more credits in mathematics than are listed, it **will increase the total credits for the degree**. You **must complete 28 credits** to earn your Industrial Maintenance Certificate. You **should not exceed 29 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

Industrial Maintenance Certificate cohort **begins in the fall semester**.

INDUSTRIAL AUTOMATION AND ROBOTICS CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If

you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two year Certificate in Industrial Automation & Robotics and enter the workforce. This is the last in a series of three stackable certificates. This certificate is created for students who want to learn the basics of automated systems as applied in the manufacturing industries. Students study Programmable Logic Controllers, process control and automation, industrial robotics, as well as principles of lean manufacturing. This program prepares students for entry-level careers as industrial automation and robotics technicians.

First Semester

MTE 135	Lean Six Sigma	4
ELT 258	Programmable Logic Controllers	3
HVA 235	Specialty Refrigeration Units	4
EIC 230	Instrument & Process Control II	4

Subtotal: 15

Second Semester

ELT 268	Robotics Technologies	3
ELT 267	Introduction to Robotics	1

Subtotal: 4

Total Credit Hours: 19

Important Program Notes:

The Industrial Automation and Robotics Certificate **cannot be started** until the student has mastered competencies found in the Industrial Maintenance Technology Certificate.

The Industrial Automation and Robotics Certificate cohort **begins in the fall semester**.

MANUFACTURING FUNDAMENTALS CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Manufacturing Fundamentals and enter the workforce. It is the first in a series of three stackable certificates. Students prepare for entry-level positions as production operators/assemblers with courses in shop safety, print reading, basic hand tools and metrology, technical mathematics, and electrical fundamentals. Career paths with additional certificates include automation technician, robotics technician, industrial maintenance technician, process and instrumentation technician, or electro-mechanical technician. Crossover skills may qualify students for positions in electronics or aviation assembly positions.

First Semester

MTE 105	Safety Manufacturing Environment	1
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MTE 106	Print Reading for Manufacturing	3
MAC 101	Introduction to Machine Shop	3
MATH	MAT 108/121/122/125/166/201 or Higher	3
ELT 106	Fundamentals of DC/AC	4
		Subtotal: 14

Semester Note: ELT 206 is offered in fall semesters.

Total Credit Hours: 14

Important Program Notes:

If you take MAT 108 or more credits in mathematics than are listed, it **will increase the total credits for the certificate**. You **must complete 14 credits** to earn your Manufacturing Fundamental Certificate. You **should not exceed 15 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

Manufacturing Fundamentals Certificate cohort **begins in the fall semester**.

Automotive Technology

AUTOMOTIVE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Automotive Technology and enter the workforce. Students explore automobile systems repair and maintenance. This AAS degree provides students with entry-level 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, drivetrains, brakes and alignment, and fuel and emission controls. This degree prepares students for career paths with automotive repair shops and dealerships and contains one or more embedded certificates which can be awarded when the certificate requirements are completed. Accredited by the ASE Education Foundation.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging Systems	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 291	Automotive & Diesel Body Electrical	3
ASE 292	Automotive Computers & Ignition Systems	3
MATH	MAT 107 or Higher, MAT 121	3
		Subtotal: 17

Semester Note: Upon completion of ASE 102, ASE 120, ASE 123, ASE 292, and ASE 291, you should apply for the **Automotive/Electronic Systems Certificate** (p. 72).

Second Semester

ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 294	Suspension & Steering III	3
ASE 293	Auto Fuel Injection & Emissions Systems II	3
ASE 264	Intro to Automotive HVAC Systems	1
ASE 295	Heating & Air Conditioning Systems	3
GEN EDU	COM 115/125 or MTE 110	3
		Subtotal: 17

Semester Note: For Westminster Campus students, you **must complete first semester prior to taking the courses in this semester**. The courses offered in this semester require pre-requisites. You are **not able to begin your program in this semester** regardless if you are a morning or afternoon student.

Upon completion of ASE 102, ASE 120, ASE 264, and ASE 295, you **should apply for the Automotive Heating & Air Conditioning Certificate** (p. 74).

Upon completion of ASE 102, ASE 120, ASE 140, ASE 141, and ASE 294, you **should apply for the Suspension & Steering Certificate** (p. 74).

Third Semester

ASE 130	General Engine Diagnosis	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 151	Man Trans/Transaxles/Clutches I	2
ASE 192	Manual Transmission, Transaxles, Clutches II	3
ASE 250	Automatic Transmission/Transaxle Service	1
ASE 251	Automotive Transmission and Transaxle Repair	3
ENGLISH	ENG 121/122/131	3
GEN EDU	Any Approved Elective List Course	3
		Subtotal: 19

Semester Note: Upon completion of ASE 102, ASE 150, ASE 192, ASE 250, and ASE 251, you **should apply for the Automatic Transmission Transaxle Certificate** (p. 73).

Upon completion of ASE 102, ASE 120, ASE 150, ASE 151, and ASE 192, you **should apply for the Manual Drivetrain & Axles Certificate** (p. 74).

Upon completion of ASE 102, ASE 120, ASE 123, ASE 130, ASE 134, ASE 292, and ASE 293, you **should apply for the Engine Performance Certificate** (p. 72).

Fourth Semester

ASE 110	Automotive Brake Service 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 191	Automotive Engine Repair & Rebuild	4
ASE 162	Automotive Engine Service & Repair	2

GEN EDU	PHY 105 or Higher	4
		Subtotal: 18

Semester Note: Upon completion of ASE 102, ASE 110, ASE 120, ASE 130, and ASE 140, you **should apply for the General Automotive Maintenance & Repair Certificate** (p. 73).

Upon completion of ASE 102, ASE 120, ASE 130, ASE 160, ASE 191, and ASE 162, you **should apply for the Engine Repair Certificate** (p. 72).

Upon completion of ASE 102, ASE 120, ASE 110, ASE 111, and ASE 210, you **should apply for the Brakes Certificate** (p. 73)

Total Credit Hours: 71

Important Program Notes:

Standardized testing scores or assessment testing in mathematics is **highly recommended for all students**. Please see a Pathways Advisor for guidance selecting the right mathematics course for you. **You must complete MAT 107 or higher to meet the mathematics requirements for this program.**

Automotive Certificates

ENGINE PERFORMANCE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Engine Performance and enter the workforce. Students explore the diagnosis procedures necessary to troubleshoot automotive system repairs. This certificate program provides students with an overview of electrical systems, general engine diagnosis, ignition systems diagnosis and repair, emissions systems, fuel injection, and exhaust systems. Students use diagnostic scan tools, oscilloscopes, lab scopes, multi-meters and gas analyzers to diagnose live vehicle drivability problems. This certificate prepares students for career paths with automotive repair shops and dealerships. This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging Systems	2
ASE 130	General Engine Diagnosis	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 292	Automotive Computers & Ignition Systems	3

Subtotal: 13

Second Semester

ASE 293	Auto Fuel Injection & Emissions Systems II	3
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Subtotal: 3

Total Credit Hours: 16

ENGINE REPAIR CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Engine Repair and enter the workforce. Students explore automotive engine disassembly and reassembly procedures for repair. This program focuses on the removal and installation procedures of the automotive engine from and into front-wheel and rear-wheel drive vehicles. Students will disassemble, diagnose, and reassemble an automotive engine. Topics include the diagnostic and repair procedures for the engine block and head assemblies. This certificate prepares students for career paths with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2
ASE 130	General Engine Diagnosis	2

Subtotal: 6

Second Semester

ASE 160	Automotive Engine Repair	2
ASE 191	Automotive Engine Repair & Rebuild	4
ASE 162	Automotive Engine Service & Repair	2

Subtotal: 8

Total Credit Hours: 14

AUTOMOTIVE ELECTRICAL/ELECTRONIC SYSTEMS CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Automotive Electrical/Electronic Systems and enter the workforce. Students explore all phases of

automotive electrical, circuit, wiring, starting and charging systems. This certificate program teaches students the operation, testing, and servicing of vehicle battery, starting, charging systems, generators, and the diagnosis, service, adjustments and repair of various automotive ignition systems and vehicle accessories. Typical computerized engine control systems are inspected and tested. This certificate prepares students for career paths with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2
ASE 123	Starting and Charging Systems	2
ASE 292	Automotive Computers & Ignition Systems	3
ASE 291	Automotive & Diesel Body Electrical	3

Subtotal: 12

Total Credit Hours: 12

AUTOMATIC TRANSMISSION TRANSAXLE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Automatic Transmission Transaxle and enter the workforce. Students explore automatic and manual transmission, and transaxle diagnosis and repair procedures. This certificate program studies the operating principles and repair procedures relating to axle-shaft and universal joints, automotive differentials, and four-wheel and all-wheel drive units. Students will perform minor adjustments on an automatic transmission and transaxle. They will learn diagnosis, principles of hydraulics, principles of electronic components, power flow, theory of operation, removal of transmission/transaxle, tear down, replacement of components, measurement and subsequent adjustment of components and replacement of transmission/transaxle. This certificate prepares students for career paths with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 150	Manual Drive Train and Axle Maintenance	2

Subtotal: 4

Second Semester

ASE 192	Manual Transmission, Transaxles, Clutches II	3
ASE 250	Automatic Transmission/Transaxle Service	1

ASE 251	Automotive Transmission and Transaxle Repair	3
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Subtotal: 7

Total Credit Hours: 11

BRAKES CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Brakes and enter the workforce. Students explore all phases of automobile brake diagnosis and repair procedures. This certificate program covers the basic operation of automotive braking systems, including the operation, diagnosis, and basic repair of disc brakes, drum brakes, and basic hydraulic systems. Students will be prepared to work on modern automotive braking systems, including operation, diagnosis, service, and repair of the anti-lock braking systems, power assist units and machine operations. This certificate prepares students for career paths with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2
ASE 110	Automotive Brake Service I	2
ASE 111	Automotive Brake Service II	2
ASE 210	Automotive Power and ABS Brake Systems	2

Subtotal: 10

Total Credit Hours: 10

GENERAL AUTOMOTIVE MAINTENANCE & REPAIR CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in General Automotive Maintenance & Repair and enter the workforce. Students explore automotive engine diagnosis along with several automotive systems. This program provides students with safety instruction in the shop and on the automobile, and an overview of automotive brakes, electrical, suspension and steering, and engine systems. Students learn to diagnose and repair common problems and receive the theoretical background and practical experience to

attain entry-level careers with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 110	Automotive Brake Service 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****MANUAL DRIVETRAIN & AXLES CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Manual Drivetrain & Axles and enter the workforce. Students explore an overview of automotive drivetrain and axle system repair procedures. This program introduces students to U-joint and axle shaft service, manual transmissions/transaxles and clutches, differentials, and four-wheel- and all-wheel-drive service. This certificate prepares students for career paths with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 151	Man Trans/Transaxles/Clutches I	2
ASE 192	Manual Transmission, Transaxles, Clutches II	3

Subtotal: 11**Total Credit Hours: 11****SUSPENSION & STEERING CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-semester Certificate in Suspension & Steering and enter the workforce. Students explore an overview of automotive suspension and steering repair procedures. This program prepares students to diagnose and service suspensions and steering systems and their components, including electronic

suspensions and steering systems. This certificate prepares students for career paths with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2
ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 294	Suspension & Steering III	3

Subtotal: 11**Total Credit Hours: 11****AUTOMOTIVE HEATING & AIR CONDITIONING CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Automotive Heating & Air Conditioning and enter the workforce. Students explore automotive heating and air conditioning troubleshooting procedures. This certificate program prepares students to diagnose and service vehicle heating and air conditioning systems and their components. This certificate prepares students for career paths with automotive repair shops and dealerships.

First Semester

ASE 102	Intro to the Automotive Shop	2
ASE 120	Basic Automotive Electricity	2

Subtotal: 4**Second Semester**

ASE 264	Intro to Automotive HVAC Systems	1
ASE 295	Heating & Air Conditioning Systems	3

Subtotal: 4**Total Credit Hours: 8****Computer Aided Drafting****COMPUTER AIDED DRAFTING & DESIGN ASSOCIATE OF APPLIED SCIENCE**

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Computer Aided Drafting & Design and enter the workforce. Students explore all facets of CAD technician skills, techniques and software applications. With this CAD degree students will be prepared to enter the workforce as skilled CAD technicians. Students will graduate with advanced CAD skills by training on the most current CAD software.

Students complete 2D and 3D projects with a career emphasis on the unique needs of small- to mid-sized companies seeking employees with advanced and specialized computer-aided drafting skills. Students may complete a Basic CAD certificate, enter the workforce, and then return at any time to upgrade specific skills while pursuing advanced certificate offerings or an AAS degree.

First Semester

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
ENGLISH	ENG 121/122/131	3

Subtotal: 15

Semester Note: Upon completion of CAD 100, CAD 101, CAD 102, and CAD 115, you **should apply for the Basic Computer-Aided Drafting Certificate** (p. 76).

Second Semester

CAD 202	Computer-Aided Drafting/3D	3
ELECTIVE	CAD 216/219/224/255 or Any CAD Course	3
ELECTIVE	Any CAD AAS Degree Elective*	3
GEN EDU	COM 115/125 or Any Approved Elective List	3
ART 121	Drawing I	3

Subtotal: 15

Semester Note: Upon completion of CAD 115 and CAD 216, you **should apply for the Sketchup Certificate** (p. 76).

Third Semester

ELECTIVE	CAD 216/219	3
CAD 262	3D Printing	3
ELECTIVE	CAD 264/227/259 or Any CAD Course	3
ELECTIVE	Any CAD AAS Degree Elective*	3
GEN EDU	Any CIS or MGD from Approved Elective List	3

Subtotal: 15

Semester Note: Upon completion of CAD 255 and CAD 259, you **should apply for the Solidworks Certificate** (p. 76).

Upon completion of CAD 224 and CAD 227, you **should apply for the REVIT Certificate** (p. 75).

Fourth Semester

CAPSTONE	CAD 289/280	3
ELECTIVE	CAD 266 or Any CAD Course	3
ELECTIVE	Any CAD AAS Degree Elective*	3
ELECTIVE	Any CAD Course	3
MATH	MAT 107 or Higher, or MAT 121	3

Subtotal: 15

Semester Note: Upon completion of CAD 115, CAD 262, CAD 264, and CAD 266, you should apply for the **3D Printing & 3D Scanning Certificate** (p. 75).

Total Credit Hours: 60**Important Program Notes:**

***Computer Aided Drafting (CAD) AAS Degree Elective*:** Any CAD course (p. 191). You **may also select up to three courses (11 credit maximum)** from any AEC, EGG, EGT or IND course. As well as any of the following courses: GIS 101, GIS 110, GIS 131, HLT 130, HLT 230, MAC 100, MAC 101, MAC 102, MAC 110, MAC 120.

Computer-Aided Drafting Certificates**3D PRINTING & 3D SCANNING CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-semester Certificate in Computer Aided Drafting & Design 3D Printing & 3D Scanning and enter the workforce. Students explore all phases of 3D and AutoCAD software technology for 3D modeling, printing, and scanning. This certificate prepares students to be proficient in the use of 3D printing & 3D scanning software and technology using advanced CAD modeling software specific to the industry of their choice. This program prepares students for entry-level career paths in various CAD department settings.

First Semester

ELECTIVE	CAD 115/255	3
CAD 262	3D Printing	3
CAD 264	3D Scanning and Modeling	4

Subtotal: 10**Second Semester**

CAD 266	Advanced 3D Printing	3
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Subtotal: 3**Total Credit Hours: 13****Important Program Information:**

You **may take CAD 264** in either Semester One or Semester Two.

REVIT CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete**

as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two semester Certificate in Revit and enter the workforce. Students explore Revit software skills and techniques. This certificate prepares students to become proficient in the advanced use of computer-aided drafting software as one of the leading BIM tools in the AEC industry. Prior proven discipline-specific content knowledge is required either in the form of architectural design skills or related industry work experience in order to successfully enroll and complete this software certificate. Career paths may include designer, drafter or modeler.

First Semester

CAD 224	Revit Architecture	3
		Subtotal: 3

Second Semester

CAD 227	Advanced Revit Architecture	3
		Subtotal: 3

Total Credit Hours: 6

SKETCHUP CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two semester Certificate in Sketchup and enter the workforce. Students explore Sketchup software skills and techniques. This certificate prepares students to become proficient in the use of computer-aided drafting software with a focus on 3D modeling and renderings. Career paths may include architect, drafter, designer, planner or project manager.

First Semester

CAD 115	Sketchup	3
		Subtotal: 3

Second Semester

CAD 216	Advanced Sketchup	3
		Subtotal: 3

Total Credit Hours: 6

SOLIDWORKS CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete**

as many courses in this sequence as your schedule allows. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a two-semester Certificate in Solidworks and enter the workforce. Students explore Solidworks software skills and techniques. This certificate prepares students to become proficient in the advanced use of computer-aided drafting software as one of the leading parametric solid modelers in the mechanical engineering and manufacturing industry. Prior proven discipline-specific content knowledge is required either in the form of mechanical engineering design skills or related industry work experience in order to successfully enroll and complete this software certificate. Career paths may include drafting, engineering, manufacturing, architecture, and design positions.

First Semester

CAD 255	SolidWorks/Mechanical	3
		Subtotal: 3

Second Semester

CAD 259	Advanced Solidworks	3
		Subtotal: 3

Total Credit Hours: 6

BASIC COMPUTER-AIDED DRAFTING CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your Pathways Advisor.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Computer Aided Drafting & Design Basic CAD and enter the workforce. Students explore CAD print reading, 2D, and 3D modeling software skills and techniques. With this certificate students will become proficient in the latest release of AutoCAD software and learn the basics of Google Sketchup®. This certificate prepares students for career paths in public and private company CAD settings.

First Semester

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

Total Credit Hours: 12

Important Program Notes:

Take these courses in the fall semester to complete the certificate.

Construction Trades Certificates

CONSTRUCTION FUNDAMENTALS CERTIFICATE

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is only offered at participating high school locations and designed for students wanting to complete a one-semester certificate in Construction Fundamentals and enter the workforce. Students explore math and science applications for construction, job site tours, classroom theory and OSHA standards. Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program.

Program Description Note:

Offered only with FRCC partnering high school programs.

First Semester

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1
CON 111	Introduction to Construction, Part 2	4
CAPSTONE	CON 280/289	2

Subtotal: 11

Total Credit Hours: 11

Important Program Notes:

Offered only with FRCC partnering high school programs.

ELECTRICAL FUNDAMENTALS CERTIFICATE

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is only offered at participating high school locations and designed for students wanting to complete a one-semester certificate in Electrical Fundamentals and enter the workforce. Students explore residential electrical wiring procedures conforming to code, job site tours, classroom theory and OSHA standards. Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program.

Program Description Note:

Offered only with FRCC partnering high school programs.

First Semester

CON 110	Introduction to Construction, Part 1	4
EIC 110	Electrical Installations I	4

OSH 127	10-HR Construction Industry Standards	1
CAPSTONE	EIC 280/289	2
		Subtotal: 11

Total Credit Hours: 11

Important Program Notes:

Offered only with FRCC partnering high school programs.

PLUMBING FUNDAMENTALS CERTIFICATE

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is only offered at participating high school locations and designed for students wanting to complete a one-semester certificate in Plumbing Fundamentals and enter the workforce. Students explore residential plumbing systems, job site tours, hands-on experience, classroom theory and OSHA standards. Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program.

Program Description Note:

Offered only with FRCC partnering high school programs.

First Semester

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1
PLU 120	Residential Plumbing	4
CAPSTONE	PLU 282/289	2

Subtotal: 11

Total Credit Hours: 11

Important Program Notes:

Offered only with FRCC partnering high school programs.

CONSTRUCTION ESSENTIALS CERTIFICATE

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see **your Pathways Advisor**.

Program Description

This program is only offered at participating high school locations and designed for students wanting to complete a one-semester certificate in Construction Essentials and enter the workforce. Students explore construction job site tours, hands-on experience, classroom theory, and OSHA standards. Construction Trades certificates prepare entry-level employees to enter into an apprenticeship or employer training program.

Offered only with FRCC partnering high school programs.

First Semester

CON 110	Introduction to Construction, Part 1	4
OSH 127	10-HR Construction Industry Standards	1

Subtotal: 5**Total Credit Hours: 5****Important Program Notes:**

Offered only with FRCC partnering high school programs.

Electronics Engineering Technology**ELECTRONICS ENGINEERING TECHNOLOGY
ASSOCIATE OF APPLIED SCIENCE**

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Electronics Engineering Technology and enter the workforce. Students explore electronics fundamental theories, applications and troubleshooting. Students interact with electronic devices and systems through a combination of hands-on lab activities and computer simulation preparing them for careers in a wide range of electronics positions. The labs allow students to become highly proficient in the use of standard electronic test equipment, such as oscilloscopes, digital multimeters and power supplies. Courses include instruction in the fundamentals of DC and AC electricity, robotics, PLCs and automated controls, digital logic and microprocessors, and RF power systems.

First Semester

MTE 105	Safety Manufacturing Environment	1
MTE 106	Print Reading for Manufacturing	3
ELT 165	Electronic Assembly	3
MATH	MAT 108/121/122/125/166/201 or Higher	3
ELT 106	Fundamentals of DC/AC	4

Subtotal: 14**Semester Note:** ELT 206 is offered in fall semesters.

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.

Upon completion of MTE 105, MTE 106, ELT 165, MAT 108 or higher, and ELT 106, you **should apply for the Electronics Assembly Certificate** (p. 79).

Second Semester

ELT 112	Advanced DC-AC	3
ELT 254	Industrial Wiring	3
ELT 252	Motors and Controls	3
ELT 147	Digital Devices I	4
ELT 215	Operational Amplifiers	3

Subtotal: 16

Semester Note: Upon completion of MTE 105, MTE 106, ELT 165, MAT 108 or higher (p. 239), ELT 106 (semester 1) and ELT 112, ELT 254, ELT 252, ELT 147, and ELT 215, you **should apply for your Basic Electronics Certificate** (p. 78).

Third Semester

ELT 237	Vacuum & Power RF Systems	3
ELT 258	Programmable Logic Controllers	3
ELT 261	Microprocessors	3
EIC 165	Solid State Devices & Circuits	4
CAPSTONE	MTE 280/ELT 280 or MTE 289/ELT 289	1

Subtotal: 14**Fourth Semester**

GEN EDU	PHY 105 or Higher	4
ENGLISH	ENG 115/121/131	3
GEN EDU	COM 115/125 or MTE 110	3
ELT 268	Robotics Technologies	3
ELT 267	Introduction to Robotics	1
CIS 118	Introduction to PC Applications	3

Subtotal: 17

Upon completion of ELT 237, ELT 258, ELT 261, MTE 280 (semester 3) and ELT 268 and ELT 267, you should apply for the **Electronic Systems & Automation Certificate** (p. 79).

Total Credit Hours: 61**Important Program Notes:**

If you take MAT 108 or more credits in mathematics than are listed, it **will increase the total credits for the degree**. You **must complete 61 credits** to earn your Associate of Applied Science degree. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

Electronic Engineering Technology cohort **begins in the fall semester**.

BASIC ELECTRONICS CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-semester Certificate in Basic Electronics and enter the workforce. During the first semester students learn basic electrical theory, soldering and assembly skills, and manufacturing print reading skills, earning a one-semester Certificate in Electronic Assembly. The second semester adds further instruction in electrical DC/AC theory, industrial wiring, motors and control, digital systems, and operational amplifiers. This program prepares students for entry-level careers in

electronics manufacturing that require DC/AC electrical theory, print reading, and electrical assembly and wiring skills.

First Semester

MTE 105	Safety Manufacturing Environment	1
MTE 106	Print Reading for Manufacturing	3
ELT 165	Electronic Assembly	3
MATH	MAT 108/121/122/125/166/201 or Higher	3
ELT 106	Fundamentals of DC/AC	4

Subtotal: 14

Semester Note: ELT 206 is offered in fall semesters.

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.

Upon completion of MTE 105, MTE 106, ELT 165, MAT 108 or higher (p. 239), and ELT 106, you **should apply for the Electronics Assembly Certificate** (p. 79).

Second Semester

ELT 112	Advanced DC-AC	3
ELT 254	Industrial Wiring	3
ELT 252	Motors and Controls	3
ELT 147	Digital Devices I	4
ELT 215	Operational Amplifiers	3

Subtotal: 16

Total Credit Hours: 30

Important Program Notes:

Basic Electronics Certificate cohort **begins in the fall semester**.

ELECTRONIC SYSTEMS & AUTOMATION CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students who have completed the Basic Electronics Certificate and who wish to earn a stackable Certificate in Electronics Systems and Automation. During the first semester students study Programmable Logic Controllers, microprocessors, solid state electronic devices, and radio frequency (RF) systems. During the second semester students concentrate on industrial robotics and automated manufacturing systems. This program prepares students for entry-level careers in industrial automation and robotics.

First Semester

EIC 165	Solid State Devices & Circuits	4
ELT 237	Vacuum & Power RF Systems	3
ELT 258	Programmable Logic Controllers	3
ELT 261	Microprocessors	3
MTE 280	Internship: Manufacturing	1

Subtotal: 14

Second Semester

ELT 268	Robotics Technologies	3
ELT 267	Introduction to Robotics	1

Subtotal: 4

Total Credit Hours: 18

Important Program Notes:

Electronic Systems and Automation Certificate cohort **begins in the fall semester**.

ELECTRONICS ASSEMBLY CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Electronics Assembly and enter the workforce. Students explore multiple phases of the electronics manufacturing industry. Students learn and practice soldering skills, electronic assembly skills, and the ability to read industrial prints. Students also study the basic math skills required to work in the electronics field. This program prepares students for entry-level careers in electronics manufacturing that require print reading skills, safety, electronic assembly, and fundamentals of DC/AC.

First Semester

MTE 105	Safety Manufacturing Environment	1
MTE 106	Print Reading for Manufacturing	3
ELT 106	Fundamentals of DC/AC	4
ELT 165	Electronic Assembly	3
MATH	MAT 108/121/122/125/166/201 or Higher	3

Subtotal: 14

Semester Note: ELT 206 is offered in fall semesters.

Total Credit Hours: 14

Important Program Notes:

If you take MAT 108 or more credits in mathematics than are listed, it **will increase the total credits for the certificate**. You **must complete 14 credits** to earn your Electronic Assembly Certificate. You **should not exceed 15 credits**. You **may want to check with your advisor** to monitor your completion progress and select your electives.

Electronic Assembly Certificate cohort **begins in the fall semester**.

Heating, Ventilation, Air Conditioning, Refrigeration

HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION ASSOCIATE OF APPLIED SCIENCE

Locations: Loveland

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Heating, Ventilation, Air Conditioning & Refrigeration and enter the workforce. Students explore all aspects of heating, ventilation, air conditioning, and refrigeration systems and troubleshooting. This AAS degree provides basic to advanced training in heating, ventilation, air conditioning, and refrigeration. Other topics include: basic electricity and electrical components for HVACR, refrigerant tubing, fabrication, soldering, brazing, trouble shooting, residential and commercial heating, hot water heating, industrial controls, advanced troubleshooting, customer service, teamwork, and communication. Career path options include various small and large HVACR business repair opportunities. Students must complete Industry Competency Exams (ICE): Residential Air Conditioning and Heating, Light Commercial Air Conditioning and Heating, and Commercial Refrigeration. FRCC’s HVAC/R Program is nationally accredited by PAHRA, the Partnership for Air Conditioning, Heating, Refrigeration Accreditation, the only accreditation supported by major industry associations.

First Semester

HVA 101	Intro to Air Conditioning & Refrigeration	4
HVA 103	Basic Electricity	3
HVA 102	Basic Refrigeration	4
HVA 104	Electrical Components	4

Subtotal: 15

Semester Note: Upon completion of HVA 101, HVA 102, HVA 103, and HVA 104, you **should apply for the HVAC/R Fundamentals Certificate** (p. 82).

Second Semester

HVA 200	International Residential Codes	2
HVA 247	Hot Water Heating Systems	4
HVA 201	Heating for Commercial Applications	3
HVA 203	Industrial Controls	3
GEN EDU	COM 115/125 or MTE 110	3

Subtotal: 15

Third Semester

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

Semester Note: Upon completion of HVA 101, HVA 102, HVA 103, HVA 104, HVA 200, HVA 123, HVA 124, HVA 247, 3 general education credits (**select one** course from COM 115, COM 125, or MTE 110), and the corresponding Industry Competency Exam (ICE) (Contact the HVAC/R department for current pricing and to

schedule the ICE Exam), you **should apply for the Residential Air Conditioning & Heating Certificate** (p. 80).

Upon completion of HVA 101, HVA 102, HVA 103, HVA 104, HVA 200, HVA 201, HVA 202, HVA 203, HVA 123, 3 general education credits (select one **course from COM 115, COM 125, or MTE 110**), and the corresponding Industry Competency Exam (ICE) (Contact the HVAC/R department for current pricing and to schedule the ICE Exam), you should apply for the Light Commercial Air Conditioning & Heating Certificate (p. 81).

Upon completion of HVA 101, HVA 102, HVA 103, HVA 104, HVA 202, HVA 203, HVA 122, 3 general education credits (select one course from COM 115, COM 125, or MTE 110), and the corresponding Industry Competency Exam (ICE) (Contact the HVAC/R department for current pricing and to schedule the ICE Exam), you **should apply for the Commercial Refrigeration Certificate** (p. 81).

Fourth Semester

CAPSTONE	HVA 280/289	2
GEN EDU	PHY 105 or Higher	4
MATH	MAT 107 or Higher, MAT 121	3
ENGLISH	ENG 121/122/131	3
GEN EDU	Any Approved Elective List Course	3

Subtotal: 15

Total Credit Hours: 60

Important Program Notes:

You **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.

HVAC/R Certificates

RESIDENTIAL AIR CONDITIONING & HEATING CERTIFICATE

Locations: Loveland

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three semester Certificate in Residential Air Conditioning & Heating and enter the workforce. Students explore all phases of residential air conditioning and heating systems and troubleshooting. 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. Career path options include various small and large HVACR business repair opportunities

First Semester

HVA 101	Intro to Air Conditioning & Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components	4
		Subtotal: 15

Second Semester

HVA 200	International Residential Codes	2
HVA 202	Troubleshooting and Customer Service	3
HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4
		Subtotal: 13

Third Semester

HVA 247	Hot Water Heating Systems	4
GEN EDU	COM 115/125 or MTE 110	3
		Subtotal: 7

Total Credit Hours: 35**Important Program Notes:**

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.

LIGHT COMMERCIAL AIR CONDITIONING & HEATING CERTIFICATE

Locations: Loveland

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three semester Certificate in Light Commercial Air Conditioning & Heating and enter the workforce. Students explore all phases of light commercial air conditioning and heating systems and troubleshooting. 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. Career path options include various small and large HVACR business repair opportunities.

First Semester

HVA 101	Intro to Air Conditioning & Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components	4

Subtotal: 15**Second Semester**

HVA 200	International Residential Codes	2
HVA 201	Heating for Commercial Applications	3
HVA 202	Troubleshooting and Customer Service	3
HVA 203	Industrial Controls	3
GEN EDU	COM 115/125 or MTE 110	3
		Subtotal: 14

Third Semester

HVA 123	Air Conditioning	4
HVA 124	Advanced Air Conditioning	4

Subtotal: 8**Total Credit Hours: 37****Important Program Notes:**

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.

COMMERCIAL REFRIGERATION CERTIFICATE

Locations: Loveland

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Commercial Refrigeration and enter the workforce. Students explore all phases of commercial refrigeration, electrical components, controls, troubleshooting and repair. This certificate provides training in the diagnosis, service and repair of commercial icemakers, walk-in coolers and freezers, and self-contained refrigeration units. Career path options include various small and large HVACR business repair opportunities.

First Semester

HVA 101	Intro to Air Conditioning & Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components	4
		Subtotal: 15

Second Semester

HVA 122	Commercial Refrigeration	4
HVA 202	Troubleshooting and Customer Service	3
HVA 203	Industrial Controls	3
GEN EDU	COM 115/125 or MTE 110	3
		Subtotal: 13

Total Credit Hours: 28

Important Program Notes:

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.

HVAC/R FUNDAMENTALS CERTIFICATE

Locations: Loveland

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in HVAC/R Fundamentals and enter the workforce. Students explore the skills necessary to address all aspects of air conditioning, refrigeration, electrical theory, and electrical components. This certificate teaches basic skills in HVAC/R including brazing/soldering, copper tubing fabrication, EPA certification and basic electrical skills. To become industry certified by passing the Industry Competency Exam (ICE), students are advised to pursue one of the additional HVAC/R certificates or the AAS degree. Career path options include various small and large HVACR business repair opportunities.

First Semester

HVA 101	Intro to Air Conditioning & Refrigeration	4
HVA 102	Basic Refrigeration	4
HVA 103	Basic Electricity	3
HVA 104	Electrical Components	4
Subtotal: 15		
Total Credit Hours: 15		

Interior Architecture & Design

INTERIOR ARCHITECTURE AND DESIGN ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Interior Architecture and Design and enter the workforce. Students explore the design processes, theories, spatial organization, creative elements and skills necessary for successful interior environments. This degree

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. They 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, which many students use to develop their portfolio. Successful completion of the Interior Architecture and Design degree fulfills the education requirement to take the NCIDQ (National Council for Interior Design Qualification) exam to become a professional interior designer. Work experience is needed, so please consult an Advisor.

First Semester

AEC 101	Basic Architectural Drafting	4
IND 105	Introduction to Interior Design	3
IND 107	History of Interior Design	3
IND 206	Communication in Design	1
ENGLISH	ENG 121/122/131	3
Subtotal: 14		

Second Semester

IND 120	Interior Design II	3
IND 112	Graphic Communication	4
AEC 121	Construction Materials and Systems	3
MATH	MAT 107 or Higher, MAT 121/122/166	3
CAD 224	Revit Architecture	3
Subtotal: 16		

Semester Note: Upon completion of AEC 101, IND 206, IND 105, IND 107, and IND 120, you **should apply for the Fundamentals in Interior Design, Drafting & Communication Certificate** (p. 83).

Third Semester

IND 116	Estimating Interior Materials	3
IND 211	Interior Construction	4
GEN EDU	Any Approved Elective List Course	3
IND 200	Kitchen and Bath Design	4
IND 225	Lighting Design	3
Subtotal: 17		

Fourth Semester

IND 265	Interior Design IV - Special Applications	3
IND 213	IND Portfolio Presentations	3
ELECTIVE	Any Specified IND, AEC, or CAD Course	3
IND 231	Sustainable Design	3
GEN EDU	Any Approved Elective List Course	3
GEN EDU	Any Approved Elective List Course	3
Subtotal: 18		

Semester Note: Upon completion of AEC 101, IND 206, IND 105, IND 112, IND 200, IND 211, AEC 121, IND 261, and IND 205, you **should apply for the Kitchen & Bath Design Certificate** (p. 83).

Total Credit Hours: 65

KITCHEN & BATH DESIGN CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Kitchen & Bath Design and enter the workforce. Students explore overall kitchen and bath design processes, materials, AutoCAD software skills, and space planning principles. This certificate prepares students for the Associate Kitchen and Bath Designer (AKBD) certification offered through the National Kitchen and Bath Association. Students will complete a four-credit internship working under the direction of the Program Director at a design firm or design-related company in northern Colorado. Career path options include becoming a designer in a kitchen and bath or interior design business setting. Past internships have included Hixon Interiors, Eheart Interior Solutions, Earthwoods, and HighCraft Builders. Successful completion of the Interior Design degree fulfills the education requirement to take the NCIDQ (National Council for Interior Design Qualification) exam to become a professional interior designer. Work experience is needed, so please consult an Advisor.

First Semester

AEC 101	Basic Architectural Drafting	4
IND 206	Communication in Design	1
IND 105	Introduction to Interior Design	3
IND 112	Graphic Communication	4

Subtotal: 12

Second Semester

IND 200	Kitchen and Bath Design	4
IND 211	Interior Construction	4
AEC 121	Construction Materials and Systems	3

Subtotal: 11

Third Semester

IND 261	Advanced Kitchen and Bath Design	4
IND 205	Professional Practice for Interior Designers	2
IND 116	Estimating Interior Materials	3
IND 280	Internship	4

Subtotal: 13

Semester Note: To enroll in IND 280, you **must have a GPA of 3.0 or approval from the Program Director**.

Total Credit Hours: 36

FUNDAMENTALS IN INTERIOR DESIGN, DRAFTING & COMMUNICATION CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Fundamentals in Interior Design, Drafting & Communication and enter the workforce. Students explore architectural drafting techniques, AutoCAD software skills, communication and design principles. This certificate teaches students fundamental skills used in interior design, drafting and graphic communication. To become an NCIDQ (National Council for Interior Design Qualification) certified designer, students must complete both the AAS degree in Interior Architecture and Design and the Kitchen and Bath certificate listed here. Successful completion of the AAS degree in Interior Architecture and 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) exam to become an NCIDQ certified designer. Career path options include becoming a designer in an interior design or kitchen and bath business setting.

First Semester

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 107	History of Interior Design	3
IND 206	Communication in Design	1
IND 120	Interior Design II	3

Subtotal: 14

Total Credit Hours: 14

OPTICS TECHNOLOGY CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Optics Technology and enter the workforce. Students explore the production processes of precision optics used in cameras, projectors, eye wear, microscopes, telescopes, appliances and binoculars. This certificate prepares students for entry-level career positions in the optics manufacturing industry. Students will learn about 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. Students will prepare for working in

laboratory and cleanroom environments. They will also acquire an understanding of thin film optical coatings and fiber optics.

First Semester

OTE 100	Fundamentals of Light & Lasers	4
OTE 101	Quality Assurance of Precision Optics	3
OTE 102	Intro to Manufacturing Technology	3
OTE 103	Laboratory Operations	3
MATH	MAT 108/122/166/201	3

Subtotal: 16**Second Semester**

OTE 104	Optics: Electronic Instrumentation	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****Important Program Notes:**

Optics Technology cohorts **start in the fall semester.**

Precision Machining Technology Certificates**PRECISION MACHINING TECHNOLOGY CERTIFICATE**

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a three semester certificate in Precision Machining Technology and enter the workforce. This certificate is earned with successful completion of both the Manual Machining and CNC Machining certificates. Students explore CNC lathe turning and milling operations. This certificate program builds on the Manual Machining certificate and introduces students to computer numerical control (CNC) turning and milling operations, exposure to Computer-Aided Design/Computer-Aided Machining (CAD/CAM) for 2-axis machining, lathe programming, and CNC systems. Students also learn proficiencies in metrology. This program prepares students for entry-level careers in machining and manufacturing.

First Semester

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
MATH	MAT 108/122/166/201	3

Subtotal: 16**Second Semester**

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**

MAC 240	CAD/CAM 2D	3
MTE 130	Metrology	3

Subtotal: 6**Total Credit Hours: 34****Important Program Notes:**

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.**

CNC MACHINING CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in CNC Machining and enter the workforce. Students explore the skills and techniques in CNC lathe and mill programs, CAD/CAM, and metrology principles. This program trains students in computer numerical control (CNC) lathe operations and CNC milling operations. Students gain exposure to Computer-Aided Design/Computer-Aided Machining (CAD/CAM) for 2-axis machining, 3-axis wireframe and surface modeling, lathe programming, and direct numerical control (DNC) systems. This certificate program prepares students for entry-level careers in CNC machining and manufacturing.

First Semester

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**

MTE 130	Metrology	3
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Subtotal: 3

Total Credit Hours: 18

Important Program Notes:

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.**

MANUAL MACHINING CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Manual Machining and enter the workforce. Students explore industrial print reading, lathe applications, and milling machine operation. This certificate program offers training in safety procedures, bench tools, layout tools, power equipment, precision measurement, and hand tools. Students will learn to read blueprints and interpret symbols, notes, dimensions and tolerances. They are introduced to basic lathe and milling applications. This certificate prepares students for entry-level career positions in machining and manufacturing.

First Semester

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
MATH	MAT 108/122/166/201	3

Subtotal: 16

Total Credit Hours: 16-18

Important Program Notes:

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.**

Welding Technology

WELDING TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Welding Technology and enter the workforce. Students explore metal cutting processes, blueprint reading, and many welding techniques. These welding techniques include shielded metal arc, gas tungsten arc, and gas metal arc. Graduates from this program exit with quality welding skills and the teamwork and communication skills to match. This degree prepares students for entry-level careers in welding, fabrication, and manufacturing. An AAS degree in Welding shows employers you are job-ready with quality welding skills, knowledge of job safety, teamwork, and communication skills.

First Semester

WEL 100	Safety for Welders	1
WEL 101	Allied Cutting Processes	4
WEL 103	Basic Shielded Metal Arc I	4
WEL 104	Basic Shielded Metal Arc II	4
MATH	MAT 107 or Higher, or MAT 121	3

Subtotal: 16

Semester Note: Upon completion of WEL 100 and WEL 101, you **should apply for the Oxyacetylene Welding Certificate** (p. 88).

Upon completion of WEL 100 and 8 credits of electives (select two courses from WEL 101, WEL 103, WEL 104, WEL 124, or WEL 201), you **should apply for the Welding Fundamentals Certificate** (p. 88).

Second Semester

WEL 201	Gas Metal Arc Welding I	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 203	Flux Cored Arc Welding I	4
ENGLISH	ENG 121/122/131	3

Subtotal: 15

Semester Note: Upon completion of WEL 100, WEL 201, and WEL 203, you **should apply for the Gas Metal Arc (MIG) Welding Certificate** (p. 87).

Third Semester

WEL 106	Blueprint Reading for Welders and Fitters	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
WEL 110	Advanced Shielded Metal Arc I	4
GEN EDU	PHY 105 or Higher	4

Subtotal: 16

Semester Note: Upon completion of WEL 100, WEL 124, and WEL 224, you **should apply for the Gas Tungsten ARC (TIG) Welding Certificate** (p. 88).

Upon completion of WEL 100, WEL 103, WEL 104, and WEL 110, you **should apply for the Shielded Metal Arc Welding Certificate** (p. 87).

Fourth Semester

GEN EDU	Any Approved Elective List Course	3
WELDING	WEL 145/150/230/231/250/251/264	3
GEN EDU	COM 115/125 or MTE 110	3
WELDING	WEL 230/231/250/251/264	4

Subtotal: 13

Semester Note: Upon completion of WEL 100, WEL 101, WEL 103, WEL 110, WEL 201, WEL 124, WEL 104, WEL 203, and WEL 224, you **should apply for the Comprehensive Welding Certificate** (p. 86).

Upon completion of WEL 100, WEL 101, WEL 103, WEL 201, WEL 124, WEL 104, WEL 203, WEL 224, WEL 110, WEL 230, and WEL 231, you **should apply for the Pipe Welding Certificate** (p. 86).

Upon completion of WEL 100, WEL 101, WEL 103, WEL 201, WEL 124, WEL 104, WEL 106, WEL 250, and WEL 251, you **should apply for the Metal Fabrication Certificate** (p. 86).

Total Credit Hours: 60**Welding Certificates****PIPE WELDING CERTIFICATE**

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three semester Certificate in Pipe Welding and enter the workforce. Students explore a range of welding and fabrication operations including pipe welding. 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, and pipe welding. This program prepares students for entry-level career positions in welding, fabrication, and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WEL 101	Allied Cutting Processes	4
WEL 103	Basic Shielded Metal Arc I	4
WEL 201	Gas Metal Arc Welding I	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4

Subtotal: 17**Second Semester**

WEL 104	Basic Shielded Metal Arc II	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
WEL 203	Flux Cored Arc Welding I	4

Subtotal: 12**Third Semester**

WEL 110	Advanced Shielded Metal Arc I	4
WEL 230	Pipe Welding I	4
WEL 231	Pipe Welding II	4

Subtotal: 12**Total Credit Hours: 41****COMPREHENSIVE WELDING CERTIFICATE**

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Comprehensive Welding and enter the workforce. Students explore shop safety, metal cutting, and a variety of industry welding processes. This program covers a broad spectrum of welding techniques including cutting processes, shielded metal arc welding, gas tungsten arc welding, and gas metal arc welding. This certificate program prepares students for entry-level career positions in welding, fabrication and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WEL 101	Allied Cutting Processes	4
WEL 103	Basic Shielded Metal Arc I	4
WEL 110	Advanced Shielded Metal Arc I	4
WEL 201	Gas Metal Arc Welding I	4

Subtotal: 17

Semester Note: You may choose to take the **Code Welding electives**. MTE 106 and WEL 106 are not required for students choosing the Code Welding path.

Second Semester

WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 104	Basic Shielded Metal Arc II	4
WEL 203	Flux Cored Arc Welding I	4
WEL 224	Advanced Gas Tungsten Arc Welding	4

Subtotal: 16**Total Credit Hours: 33****METAL FABRICATION CERTIFICATE**

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two-semester) certificate in Metal Fabrication and enter the workforce. Students explore design, layout, and fabrication concepts in conjunction with several welding processes. This 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, design, layout, and metal fabrication. This program prepares students for entry-level career positions in metal fabrication, welding, and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WEL 103	Basic Shielded Metal Arc I	4
WEL 101	Allied Cutting Processes	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 106	Blueprint Reading for Welders and Fitters	4

Subtotal: 17

Second Semester

WEL 104	Basic Shielded Metal Arc II	4
WEL 203	Flux Cored Arc Welding I	4
WEL 250	Layout and Fabrication	4
WEL 251	Design, Layout & Fabrication	4

Subtotal: 16

Total Credit Hours: 33

CREATIVE METALWORKING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Creative Metalworking and enter the workforce. Students explore the design and construction of welded sculptures by using a variety of welding and fabrication processes. This certificate program is for the artistic student. It combines 2-D design and introductory welding concepts to produce welded sculptures using techniques to color and texture metal. This program prepares students for entry-level career positions in welding studio, fabrication and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WEL 101	Allied Cutting Processes	4
DESIGN	ART 131 or CAD 255	3

Subtotal: 8

Second Semester

WELDING	WEL 124/201	4
WEL 264	Creative Welding	4

Subtotal: 8

Total Credit Hours: 16

SHIELDED METAL ARC WELDING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Shielded Metal Arc Welding and enter the workforce. Students explore shielded metal arc welding techniques and processes. This certificate program covers safety inspections, minor repairs, operating parameters, and operating shielded metal arc welding equipment using various electrodes. This program prepares students for entry-level career positions in welding, fabrication, and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WEL 103	Basic Shielded Metal Arc I	4
WEL 104	Basic Shielded Metal Arc II	4

Subtotal: 9

Second Semester

WEL 110	Advanced Shielded Metal Arc I	4
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Subtotal: 4

Total Credit Hours: 13

GAS METAL ARC (MIG) WELDING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Gas Metal Arc (MIG) Welding and enter the workforce. Students explore welding safety practices and a range of gas metal arc welding techniques. This certificate program covers welding in all positions and on various joint configurations using gas metal arc welding processes on various metals. This program prepares students for entry-level career positions in welding, fabrication and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WEL 201	Gas Metal Arc Welding I	4
WEL 203	Flux Cored Arc Welding I	4

Subtotal: 9

Total Credit Hours: 9

GAS TUNGSTEN ARC (TIG) WELDING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Gas Tungsten Arc (TIG) Welding and enter the workforce. Students explore welding safety practices and a range of gas tungsten arc welding techniques. This certificate program covers welding in all positions on various joint configurations using gas tungsten arc welding processes on various metals. This program prepares students for entry-level career positions in welding, fabrication and manufacturing.

First Semester

WEL 100	Safety for Welders	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: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Oxyacetylene Welding and enter the workforce. Students explore federal and state safety regulations along with metal cutting methods. This certificate program covers setting up equipment and performing cutting and gouging operations using various cutting processes. This program prepares students for entry-level career positions in welding, fabrication, and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WEL 101	Allied Cutting Processes	4

Subtotal: 5

Total Credit Hours: 5

WELDING FUNDAMENTALS CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Welding Fundamentals and enter the workforce. Students explore safety practices and several methods of welding. This program provides an introduction to welding skills including: cutting, shielded metal arc welding, gas tungsten arc welding, and gas metal arc welding. This program prepares students for entry-level career positions in welding, fabrication, and manufacturing.

First Semester

WEL 100	Safety for Welders	1
WELDING	WEL 103/104/124/201	4
WELDING	WEL 103/104/124/201	4

Subtotal: 9

Total Credit Hours: 9

Math and Science

This Career and Academic Community includes the following programs: Biology, Chemistry, Fermentation Sciences, Forestry, Wildlife & Natural Resources, Geospatial Science, Geography, Geology, Horticulture & Landscape Technologies, Math, and Physics. To learn more about the program click on the program below.

BIOLOGY ASSOCIATE OF SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

There are **multiple ways** to pursue a **degree in biology**. It is **very important** to work with your **Pathways Advisor** to develop the best academic plan based on where you are **starting**, and where you are hoping to **transfer**.

For students who want to complete a degree in biology and are **academically prepared** to take **college chemistry** (CHE 111) and **calculus** (MAT 201), the AS in Biology may be the **most direct path** to a **Bachelor's degree in this field**. The requirements for **biology degrees at transfer institutions** are **highly variable**. Therefore, a general AS

degree may be a better fit. It is strongly recommended that you **meet** with your **Pathways Advisor** to create the **best academic plan for you**.

Program Description

This program is designed for students transferring to a four-year university to complete their BS degree in Biology. It allows students to complete the first two years of the BS degree at the community college. Students explore physics, chemistry and biology. Biology is the study of life and living beings, including their types, growth, structure, evolution, and where and how they live. Modern biology is very broad and it has many smaller areas, including the study of animals, plants, cells, genes, and other life science topics. This program introduces students to Biology and it includes courses that are common to all four-year institutions in Colorado. Careers often require a BS degree or higher. Career paths for Biology degree holders include pre-medicine, pre-pharmacy, pre-veterinary, physical therapy, dentistry, and many scientific arenas. The Associate of Science (AS) degree in Biology prepares students to complete the second half of a Bachelor of Science (BS) in Biology at a four-year university.

First Semester

ENG 121	English Composition I: GT-CO1	3
BIO 111	General College Biology I w/Lab: GT-SC1	5
GT- AH	Any Arts & Humanities (GT-AH) Course	3
GT- SS	Any Social Sciences (GT-SS) Course	3
Subtotal: 14		

Second Semester

ENG 122	English Composition II: GT-CO2	3
BIO 112	General College Biology II w/Lab: GT-SC1	5
CHE 111	General College Chemistry I w/Lab: GT-SC1	5
GT- HI1	Any History (GT-HI1) Course	3
Subtotal: 16		

Third Semester

ELECTIVE	Any Approved Elective List or Any GT-SC1	4
CHE 112	General College Chemistry II w/Lab: GT-SC1	5
PHY 111	Physics: Algebra-Based I w/Lab: GT-SC1	5
Subtotal: 14		

Fourth Semester

PHY 112	Physics: Algebra-Based II w/Lab: GT-SC1	5
MAT 201	Calculus I: GT-MA1	5
GT- SS	Any Social Sciences (GT-SS) Course	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3
Subtotal: 16		

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), BIO 111 and CHE 111 **are the Natural & Physical Sciences (GT-SC1) required courses**.

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**.

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3)**.

Per the Statewide Transfer Articulation Agreement (STAA), if BIO 112, CHE 112, PHY 111, and/or PHY 112 are not required for the major at a receiving 4-institution, they will be applied to the Bachelor's degree as elective credit toward graduation. Please check with the receiving institution to determine in which way these courses will be applied.

You are strongly **encouraged to seek academic advising prior to registration regarding the acceptability of online science courses** if you 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 (GT Pathways) requirements at all Colorado public institutions of higher education.

You **must complete 60 credits** to 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 and select your electives.

CHEMISTRY ASSOCIATE OF SCIENCE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

For **students** who want to complete a **degree in chemistry** and are **academically prepared** to take **college chemistry** (CHE 111) and **calculus** (MAT 201), the **AS in Chemistry** is the **most direct path** to a **Bachelor's degree** in this field.

It is important for students who are not college chemistry and calculus ready to **work with their Pathways Advisor** to develop the **best academic plan** based on where they are **starting**, and where they are hoping to **transfer**.

Program Description

This program is designed for students transferring to a four-year school to complete their BS degree in Chemistry. It allows students to complete the first two years of the BS degree at the community college. Students explore calculus, physics and chemistry. Chemistry is the study of the properties, structure,

and change of matter. Students will explore atoms, chemical bonds and reactions, the way matter interacts, and the forces that give matter its properties. This program introduces students to Chemistry and it includes courses that are common to all four-year institutions in Colorado. Career paths for Chemistry degree holders include research, quality control, drug research, chemical engineering, and national defense. The Associate of Science (AS) degree in Chemistry prepares students to complete the second half of a Bachelor of Science (BS) in Chemistry at a four-year university. Careers often require a BS degree or higher.

First Semester

CHE 111	General College Chemistry I w/Lab: GT-SC1	5
MAT 201	Calculus I: GT-MA1	5
ENG 121	English Composition I: GT-CO1	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 16**Second Semester**

CHE 112	General College Chemistry II w/Lab: GT-SC1	5
MAT 202	Calculus II: GT-MA1	5
ENG 122	English Composition II: GT-CO2	3
GT- HI1	HIS 112/207/247 or Any GT-HI1	3

Subtotal: 16**Third Semester**

CHE 211	Organic Chemistry I with Lab	5
PHY 211	Physics: Calculus-Based I w/Lab: GT- SC1	5
CALCULUS	MAT 203/204	4

Subtotal: 14**Fourth Semester**

CHE 212	Organic Chemistry II with Lab	5
PHY 212	Physics: Calculus-Based II w/Lab: GT- SC1	5
GT- SS	Any Social Sciences (GT-SS) Course	3
ELECTIVE	Any Approved Elective List Course	1

Subtotal: 14**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3).**

Your chemistry and mathematics courses **carry heavy workloads.**

Per the Statewide Transfer Articulation Agreement (STAA), this statewide transfer articulation agreement in Chemistry does not fulfill requirements for the GT Pathways general education curriculum or the Associate of Science degree prior to transfer; however, this agreement **does guarantee you, if admitted, junior standing and completion of the baccalaureate degree within an additional 60 semester hours at the receiving institution.**

Per the Statewide Transfer Articulation Agreement (STAA), completion of the receiving institution's lower division general education requirements is **fulfilled only under the condition that one GT Pathways-approved course in arts and humanities (AH1, AH2, AH3, or AH4) and one GT Pathways-approved course in social and behavioral sciences (SS1, SS2, or SS3) are successfully completed at the receiving institution within the first 30 hours or 12 calendar months.**

Per the Statewide Transfer Articulation Agreement (STAA), if you are transferring to a four-year college/university under this Chemistry agreement, you are **encouraged to 'reverse' transfer the one GT Pathways course in arts and humanities and the one GT Pathways course in social and behavioral sciences back to your community college** in order to complete the GT Pathways general education program and to earn your Associate of Science degree with a Chemistry designation.

Lecture and laboratory portions of organic chemistry, CHE 211 and CHE 212, **must not be taken in an online delivery format.**

If you take more credits in mathematics than are listed, it **will reduce the 1 credit of elective needed.** You **must complete 60 credits** to 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 and select your electives.

FERMENTATION SCIENCES ASSOCIATE OF SCIENCE

Locations: Boulder County Campus, Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students transferring to a four-year school to complete their BS degree in Fermentation Sciences. It allows students to complete the first two years of the BS degree at the community college. Students explore all aspects of the beer brewing, wine making and fermented foods industries. Students will learn about craft beer fermentation science, wort production, yeast fermentation, beer contaminants, brewery cleaning, beer styles through sensory tests and tastings, styles of wines and fermentation, and food fermentation lab experiences. Career paths for Fermentation Science degree holders include fermentation scientist or technician, production operator, brewer, cellar operator, brewery manager, winemaker, cheese maker, chef, and bakery positions. Students can earn an Associate of Science (A.S.) degree with a Fermentation Sciences designation at FRCC and transfer as a junior to Colorado State University or Metropolitan State University of Denver. FRCC 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. Students **MUST** be 21 before enrolling in this program.

First Semester

ENG 121	English Composition I: GT-CO1	3
BIO 111	General College Biology I w/Lab: GT-SC1	5
FER 101	Craft Beer Brewing	4
MAT 121	College Algebra: GT-MA1	4

Subtotal: 16**Second Semester**

ENG 122	English Composition II: GT-CO2	3
ELECTIVE	Any Approved Elective List Course	1
CHE 101	Intro to Chemistry I w/Lab: GT-SC1	5
REQUIRED	CIS 115/118	3
GT- HI1	HIS 225 or Any GT-HI1	3

Subtotal: 15**Third Semester**

SOC 101	Intro to Sociology I: GT-SS3	3
BIO 208	General College Microbiology w/Lab: GT-SC1	5
GT- AH	LIT 115/225/268, PHI 205, or Any GT-AH	3
COM 115	Public Speaking	3

Subtotal: 14

Semester Note: BIO 208 is offered at Boulder county Campus in the fall semester and at Larimer Campus in the spring semester. If BIO 208 is not offered at your campus in the third semester, you may take PHY 111 in its place.

Fourth Semester

PHY 111	Physics: Algebra-Based I w/Lab: GT-SC1	5
GT- AH	LIT 115/225/268, PHI 205, or Any GT-AH	3
GT- SS	ECO 202, PSY 101, or Any GT-SS1 or GT-SS2	3
REQUIRED	FER 201/203	4

Subtotal: 15**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), you may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), COM 115 is the Oral Communication required course; MAT 121 is the Mathematics (GT-MA1) required course; SOC 101 and Any GT-SS1 or GT-SS2 is the Social & Behavioral Science (GT-SS) required courses; and BIO 111 and CHE 101 are the Natural & Physical Sciences (GT-SC1) required courses.

You must complete 60 credits to 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 and select your electives.

Forestry Wildlife Natural Resources

NATURAL RESOURCES TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your **Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Natural Resources Technology and enter the workforce. Students explore GIS systems, forest science principles, range land management, and wildlife and fisheries management. 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.

First Semester

NRE 100	Foundations of Forestry	3
MATH	MAT 107 or higher, MAT 121 preferred	3
NRE 205	Wildlife & Fisheries Management	3
ELECTIVE	NRE 101 or Any NRE Degree Elective*	1
ELECTIVE	NRE 114/245 or Any NRE Degree Elective*	3
ENGLISH	ENG 121/122/131	3

Subtotal: 16**Second Semester**

GIS 101	Introduction to Geographic Information Systems	3
ELECTIVE	NRE 225 or Any NRE Degree Elective*	3
GEN EDU	BIO 105/111/221	4
GEN EDU	Any Approved Elective List Course	2
GEN EDU	Any Approved Elective List Course	2

Subtotal: 14

Semester Note: Upon completion of NRE 225, NRE 100 or NRE 205, and any emphasis course, you should apply for the Environmental Education Certificate (p. 95).

Third Semester

NRE 204	Range Management & Restoration	4
NRE 121	Introduction to Hydrology	3
ELECTIVE	NRE 265 or REC 210	3
ELECTIVE	ENV 101, GEY 111, or Any NRE Degree Elective*	3
ELECTIVE	NRE 110/114/245/232 or Any NRE Degree Elective	2

Subtotal: 15

Semester Note: NRE 204 is only offered in the Fall.

Upon completion of GIS 101, NRE 100, NRE 205, NRE 204, and NRE 121, you should apply for the Natural Resources Certificate (p. 94).

Upon completion of GIS 101, and 6 credits of any emphasis

course, you **should apply for the Natural Resources Geographic Information Systems GIS Certificate** (p. 94).

Upon completion of NRE 100, NRE 110, and 3 credits of electives (select from FSW 100 and FSW 101 or NRE 121, NRE 205, NRE 215, NRE 280, or NRE 285), you **should apply for the Forestry Certificate** (p. 95).

Fourth Semester

ELECTIVE	NRE 225 or Any NRE Degree Elective*	3
ELECTIVE	AQT 102, HLT 240, or Any NRE Degree Elective*	4
ELECTIVE	NRE 114/200/245/215/230 or NRE Degree Elective*	3
ELECTIVE	NRE 114/200/245/215/230 or NRE Degree Elective*	3
GEN EDU	Any Approved Elective List Course	2

Subtotal: 15

Semester Note: Upon completion of REC 210, NRE 265, and 3 credits of elective (**select one** course from AQT 102, NRE 200, NRE 230, NRE 232, NRE 245, NRE 280, or NRE 285), you **should apply for the Natural Resources Recreation Certificate** (p. 94).

Upon completion of NRE 205, NRE 114, and 3 credits of elective (**select one** course from AQT 102 or NRE 100, NRE 110, NRE 200, NRE 204, NRE 225, NRE 230, NRE 245, NRE 280, or NRE 285), you **should apply for the Wildlife Certificate** (p. 96).

Total Credit Hours: 60

Important Program Notes:

***Natural Resource Technology AAS Degree Electives:** Any AQT course (p. 182), BIO 105, BIO 111, BIO 112, BIO 221, BIO 222, CHE 101, CHE 111, CHE 112, CHE 205, ENV 101, FSW 100, FSW 101, FSW 143, GEY 111, GIS 210, GIS 212, HLT 101, HLT 211, HLT 240, OUT 156, OUT 157, OUT 158, REC 210, or any NRE course (p. 249).

You **must complete 3 credits** from either NRE 225, NRE 265, or REC 210 to complete this degree.

You **must complete 60 credits**. You **should not exceed 62 credits**. You **may want to check with your advisor** to monitor your completion progress.

FORESTRY TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Forestry Technology and enter the workforce. Students explore GIS applications, tree care, soils,

forestry research and harvesting, water movement, and wildlife and fisheries management. The Forestry Technology program teaches the principles of forest science and related fields, conduct forestry field research, and gain field skills in hydrology and soil science. This program prepares students for entry-level careers in forestry technology.

First Semester

NRE 100	Foundations of Forestry	3
MATH	MAT 107 or higher, MAT 121 preferred	3
NRE 121	Introduction to Hydrology	3
ENGLISH	ENG 121/122/131	3
ELECTIVE	NRE 101 or Any Forestry Degree Elective*	1
ELECTIVE	NRE 265/204, REC 210 or Any Forestry Degree Elective*	3

Subtotal: 16

Second Semester

NRE 205	Wildlife & Fisheries Management	3
GIS 101	Introduction to Geographic Information Systems	3
NRE 110	Forestry Field Research	3
HLT 240	Introductory Soil Science	4
ELECTIVE	NRE 225/200 or Any Forestry Degree Elective*	2

Subtotal: 15

Third Semester

GIS 212	GIS Remote Sensing - Digital Image	4
BIO 221	Botany w/Lab: GT-SC1	5
HLT 211	Arboriculture	3
GEN EDU	Any Approved Elective List Course	3

Subtotal: 15

Semester Note: Upon completion of GIS 101, GIS 210 or GIS 212, and any emphasis course, you **should apply for the Natural Resources Geographic Information Systems GIS Certificate** (p. 94).

Upon completion of REC 210, NRE 265, and 3-5 credits of elective (**select one course from AQT 102, NRE 200, NRE 230, NRE 232, NRE 245, NRE 280, or NRE 285**), you **should apply for the Natural Resources Recreation Certificate** (p. 94).

Upon completion of NRE 100, NRE 110, and any emphasis course, you **should apply for the Forestry Certificate** (p. 95).

Upon completion of NRE 205, NRE 114, and 3-5 credits of elective (**select one course from AQT 102, BIO 222, NRE 200, NRE 204, NRE 225, NRE 230, NRE 245, or NRE 280**), you **should apply for the Wildlife Certificate** (p. 96).

Fourth Semester

GEN EDU	Any Approved Elective List Course	3
NRE 215	Fire Ecology	3
NRE 228	Forest Harvesting	3
NRE 280	Internship	3*
ELECTIVE	GIS 210, NRE 225 or Any Forestry Degree Elective*	2

Subtotal: 14

Semester Note: Upon completion of NRE 225, NRE 100 or NRE 205, and any emphasis course, you **should apply for the Environmental Education Certificate** (p. 95).

Total Credit Hours: 60

Important Program Notes:

To fulfill Forestry AAS degree requirements, you must complete a minimum of 8 Forestry AAS degree elective 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.

***Forestry AAS Degree electives:** BIO 111, BIO 112, BIO 222, CHE 101, ENV 101, FSW 100, FSW 101, FSW 143, GIS 210, NRE 101, NRE 114, NRE 200, NRE 204, NRE 230, NRE 232, NRE 265, NRE 278, NRE 280, NRE 285, REC 210, OUT 156, OUT 157, or OUT 158.

If you take MAT 108 or MAT 121 or more credits in mathematics than are listed, it **will increase the total credits for the degree.** You **must complete 60 credits** to earn your Associate of Applied Science degree. You **should not exceed 62 credits.** You **may want to check with your advisor** to monitor your completion progress and select your electives.

WILDLIFE TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Wildlife Technology and enter the workforce. Students explore skills in wildlife, aquaculture, fisheries, natural resource management and computer analysis of natural resources. The Wildlife Technology program focuses on principles and research techniques to assist in wildlife and land management. Includes practical field skills, and theory and applications for the study and management of wildlife, fisheries, and wild bird populations. This program prepares students for a career as a wildlife technician. The AAS degree in Wildlife Technology at Front Range Community College has received a three-year accreditation from the North American Wildlife Technology Association (NAWTA).

First Semester

NRE 114	Colorado Wildlife	3
MATH	MAT 107 or higher, MAT 121 preferred	3
NRE 100	Foundations of Forestry	3
ELECTIVE	NRE 101 or Any Wildlife Degree Elective*	1
ELECTIVE	NRE 232/121/265, REC 210 or Any Wildlife Degree Elective*	2

GEN EDU	Any Approved Elective List Course	3
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Subtotal: 15

Semester Note: You should select 3 credits of electives this semester.

Second Semester

GEN EDU	Any Approved Elective List Course	3
NRE 205	Wildlife & Fisheries Management	3
GIS 101	Introduction to Geographic Information Systems	3
ENGLISH	ENG 121/122/131	3
ELECTIVE	ENV 101, HLT 240, or NRE 225 or Any Wildlife Degree Elective*	3

Subtotal: 15

Semester Note: Upon completion of NRE 205, NRE 114, and 3-5 credits of elective (select one course from AQT 102, BIO 222, NRE 200, NRE 204, NRE 225, NRE 230, NRE 245, or NRE 280), you **should apply for the Wildlife Certificate** (p. 96).

Upon completion of NRE 100, NRE 110, and any emphasis course, you **should apply for the Forestry Certificate** (p. 95).

Third Semester

BIO 111	General College Biology I w/Lab: GT-SC1	5
NRE 245	Avian Conservation/Ornithology	3
NRE 204	Range Management & Restoration	4
ELECTIVE	NRE 110/121/265 or REC 210, or Any Wildlife Degree Elective	3

Subtotal: 15

Semester Note: Upon completion of NRE 225, NRE 100 or NRE 205, and any emphasis course, you **should apply for the Environmental Education Certificate** (p. 95).

Upon completion of GIS 101, GIS 210 or GIS 212, and any emphasis course, you **should apply for the Natural Resources Geographic Information Systems GIS Certificate** (p. 94).

Upon completion of GIS 101, NRE 100, NRE 205, and NRE 121 or any emphasis course, you **should apply for the Natural Resources Certificate** (p. 94).

Fourth Semester

NRE 255	Wildlife Field Techniques	4
AQT 102	Fish Biology and Ichthyology	5
NRE 280	Internship	3*
NRE 230	Wildlife Law Enforcement	3

Subtotal: 15

Semester Note: Upon completion of REC 210, NRE 265, and 3-5 credits of elective (**select one** course from AQT 102, NRE 200, NRE 230, NRE 232, NRE 245, NRE 280, or NRE 285), you **should apply for the Natural Resources Recreation Certificate** (p. 94).

Total Credit Hours: 60

Important Program Notes:

You must complete a minimum of 60 credits and should not exceed 62 credits. You **may want to check with your advisor to monitor your completion progress.**

You must select 9 total credits from Wildlife AAS degree electives*. You must also complete 6 credits from the Approved Elective List to satisfy general education requirements for this degree.

You cannot apply more than 6 credits in Internship or Independent Study programs to the Wildlife Technology AAS Degree.

***Wildlife Technology AAS Degree elective courses:** BIO 221, BIO 222, CHE 101, CHE 111, ENV 101, GIS 210, GIS 212, HLT 240, NRE 101, NRE 110, NRE 114, NRE 121, NRE 200, NRE 204, NRE 215, NRE 225, NRE 232, NRE 265, NRE 278, NRE 280, NRE 285, or REC 210.

Forestry Wildlife & Natural Resources Certificates

NATURAL RESOURCES CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Natural Resources and enter the workforce. Students explore GIS, forest science principles, range land, wildlife, and fisheries management. 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 program prepares students for entry-level careers in a variety of natural resources, forestry, wildlife and fisheries settings.

First Semester

GIS 101	Introduction to Geographic Information Systems	3
NRE 100	Foundations of Forestry	3
NRE 205	Wildlife & Fisheries Management	3
NRE 204	Range Management & Restoration	4
NRE 121	Introduction to Hydrology	3

Subtotal: 16

Total Credit Hours: 16

Important Program Notes:

NRE 204 is offered only in the fall. This certificate can be completed in one semester if taken in the fall semester.

NATURAL RESOURCES GEOGRAPHIC INFORMATION SYSTEMS GIS CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Natural Resources Geographic Information Systems and enter the workforce. Students explore GIS applications, remote sensing, spatial principles and problem solving skills. This certificate program introduces students to basic and advanced analytical tools as they develop skills in spatial problem solving. This program prepares students for entry-level careers in natural resources and GIS-related settings.

First Semester

GIS 101	Introduction to Geographic Information Systems	3
ELECTIVE	Any Natural Resources GIS Certificate Elective*	3

Subtotal: 6

Second Semester

ELECTIVE	GIS 210/212	3
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Subtotal: 3

Total Credit Hours: 9

Important Program Notes:

***Natural Resources (NRE) Geographic Information Systems (GIS) Certificate Elective:** You may select courses from the following: Any AQT course (p. 182), BIO 105, BIO 111, BIO 112, BIO 221, BIO 222, CHE 101, CHE 111, CHE 112, CHE 205, ENV 101, FSW 100, FSW 101, FSW 143, GEY 111, GIS 101, GIS 210, GIS 212, HLT 101, HLT 211, HLT 240, OUT 156, OUT 157, OUT 158, REC 210, or any NRE course (p. 249).

NATURAL RESOURCES RECREATION CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Natural Resources Recreation and enter the workforce. Students explore outdoor recreation principles and wilderness education. This certificate program combines lecture and practical outdoor experiences relating to problems and trends in outdoor recreation. This program prepares students for entry-level careers in a natural resource recreation specialist setting.

First Semester

REC 210	Principles of Outdoor Recreation	3
NRE 265	Wilderness Education	3
ELECTIVE	AQT 102 or Any NRE Recreation Certificate Elective*	3

Subtotal: 9

Semester Note: REC 210 and NRE 265 are taught in the fall.

Total Credit Hours: 9

Important Program Notes:

***Natural Resources (NRE) Recreation Certificate**

Electives: You may select courses from the following: Any AQT course (p. 182), BIO 105, BIO 111, BIO 112, BIO 221, BIO 222, CHE 101, CHE 111, CHE 112, CHE 205, ENV 101, FSW 100, FSW 101, FSW 143, GEY 111, GIS 101, GIS 210, GIS 212, HLT 101, HLT 211, HLT 240, OUT 156, OUT 157, OUT 158, REC 210, or any NRE course (p. 249).

ENVIRONMENTAL EDUCATION CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your **Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Environmental Education and enter the workforce. Students explore forest science principles and wildlife and fisheries management. This certificate program introduces students to the history, legislation, principles, and goals of environmental literacy and education. This program prepares students for entry-level careers in parks, recreation, forestry, or nature education settings.

First Semester

NRE 225	Environmental Education	3
ELECTIVE	NRE 100/205	3
ELECTIVE	Any Environmental Education Certificate Elective*	3
		Subtotal: 9

Semester Note: NRE 225 offered only in Spring at Larimer Campus.

Total Credit Hours: 9

Important Program Note:

***Environmental Education Certificate Elective:** You may select courses from the following: Any AQT course (p. 182), BIO 105, BIO 111, BIO 112, BIO 221, BIO 222, CHE 101, CHE 111, CHE 112, CHE 205, ENV 101, FSW 100, FSW 101, FSW 143, GEY 111, GIS 101, GIS 210, GIS 212, HLT 101, HLT 211, HLT 240, OUT 156, OUT 157, OUT 158, REC 210, or any NRE course (p. 249).

FORESTRY CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have

questions or concerns about your MAP, please see your **Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Forestry and enter the workforce. Students explore a variety of forest and land management principles. This certificate program introduces students to the principles of forest science, dendrology, forest fire behavior, silviculture principles, and research techniques. This program prepares students for entry-level careers in forestry, land use, or park settings.

First Semester

NRE 100	Foundations of Forestry	3
		Subtotal: 3

Second Semester

NRE 110	Forestry Field Research	3
ELECTIVE	FSW 100/101 or Any Forestry Certificate Elective*	3
		Subtotal: 6

Total Credit Hours: 9

Important Program Notes:

Forestry Certificate Electives*: You may select courses from the following: BIO 111, BIO 112, BIO 222, CHE 101, ENV 101, FSW 100, FSW 101, FSW 143, GIS 210, NRE 101, NRE 114, NRE 200, NRE 204, NRE 230, NRE 232, NRE 265, NRE 278, NRE 280, NRE 285, REC 210, OUT 156, OUT 157, or OUT 158.

WILDLAND FIRE CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your **Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Wildland Fire and enter the workforce. Students explore characteristics of wildfire, firefighter skills, and fire ecology. 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 for an entry-level career as a wildland firefighter.

First Semester

FSW 100	S-190 Introduction to Wildland Fire	1
FSW 101	S-130 Firefighting Training	2
FSW 143	S-212 Wildfire Chain Saws	2
		Subtotal: 5

Total Credit Hours: 5

WILDLIFE CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Wildlife and enter the workforce. Students explore wildlife management, wildlife law enforcement, and the study of Colorado native wildlife. This certificate program covers theory, philosophy, and applications for the study and management of wildlife and fisheries resources. This program prepares the student for an entry-level career as a wildlife management specialist or technician.

First Semester

NRE 205	Wildlife & Fisheries Management	3
NRE 114	Colorado Wildlife	3
ELECTIVE	AQT 102 or Any Wildlife Certificate Elective*	3

Subtotal: 9

Total Credit Hours: 9

Important Program Notes:

***Wildlife Certificate Electives:** AQT 102, BIO 221, BIO 222, CHE 101, CHE 111, ENV 101, GIS 101, GIS 210, GIS 212, HLT 240, NRE 101, NRE 100, NRE 110, NRE 114, NRE 121, NRE 200, NRE 204, NRE 215, NRE 225, NRE 230, NRE 232, NRE 245, NRE 265, NRE 278, NRE 280, NRE 285, or REC 210.

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.

Geographic Information Systems

GEOSPATIAL SCIENCE BACHELOR OF APPLIED SCIENCE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a four-year BAS Degree in Geospatial Science and enter the workforce. Students explore both theoretical and practical experience in geospatial science. This degree path prepares students to perform professional geospatial science-based work

using geographic information systems (GIS), remote sensing, programming, databases, unmanned aerial vehicles (UAVs), and global navigation satellite system (GNSS) technologies. Upon completion, students will be qualified for career opportunities in numerous fields such as analyst, scientist, instructor, and biological science or security agency environments. Students will also be qualified to continue on to a Master's program in a geospatial field if desired.

This BAS degree is intended to be a continuation of the AAS in GIS from Front Range Community College, but the courses are open to non-degree seeking students as well. All students must complete the GIS Certificate coursework along with MAT 135 (p. 240) (Introduction to Statistics), and ENG 121 (p. 211) (English Composition I) prior to beginning upper-level coursework for the BAS.

Transfer credits from accredited programs will be considered.

First Semester

ENG 121	English Composition I: GT-CO1	3
GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Intro to Cartography for GIS	3
GIS 150	Relational Database Mgmt for GIS	3
ELECTIVE	BUS 217 or MAR 216	3

Subtotal: 15

Second Semester

GIS 131	Global Positioning Sys for GIS	3
GIS 210	Intermediate Geographic Information Systems	3
MAT 135	Intro to Statistics: GT-MA1	3
GIS 212	GIS Remote Sensing - Digital Image	4
COM 220	Intercultural Communication: GT-SS3	3

Subtotal: 16

Semester Note: Upon completion of GIS 101, GIS 110, GIS 150, and GIS 131, you **should apply for the Foundations of Geographic Information Systems Certificate** (p. 98).

Third Semester

GIS 165	GIS Project Management	3
GIS 260	GIS Survey I	3
MAN 225	Managerial Finance	3
ELECTIVE	BUS 102 or MAN 216	3

Subtotal: 12

Fourth Semester

GIS 211	Spatial Data Modeling & Analysis for GIS	4
GIS 261	GIS Survey II	3
GIS 205	Geographic Information Systems Applications	3
GEN EDU	GEO 111 or GEY 135	4
CAPSTONE	GIS 280/289	3

Subtotal: 17

Semester Note: Upon completion of GIS 101, GIS 110, GIS 150, GIS 131, GIS 165, GIS 205, GIS 210, GIS 211, and GIS 212, you **should apply for the Geographic Information Systems Certificate** (p. 97).

Fifth Semester

GIS 335	Geospatial Statistics	4
CSC 119	Introduction to Programming	3
GIS 301	GIS for Natural Sciences	3
GIS 350	Advanced Database for GIS	4
GEO 106	Human Geography: GT-SS2	3
Subtotal: 17		

Sixth Semester

ELECTIVE	MGD 112/133/141	3
GIS 410	Geomorphology and GIS	4
GIS 411	Hydrology Analysis with GIS	4
CSC 160	Computer Science I: (Language)	4
Subtotal: 15		

Seventh Semester

GIS 312	Advanced Remote Sensing	4
GIS 311	Advance Spatial Analysis	4
GIS 305	Programming for GIS	3
GEN EDU	PHY 105, BIO 105/221, CHE 105, or GEO 111	4
Subtotal: 15		

Eighth Semester

GIS 412	Photogrammetry and LiDAR	4
ELECTIVE	Emphasis Course	3
GIS 488	Practicum	4
ELECTIVE	Emphasis Course	2
Subtotal: 13		

Total Credit Hours: 120**GEOSPATIAL SCIENCE ASSOCIATE OF APPLIED SCIENCE**

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Geospatial Science and enter the workforce. Students explore the development, application and principles of geographic information systems. This two-year degree prepares the student for a career 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.

First Semester

ENGLISH	ENG 121/122/131	3
GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Intro to Cartography for GIS	3
GIS 150	Relational Database Mgmt for GIS	3
ELECTIVE	BUS 217 or MAR 216	3
Subtotal: 15		

Second Semester

GIS 131	Global Positioning Sys for GIS	3
GIS 210	Intermediate Geographic Information Systems	3
MAT 135	Intro to Statistics: GT-MA1	3
GIS 212	GIS Remote Sensing - Digital Image	4
COM 220	Intercultural Communication: GT-SS3	3
Subtotal: 16		

Semester Note: Upon completion of GIS 101, GIS 110, GIS 150, and GIS 131, you **should apply for the Foundations of Geographic Information Systems Certificate** (p. 98).

Third Semester

GIS 165	GIS Project Management	3
GIS 260	GIS Survey I	3
MAN 225	Managerial Finance	3
GIS 211	Spatial Data Modeling & Analysis for GIS	4
ELECTIVE	BUS 102 or MAN 216	3
Subtotal: 16		

Fourth Semester

GIS 261	GIS Survey II	3
GIS 205	Geographic Information Systems Applications	3
GEN EDU	GEO 111 or GEY 135	4
CAPSTONE	GIS 280/289	3
Subtotal: 13		

Semester Note: Upon completion of GIS 101, GIS 110, GIS 150, GIS 131, GIS 165, GIS 205, GIS 210, GIS 211, and GIS 212, you **should apply for the Geographic Information Systems Certificate** (p. 97).

Total Credit Hours: 60**GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE**

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three semester Certificate in Geographic Information Systems

and enter the workforce. Students explore the relationships of geographic information systems, cartography, global positioning systems, and database and project management. This certificate program prepares students for careers in assisting scientists, engineers, technologists, and other professionals in building, maintaining, modifying, and using GIS databases.

First Semester

GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Intro to Cartography for GIS	3
GIS 150	Relational Database Mgmt for GIS	3
		Subtotal: 9

Second Semester

GIS 131	Global Positioning Sys for GIS	3
GIS 165	GIS Project Management	3
GIS 205	Geographic Information Systems Applications	3
GIS 210	Intermediate Geographic Information Systems	3
		Subtotal: 12

Third Semester

GIS 211	Spatial Data Modeling & Analysis for GIS	4
GIS 212	GIS Remote Sensing - Digital Image	4
		Subtotal: 8

Total Credit Hours: 29

FOUNDATIONS OF GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Foundations of Geographic Information Systems and enter the workforce. Students explore GIS principles, global positioning systems, map communication, and databases. This certificate program also introduces students to geographic information systems and cartography. Students work with advanced analytical tools and develop skills in spatial problem solving. This program prepares the student for entry-level careers in a variety of GIS-related business settings.

First Semester

GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Intro to Cartography for GIS	3
		Subtotal: 6

Second Semester

GIS 131	Global Positioning Sys for GIS	3
GIS 150	Relational Database Mgmt for GIS	3
		Subtotal: 6

Total Credit Hours: 12

GEOGRAPHY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Geography. Students learn to describe and analyze physical and cultural landscape. Students will explore the earth's surface features and climate, how humans are distributed and the ways in which humans interact with their environment. The program also delves into all aspects of the physical and cultural landscape. This program is designed for students wanting to complete the first two years of a bachelor's degree and transfer to a university to complete a BA in Geography. Careers often require a bachelor's degree.

First Semester

ENG 121	English Composition I: GT-CO1	3
GT- MA1	MAT 121/135 or Any GT-MA1	3
GEO 106	Human Geography: GT-SS2	3
GEO 111	Physical Geography: Landforms w/Lab: GT-SC1	4
ELECTIVE	Any Approved Elective List Course	3
		Subtotal: 16

Semester Notes: GEO 111 is offered at Larimer Campus in fall and spring semesters and Westminster Campus in fall semester only. Online offerings are available every semester.

Second Semester

ENG 122	English Composition II: GT-CO2	3
GEO 112	Phys Geography: Climate, Ecosystems, Lab: GT-SC1	4
GT- HI1	HIS 102/112 or Any GT-HI1	3
GT- SS	POS 205, ECO 201/245, or Any GT-SS 1 or 3	3
ELECTIVE	Any Approved Elective List Course	3
		Subtotal: 16

Semester Notes: GEO 112 is offered at Larimer Campus in fall and spring semesters and Westminster Campus in spring semester only. Online offerings are available every semester.

Third Semester

GEO 105	World Regional Geography: GT-SS2	3
GT- SC1	Any Sciences (GT-SC1) Course	4

GT- SC1	Any Sciences (GT-SC1) Course	4
GT- SS	POS 205, ECO 201/245, or Any GT-SS 1 or 3	3

Subtotal: 14

Semester Notes: Per the Statewide Transfer Articulation Agreement (STAA), two gtPathway natural & Physical Sciences courses (GT-SC1 only). **NO** GEO-prefix science courses. GEY 111 is not recommended.

Fourth Semester

GT- AH	Any Arts & Humanities (GT-AH) Course	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 14**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), you may complete **ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3)**.

Per the Statewide Transfer Articulation Agreement (STAA), if GEO 111, GEO 112, GEO 105, and GEO 106 courses are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credits toward graduation. Please check with the receiving institution to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), for the 14 elective credits, a maximum of 6 credits may be in GEO or GIS prefix.

Per the Statewide Transfer Articulation Agreement (STAA), you must take two gtPathways Natural & Physical Sciences courses (GTSC1 only). **PLEASE NOTE:** NO GEO-prefix science courses. GEY 111 is not recommended. For Adams State, you must take **BIO 111 and CHE 101**.

If you take more credits in mathematics and/or science than are listed, it will reduce the 14 credit of elective needed. You must complete 60 credits to 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 and select your electives.

You may take **GEO 111 and GEO 112** in either Semester 1 or Semester 2. You should take the course that is offered at your preferred campus or online depending on course availability. GEO 111 is offered at Larimer Campus in fall and spring and Westminster Campus only in fall semesters. GEO 112 is offered at Larimer Campus in fall and spring and Westminster Campus only in spring semester. GEO 111 and GEO 112 are available online every semester. Campus offerings vary by semester. You must take **BOTH GEO 111 and GEO 112** to successfully complete the AA degree in Geography.

GEOLOGY ASSOCIATE OF SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please see your **Pathways Advisor**.

There are **multiple ways** to pursue a **degree in geology** (geosciences). It is very **important** to **work** with your **Pathways Advisor** to develop the **best academic plan** for where you are **starting** and where you are hoping to **transfer**.

For students who want to complete a **degree in geology** and are **calculus ready**, the AS in Geology is the most direct path to a Bachelor's degree in this field. It is recommended that you **meet** with your **advisor** before selecting a **pathway in geology**.

Program Description

This program is designed for students transferring to a four-year university to complete their BS degree in Geology or Earth Science. It allows students to complete the first two years of the BS degree at the community college. Geology is the study of the Earth, its rocks, and the ways that they change over time. Geology students explore the movement of the Earth's crust, the history of life on Earth, and past climates. It is important for mineral and fossil fuel exploration, managing water resources, and solving environmental problems. This program introduces students to Geology and it includes courses that are common to all four-year institutions in Colorado. Careers often require a BS or higher. Career paths for Geology degree holders include resource management, mining, oil and gas exploration, and climate research. The Associate of Science (AS) degree in Geology prepares students to complete the second half of a Bachelor of Science (BS) in Geology at a four-year university.

First Semester

ENG 121	English Composition I: GT-CO1	3
CHE 111	General College Chemistry I w/Lab: GT-SC1	5
MAT 201	Calculus I: GT-MA1	5
ELECTIVE	Any Approved Elective List Course	1

Subtotal: 14**Second Semester**

GT- AH	Any Arts & Humanities (GT-AH) Course	3
ENG 122	English Composition II: GT-CO2	3
CHE 112	General College Chemistry II w/Lab: GT-SC1	5
MAT 202	Calculus II: GT-MA1	5

Subtotal: 16**Third Semester**

GEY 111	Physical Geology w/Lab: GT-SC1	4
PHY 211	Physics: Calculus-Based I w/Lab: GT- SC1	5
GT- HI1	Any History (GT-HI1) Course	3
GT- SS	Any Social Sciences (GT-SS) Course	3

Subtotal: 15		
Fourth Semester		
GEY 112	Historical Geology w/Lab: GT-SC1	4
PHY 212	Physics: Calculus-Based II w/Lab: GT-SC1	5
GT- SS	Any Social Sciences (GT-SS) Course	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 15

Semester Note: GEY 112 is **ONLY** offered in the the spring semesters.

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), credits for additional required courses (GEY 111, GEY 112, MAT 202, PHY 211, and PHY 212) **may not be required for the major at a receiving 4-year institution.** If not required, they **will be applied to the Bachelor’s degree as elective credit toward graduation.** Please **check with the receiving institution** to determine in which way these courses will be applied.

If you take more credits in mathematics and science than are listed, it **will reduce the 1 credit of electives needed.** You must **complete 60 credits** to 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 and select your electives.

Horticulture & Landscape Technologies

HORTICULTURE & LANDSCAPE TECHNOLOGIES ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Horticulture & Landscape Technologies and enter the workforce. Students explore a vast array of horticulture and landscape skills, techniques and concepts. This AAS degree prepares the student for a wide range of careers in landscape contracting and ornamental horticulture. For this degree, students complete the core program, either a Floral Design or Horticulture certificate, and select an area of specialization from the following:

- Irrigation Technician (p. 105)
- Landscape Contracting Technician (p. 103)
- Landscape Design (p. 103)
- Landscape Maintenance Technician (p. 104)
- Nursery Greenhouse & Garden Center Management (p. 104)

Our courses are designed to meet the standards of the leading industry association, the National Association of Landscape Professionals (NALP).

First Semester

ELECTIVE	Any Computer Elective*	3
MATH	MAT 107 or Higher, MAT 108/121	3
GEN EDU	BIO 105/111/221 or CHE 101 or Higher	4
ELECTIVE	FLD 100 or HLT 101	3
ELECTIVE	Any HLT Course	2

Subtotal: 15

Semester Note: 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).

Second Semester

GEN EDU	ENG 121/122, ENG 131/132, or COM 115/125	3
GEN EDU	ECO 201/202	3
ELECTIVE	FLD 200 and HLT 226/240	4
ELECTIVE	FLD 289 or HLT Course	2
GEN EDU	SPA 101 or Higher	3

Subtotal: 15

Semester Note: Upon completion of HLT 101, MAT 107 or higher, HLT 240, and 7 credits of HLT or FLD courses, you **should apply for the Horticulture Certificate** (p. 103). Upon completion of HLT 150 and HLT 151, you **should apply for the Irrigation Technician Certificate** (p. 105).

Third Semester

ELECTIVE	BUS 102 or MAN 216	3
ELECTIVE	Any HLT Course	2
ELECTIVE	HLT 280/287 or Any HLT Course	3
ELECTIVE	Any HLT Course	3
ELECTIVE	Any HLT Degree Elective**	4

Subtotal: 15

Semester Note: Upon completion of FLD 100, MAT 107 or higher, HLT 223 or HLT 226, FLD 200, FLD 289, and HLT 280 or HLT 287, you **should apply for the Floral Design Certificate** (p. 102). Upon completion of HLT 130, HLT 132, CAD 101 or CAD 115, HLT 230, HLT 280 or HLT 287, and HLT 232, you **should apply for the Landscape Design Certificate** (p. 103). **Offered at Westminster ONLY.**

Upon completion of HLT 210, HLT 150 or HLT 202, HLT 223, HLT 151 or HLT 208, HLT 280 or HLT 287, and 3 credits of elective (**select one** course from HLT 211, HLT 221, or HLT 222), you **should apply for the Landscape Maintenance Technician Certificate** (p. 104).

Upon completion of HLT 160 or HLT 165, HLT 280 or HLT 287, HLT 202 or HLT 260, and take 2-4 credits of electives (**select two** courses from HLT 221, HLT 222, HLT 223, HLT 224, or HLT 226),

you should apply for the Nursery, Greenhouse and Garden Center Management Certificate (p. 104).

Fourth Semester

ELECTIVE	Any Computer Elective*	3
ELECTIVE	Any HLT Course	3
ELECTIVE	Any HLT Degree Elective**	3
ELECTIVE	Any HLT Degree Elective**	3
ELECTIVE	HLT 280/287 or Any HLT Course	3
		Subtotal: 15

Total Credit Hours: 60

Important Program Notes:

You **must complete 25 credits** of HLT and/or FLD electives. You **may complete up to an additional 10 credits** from the Horticulture AAS Degree Electives.

***Computer Elective:** CAD 101, CAD 102, CAD 115, CAD 202, CAD 216, CIS 118, CIS 128, CIS 135, CIS 145, CIS 155, CWB 110, GIS 101, GIS 110, MGD 111, or MGD 112.

You **may take HLT 280/HLT 287** (p. 222) in third or fourth semester. **Faculty recommend** you take HLT 280/HLT 287 in fourth semester to have exposure to increased skills learned in additional HLT courses benefiting the employer and experience.

****Horticulture AAS Degree Elective:** Any HLT or FLD course, or BIO 221, CHE 101, CHE 111, CHE 205, COM 115, ECO 201, ECO 202, GEY 111, MAT 121, MAT 166, PHY 111, PHY 112, PSY 101, SPA 111, or SPA 112.

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.

HORTICULTURE BUSINESS MANAGEMENT ASSOCIATE OF SCIENCE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students transferring to a four-year university to complete their BS degree in Horticulture Business Management. It allows students to complete the first two years of the BS degree at the community college. Students explore a wide range of horticulture and landscape related business practices. Entry-level career options include landscaping firms, florists, plant nurseries, and greenhouses. This program introduces students to Horticulture Business Management and it includes courses that are common to all four-year institutions in Colorado. This AS degree prepares the student to transfer to Colorado State University in Fort Collins to pursue a B.S. degree in Horticulture with a Horticulture Business Management concentration. The Associate of Science (AS) degree prepares

students to complete the second half of a Bachelor of Science (BS) program at a four-year university.

First Semester

CIS 118	Introduction to PC Applications	3
MAT 121	College Algebra: GT-MA1	4
BIO 221	Botany w/Lab: GT-SC1	5
GT- HI1	Any History (GT-HI1) Course	3
		Subtotal: 15

Second Semester

ENG 121	English Composition I: GT-CO1	3
ECO 202	Principles of Microeconomics: GT-SS1	3
HLT 101	Introduction to Horticulture	4
GT- AH	Any GT-AH1, GT-AH2, or GT-AH4 Course	3
ELECTIVE	Any HLT/FLD or Approved Elective List Course	3
		Subtotal: 16

Third Semester

ECO 201	Principles of Macroeconomics: GT-SS1	3
HLT 260	Plant Propagation	4
ENG 122	English Composition II: GT-CO2	3
GT- SC1	CHE 101/111	5
		Subtotal: 15

Fourth Semester

REQUIRED	MAT 135 or BUS 226	3
GT- AH	Any GT-AH1, GT-AH2, or GT-AH4 Course	3
HLT 240	Introductory Soil Science	4
ELECTIVE	Any HLT/FLD or Approved Elective List Course	4
		Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

BIO 221 is **recommended**. BIO 111 and BIO 112 **may also be used** to complete these degree requirements; BIO 111 is a prerequisite for BIO 112. Taking these courses **would reduce your overall additional required credits by 5 credits**.

*Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).*

*Per the Statewide Transfer Articulation Agreement (STAA), for recommended elective, **choose additional HLT or FLD courses** (except for HLT 208; HLT 216; HLT 249; FLD 100; or FLD 280).*

*Per the Statewide Transfer Articulation Agreement (STAA), if HLT 240, BUS 226 or MAT 135, CIS 118, HLT 260, or HLT 101 or HLT 100 **are not required for the major** at a receiving 4-year institution, they **will be applied to the Bachelor's degree as elective credit toward graduation**. Please **check with the receiving institution** to determine in which way these courses will be applied.*

If you take more credits in mathematics and science than are listed, it **will reduce the 7 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

ENVIRONMENTAL HORTICULTURE - LANDSCAPE BUSINESS ASSOCIATE OF SCIENCE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students transferring to a four-year university to complete their BS degree in Environmental Horticulture Landscape Business. It allows students to complete the first two years of the BS degree at the community college. Students explore both horticulture and business management principles and concepts. Entry-level career options include horticulture business management, production, operations, account management, landscape management, and project management settings. This AS degree prepares the student to transfer to Colorado State University in Fort Collins to pursue a BS degree in Environmental Horticulture with a Landscape Business concentration. The Associate of Science (AS) degree prepares students to complete the second half of a Bachelor of Science (BS) program at a four-year university.

First Semester

BIO 221	Botany w/Lab: GT-SC1	5
CIS 118	Introduction to PC Applications	3
MAT 166	Pre-Calculus: GT-MA1	5
REQUIRED	ACC 101/121/226, MAN 230, SPA 111, or Any HLT	3

Subtotal: 16

Second Semester

ENG 121	English Composition I: GT-CO1	3
ECO 202	Principles of Microeconomics: GT-SS1	3
HLT 101	Introduction to Horticulture	4
GT- AH	Any GT-AH1, GT-AH2, or GT-AH4 Course	3
REQUIRED	ACC 101/121/226, MAN 230, SPA 111, or Any HLT	3

Subtotal: 16

Third Semester

ECO 201	Principles of Macroeconomics: GT-SS1	3
ENG 122	English Composition II: GT-CO2	3
HLT 202	Plant Health Care	4
GT- SC1	CHE 101/111	5

Subtotal: 15

Fourth Semester

HLT 240	Introductory Soil Science	4
GT- HI1	Any History (GT-HI1) Course	3
GT- AH	Any GT-AH1, GT-AH2, or GT-AH4 Course	3
REQUIRED	ACC 101/121/226, MAN 230, SPA 111, or Any HLT	3

Subtotal: 13

Total Credit Hours: 60

Important Program Notes:

BIO 221 is **recommended**. BIO 111 and BIO 112 **may also be used** to complete these degree requirements; BIO 111 is a prerequisite for BIO 112. Taking these courses **would reduce your overall additional required credits by 5 credits**.

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3)**.

Per the Statewide Transfer Articulation Agreement (STAA), ECO 201 and ECO 202 **are required Social & Behavioral Sciences (GT-SS) courses**.

You **must complete 60 credits** to 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 and select your electives.

Horticulture & Landscape Technologies Certificates

FLORAL DESIGN CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Floral Design and enter the workforce. Students explore floral design concepts, techniques, and identification, usage, and culture of plants. This program prepares the student for a career to work in or own a floral business. In addition to learning about floral design and arrangements, students will learn about flower shop management and flower care for tropical and indoor plants.

First Semester

FLD 100	Introductory Floral Design	3
MATH	MAT 107 or Higher, MAT 108/121	3
ELECTIVE	HLT 223/226	2

Subtotal: 8

Second Semester

FLD 200	Advanced Floral Design	3
FLD 289	Capstone	4
CAPSTONE	HLT 280/287	3
		Subtotal: 10

Total Credit Hours: 18**Important Program Notes**

Students pursuing AAS degree must also take HLT 101 and HLT 240.

HORTICULTURE CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Horticulture and enter the workforce. Students explore the biology of horticultural plants, soil conditions, and fertilizer principles. This certificate program allows students with unique career goals in the horticulture industry to design their own degree with faculty guidance.

First Semester

HLT 101	Introduction to Horticulture	4
MATH	MAT 107 or Higher, MAT 108/121	3
ELECTIVE	Any HLT/FLD Course	3
		Subtotal: 10

Second Semester

HLT 240	Introductory Soil Science	4
ELECTIVE	Any HLT/FLD Course	4
		Subtotal: 8

Total Credit Hours: 18**Important Program Notes:**

Elective courses may be applicable to several certificates. Completion of this certificate will count toward the AAS degree in Horticulture.

LANDSCAPE DESIGN CERTIFICATE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three semester Certificate in Landscape Design and enter the workforce. Students explore CAD software, sustainable landscape practices, landscape design and business practices. This program prepares the student for a career as a residential landscape designer. Students will learn Xeriscape principles, sustainable horticulture, plant identification, how to draft landscape plans using CAD, and how to bid landscape projects.

First Semester

HLT 130	Landscape Design I	3
HLT 132	Sustainable Landscaping	3
ELECTIVE	CAD 101/115	3
		Subtotal: 9

Second Semester

HLT 230	Landscape Design II	3
CAPSTONE	HLT 280/287	3
		Subtotal: 6

Third Semester

HLT 232	Landscape Design III	3
		Subtotal: 3

Total Credit Hours: 18**LANDSCAPE CONTRACTING TECHNICIAN CERTIFICATE**

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Landscape Contracting Technician and enter the workforce. Students explore landscape irrigation, woody plants, construction, and estimate submission processes. This program prepares students for careers to work in or own a landscape construction company. Students will learn how to build and install retaining walls, decks, brick pavers, paver patios and sprinkler systems. Landscape drainage, lighting, equipment and bidding will also be covered.

First Semester

HLT 150	Irrigation I	3
HLT 236	Landscape Construction	4
HLT 222	Woody Plants: Shrubs and Vines	3
		Subtotal: 10

Second Semester

HLT 221	Woody Plants: Trees and Conifers	3
HLT 237	Landscape Bidding and Estimating	2

CAPSTONE	HLT 280/287	3
		Subtotal: 8

Total Credit Hours: 18

LANDSCAPE MAINTENANCE TECHNICIAN CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Landscape Maintenance Technician and enter the workforce. Students explore the best landscape maintenance and management practices. This program prepares the student for a career working for landscape maintenance companies. Students learn essential landscape management skills such as tree care, pruning, soil management, watering, fertilization, pest management, and sprinkler repair.

First Semester

HLT 210	Landscape Management	4
ELECTIVE	HLT 211/221/222	3
ELECTIVE	HLT 150/202	3
		Subtotal: 10

Second Semester

HLT 223	Annuals, Bulbs, and Grasses	2
ELECTIVE	HLT 151/208	3
CAPSTONE	HLT 280/287	3
		Subtotal: 8

Total Credit Hours: 18

NURSERY, GREENHOUSE AND GARDEN CENTER MANAGEMENT CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Nursery, Greenhouse & Garden Center Management and enter the workforce. Students explore all management aspects of the greenhouse, nursery and garden center industry. In this program students learn the skills necessary to begin a career in or own a garden center or nursery, including plant identification, propagation, cloning and health.

Business concepts such as greenhouse operations and management are also covered.

First Semester

ELECTIVE	HLT 221/222/223/224/226	2
ELECTIVE	HLT 221/222/223/224/226	2
ELECTIVE	HLT 160/165	4
		Subtotal: 8

Semester Note: HLT 165 is only offered at the Larimer Campus. HLT 160 is offered in the spring semester at the Westminster Campus.

Second Semester

ELECTIVE	HLT 221/222/223/224/226	2
CAPSTONE	HLT 280/287	3
ELECTIVE	HLT 202/260	4
		Subtotal: 9

Semester Note: HLT 202 and HLT 260 are offered in fall at the Westminster Campus.

Total Credit Hours: 17

TREE CARE TECHNICIAN CERTIFICATE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three-year Certificate in Tree Care Technician and enter the workforce. Students explore various methods and skills to prolong the health and useful life of trees. Students learn sophisticated pruning techniques, lightning protection, support cabling, and plant healthcare. Students can pursue careers as a tree trimmer/arborist with a commercial tree care company, municipal forestry workers with their local parks department, or power companies. Professional arborists work with large equipment such as boom trucks, loaders, brush chippers and stump grinders. Upon graduation the student may apply for journey-worker certification through the U.S. Department of Labor. To enroll in this program, the student must be employed by a participating firm or municipality and enrolled with the sponsoring organization as a Registered Apprentice. The student's employer must provide proof of worker's compensation insurance while attending class. Students who are not employees of a participating firm can contact the FRCC Horticulture & Landscape Technologies program to obtain a list of participating firms and directions on how to enroll as an apprentice once they are hired.

First Semester

TRE 110	Arborist Skills I	1
TRE 111	Arborist Equipment Fundamentals	1
		Subtotal: 2

Second Semester

TRE 130	Introduction to Aerial Tree Work for Arborists	1
TRE 131	Applied Aerial Tree Work for Arborists	1
		Subtotal: 2

Third Semester

TRE 120	Tree & Shrub Identification for Arborists	1
TRE 210	Arborist Skills II	1
		Subtotal: 2

Fourth Semester

TRE 220	Tree Biology & Identification for Arborists	1
TRE 230	Rigging & Tree Removal Fundamentals	1
		Subtotal: 2

Fifth Semester

TRE 211	Arborist Skills III	1
TRE 232	Advanced Rigging & Tree Felling for Arborists	1
		Subtotal: 2

Sixth Semester

TRE 222	Plant Health Care & Shrub Identification for Arborists	1
TRE 289	Capstone: Leadership in Tree Care Operations	1
		Subtotal: 2

Total Credit Hours: 12**IRRIGATION TECHNICIAN CERTIFICATE**

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Irrigation Technician and enter the workforce. Students explore irrigation components, installation, repair and maintenance. This certificate prepares students for entry-level careers with basic instruction in landscape irrigation and maintenance.

First Semester

HLT 150	Irrigation I	3
HLT 151	Irrigation II	3
		Subtotal: 6

Total Credit Hours: 6**Important Program Note:**

You 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**.

MATHEMATICS ASSOCIATE OF SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students transferring to a four-year university to complete their BS or BA degree in Mathematics. It allows students to complete the first two years of the BS degree at the community college. Students explore calculus and computer/engineering applications. Mathematics is more than the study of counting and measurement it is also the study of shapes and motion. Mathematicians look for patterns and use them to design new theories, new models, and even predictions about nature. This program introduces students to Mathematics and it includes courses that are common to all four-year institutions in Colorado. Career paths in mathematics include finance, engineering, computer science, coding, accounting, statistics, and research. The Associate of Science (AS) degree in Mathematics prepares students to complete the second half of a Bachelor of Science (BS) or a Bachelor of Arts (BA) in Mathematics at a four-year university.

The AS in Mathematics requires you to enter prepared to take Calculus (MAT 201), Calculus-based Physics (PHY 211). Any needed prerequisites to be ready for these courses will not count for this degree. For many students, a general AA degree or a general AA degree is a better fit. It allows you to apply college-level courses in College Algebra, Pre-calculus, and Physics. See an advisor to discuss testing out options, review transfer university requirements, and to develop an academic plan that works for you.

First Semester

MAT 201	Calculus I: GT-MA1	5
ENG 121	English Composition I: GT-CO1	3
GT- AH	PHI 113 or Any GT-AH	3
ELECTIVE	CSC 119 or Any Approve Elective List Course	3
		Subtotal: 14

Second Semester

MAT 202	Calculus II: GT-MA1	5
CSC 160	Computer Science I: (Language)	4
ENG 122	English Composition II: GT-CO2	3
GT- AH	PHI 113 or Any GT-AH	3
		Subtotal: 15

Semester Note: Per the Statewide Transfer Articulation Agreement (STAA), Colorado State University **requires a different computer science course instead of CSC 160**.

You **should seek advising at Colorado State University** for the appropriate computer science course to take.

Third Semester

CALCULUS	MAT 203/204	4
PHY 211	Physics: Calculus-Based I w/Lab: GT-SC1	5
GT- SS	Any Social Sciences (GT-SS) Course	3
GT- AH	PHI 113 or Any GT-AH	3

Subtotal: 15**Fourth Semester**

PHY 212	Physics: Calculus-Based II w/Lab: GT-SC1	5
REQUIRED	COM 115/125	3
GT- HI1	Any History (GT-HI1) Course	3
ELECTIVE	Any Approved Elective List Course	2
GT- SS	Any Social Sciences (GT-SS) Course	3

Subtotal: 16**Total Credit Hours: 60****Important Program Notes:**

The AS in Mathematics requires you to enter prepared to take Calculus (MAT 201) and Calculus-based Physics (PHY 211). Any needed prerequisites to be ready for these courses will not count for this degree. For many students, a general AS degree or a general AA degree (p. 51) is a better fit. It allows you to apply college-level courses in College Algebra, Pre-calculus, and Physics. See an advisor to discuss testing out options, review transfer university requirements, and to develop an academic plan that works for you.

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**.

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), if COM 115 or COM 125, MAT 202, MAT 203 or MAT 204, or CSC 160 **are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit** toward graduation. Please **check with the receiving institution** to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), PHY 211 and PHY 212 **are the Natural & Physical Sciences (GT-SC1) required courses**.

If you **take MAT 204, it will reduce the 5 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

PHYSICS ASSOCIATE OF SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

There are **multiple ways** to pursue a **degree in physics**. It is very **important** to **work** with your **Pathways Advisor** to develop the **best academic plan** for where you are **starting** and where you are hoping to **transfer**.

For students who want to complete a **degree in physics** and are **college chemistry** and **calculus ready**, the **AS in Physics** is the **most direct path** to a **Bachelor's degree** in this field. It is recommended that you meet with your **advisor** before selecting a **pathway in physics**.

Program Description

This program is designed for students transferring to a four-year school to complete their BS or BA degree in Physics. It allows them to complete the first two years of the degree prior to transferring. Students explore advanced applied physics and calculus. The laws of physics govern everything in the universe from the tiniest bit of matter to the largest star. Physics is a prerequisite to any in-depth study of the sciences and technologies and it leads to careers in variety of industries. The physics degree program at FRCC provides the necessary background for transfer to a four-year university.

First Semester

MAT 201	Calculus I: GT-MA1	5
CHE 111	General College Chemistry I w/Lab: GT-SC1	5
GT- AH	Any Arts & Humanities (GT-AH) Courses	3
ENG 121	English Composition I: GT-CO1	3

Subtotal: 16**Second Semester**

PHY 211	Physics: Calculus-Based I w/Lab: GT-SC1	5
MAT 202	Calculus II: GT-MA1	5
ENG 122	English Composition II: GT-CO2	3
GT- AH	Any Arts & Humanities (GT-AH) Courses	3

Subtotal: 16**Third Semester**

PHY 212	Physics: Calculus-Based II w/Lab: GT-SC1	5
CALCULUS	MAT 203/204	4
GEN EDU	CSC 160 or CHE 112	4

Subtotal: 13**Fourth Semester**

PHY 213	Physics III: Calculus-Based Modern	3
MATH	MAT 261/265/266	3
GT- AH	Any Arts & Humanities (GT-AH) Courses	3

GT- HI1	HIS 101/122/225/102/121/247 or Any GT-HI1	3
GT- SS	Any Social and Behavior Sciences (GT-SS) Courses	3

Subtotal: 15**Total Credit Hours: 60****Important Program Notes:**

Semester Note: Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3).**

Per the Statewide Transfer Articulation Agreement (STAA), if PHY 213, MAT 202, MAT 203 or MAT 204, MAT 265 or MAT 261 or MAT 266, CHE 111, or CSC 160 or CHE 112 credits **are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credits** toward graduation. Please **check with the receiving institution** to determine in which way these courses will be applied.

If you take more credits in mathematics than are listed, 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**. You **must complete 60 credits** to 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 and select your electives.

Social Sciences, Education & Public Service

This Career and Academic Community includes the following programs: Anthropology, Criminal Justice & Public Safety, Early Childhood Teacher Education, Economics, Elementary Teacher Education, Geography, History, Paralegal/Legal Assistant, Political Science, Psychology, Sociology, and Teaching English as a Second Language. To learn more about the program click on the program below.

ANTHROPOLOGY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree and transfer to a university to complete a BA in Anthropology. Students explore cultural and biological Anthropology. Anthropology is the study of human society, life, and culture. It answers questions about how people lived, what they thought, and how they interacted with their environment. This gives us an understanding of the world today, and how the future world may develop. This program

introduces students to the study of Anthropology and includes courses that are common to all Colorado four-year institutions. Careers often require a master's degree. Career paths for Anthropology degree holders include market research, field and medical research, museum management, public health, community studies, cultural studies, and field studies in archaeology. The Associate of Arts (AA) degree in Anthropology prepares students to complete the second half of a Bachelor of Arts (BA) in Anthropology at a four-year university.

First Semester

ENG 121	English Composition I: GT-CO1	3
ANT 101	Cultural Anthropology: GT-SS3	3
GT- MA1	MAT 135/121 or Any GT-MA1	3
GT- HI1	HIS 111/112 or Any GT-HI1	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 15

Second Semester

ENG 122	English Composition II: GT-CO2	3
ANT 111	Biological Anthropology with Laboratory: GT-SC1	4
REQUIRED	COM 220/115/125	3
GT- SS	ETH 200, PSY 102, SOC 101/207/215, or Any GT-SS	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 16

Semester Notes: ANT 111 is offered at Larimer Campus in fall and spring and Westminster Campus and Online only in spring semester. ANT 111 is not offered at the Boulder County Campus.

Third Semester

ANT 107	Introduction to Archaeology: GT-SS3	3
GT- SC1	ENV 101, GEY 135, or Any GT-SC1	4
GT- SS	Any Social Science (GT-SS) Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 13

Semester Notes: ANT 107 is offered at Larimer Campus and Boulder County Campus in fall and spring and Westminster Campus and Online only in fall semester.

Fourth Semester

REQUIRED	Any Anthropology in GT-SS3 Course	3
GT- SC1	ENV 101, GEY 135, or Any GT-SC1	4
GT- SS2/3	Any GT-SS2 or GT-SS3 Course	3
ELECTIVE	Any Approved Elective List Course	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 16**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).**

Per the Statewide Transfer Articulation Agreement (STAA), additional ANT courses beyond the 4 courses identified in the Statewide Transfer Articulation Agreement (ANT 101, ANT 107, ANT 111, or Any 3 credits from ANT Prefix in GT-SS3) **may not count toward the Anthropology major at the receiving 4-year institution.**

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Sciences courses (GTSC1).**

If you **take more credits in mathematics and science** than are listed, it **will reduce the 14 credits of electives needed.** You **must complete 60 credits** to 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 and select your electives.

You **may take ANT 111 and ANT 107** in either Semester 2 or Semester 3. You **should take the course that is offered at your preferred campus or online** depending on course availability. ANT 111 is offered at Larimer Campus in fall and spring and Westminster Campus and Online only in spring semester. ANT 111 is not offered at the Boulder County Campus. ANT 107 is offered at Larimer Campus and Boulder County Campus in fall and spring and Westminster Campus and Online only in fall semester. Campus offerings vary by semester. You **must take BOTH ANT 107 and ANT 111** to successfully complete the AA degree in Anthropology.

Criminal Justice & Public Safety

CRIMINAL JUSTICE ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a Criminal Justice BA or BS. Criminal Justice, policing and correction systems are explored. Some careers require a bachelor's degree. Studying Criminal Justice gives us a better understanding of the three main parts of the criminal justice system: law enforcement, the judicial system, and corrections. This program focuses closely on criminal behavior, criminal law, and constitutional law. Criminal Justice requires a willingness to be understanding of different cultures. This program introduces students to the study of Criminal Justice and includes courses that are common to all Colorado four-year institutions. Career paths for Criminal Justice degree holders lead to a variety of federal, state, and local criminal justice agencies. These include correctional institutions, juvenile corrections, treatment facilities, law enforcement agencies, courts, private security, and investigation work. The Associate of Arts (AA) degree in Criminal Justice prepares

students to complete the second half of a Bachelor of Arts (BA) in Criminal Justice at a four-year university.

First Semester

SOC 101	Intro to Sociology I: GT-SS3	3
ENG 121	English Composition I: GT-CO1	3
REQUIRED	COM 115/125	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3
CRJ 110	Intro to Criminal Justice: GT-SS3	3
		Subtotal: 15

Second Semester

GT- HI1	HIS 122/247/236/250 or Any GT-HI1	3
CRJ 125	Policing Systems	3
ENG 122	English Composition II: GT-CO2	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- MA1	MAT 120/121/135 or Any GT-MA1	3
		Subtotal: 16

Third Semester

CRJ 145	Correctional Process	3
REQUIRED	CRJ Course*	3
GT- SC1/2	Any Science (GT-SC1/2) Course	3
GT- SS	Any Social & Behavioral Science (GT-SS3)	3
REQUIRED	ANT, COM, POS, PSY, or SOC Course**	3
		Subtotal: 15

Fourth Semester

REQUIRED	CRJ Course*	3
REQUIRED	ANT, COM, POS, PSY, or SOC Course**	3
REQUIRED	ANT, COM, POS, PSY, or SOC Course**	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3
ELECTIVE	Any Approved Elective List Course	2
		Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3)

Per the Statewide Transfer Articulation Agreement, you **must choose two gtPathway Arts & Humanities courses from two different categories** (GT-AH1, GT-AH2, GT-AH3, or GT-AH4).

*Per the Statewide Transfer Articulation Agreement (STAA), you **must select two** additional required **CRJ courses** to complete the Association of Arts (AA) degree. The additional required **CRJ courses** are: CRJ 127, CRJ 135, CRJ 205, CRJ 209, CRJ 230, CRJ 231, CRJ 235, CRJ 236, CRJ 257, or CRJ 268.

Per the Statewide Transfer Articulation Agreement (STAA), you **must select three additional required **ANT, COM, POS, PSY,**

or **SOC courses** to complete the Association of Arts (AA) degree. The additional required **ANT, COM, POS, PSY, or SOC** courses are: ANT 201, COM 217, COM 225, POS 111, POS 125, PSY 207, PSY 217, PSY 226, PSY 249, or SOC 231. CNG 258 (Digital Forensics) **can apply to this degree**. However, CNG 132 (Network Security Fundamentals) must be taken prior CNG 258. Taking CNG 132 **will increase the total credits to 63** to complete this degree.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Science courses (GT-SC1, GT-SC2)**. One of these courses **must have the required laboratory (GT-SC1)**.

If you **take more credits in mathematics and science** than are listed, it **will reduce the 2 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

CRIMINAL JUSTICE - ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a three semester AAS Degree in Criminal Justice and enter the workforce. Students explore criminal investigation, police and law enforcement academy, law, arrest control, driving, and firearms. The A.A.S. degree in Criminal Justice is intended for those who plan to enter a career in law enforcement with a law enforcement commission. It prepares students currently sponsored or endorsed by a law enforcement agency with approved Colorado Peace Officer Standards and Training (POST) curriculum. FRCC is a Colorado POST-Approved Basic Academy. Attendance is limited to individuals sponsored or endorsed by a law enforcement agency. The FRCC Law Enforcement Academy provides POST certification and an education which prepares the cadet to become a member of the law enforcement profession and to meet the needs of agencies in the Northern Colorado region. To enroll in this program, students must have completed, or be currently enrolled in the FRCC Peace Officers Standards and Training certificate program. The Peace Officers Standards and Training certificate program requires employment and sponsorship or endorsement by a participating law enforcement agency.

First Semester

CRJ 110	Intro to Criminal Justice: GT-SS3	3
ENGLISH	ENG 121/122	3
COM 115	Public Speaking	3
MATH	MAT 107 or Higher	3

Subtotal: 12

Second Semester

CRJ 209	Criminal Investigations I	3
PHI 112	Ethics: GT-AH3	3
GEN EDU	PSY 101, SOC 101, or POS 111	3

Subtotal: 9

Third Semester

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
LEA 140	Wellness for Law Enforcement	1

Subtotal: 39

Semester Note: Upon completion of LEA 101, LEA 102, LEA 103, LEA 104, LEA 105, LEA 106, LEA 107, LEA 108, and LEA 140, you **should apply for the Peace Officers Standards Training Certificate** (p. 109).

Total Credit Hours: 60

PEACE OFFICERS STANDARDS & TRAINING CERTIFICATE

Locations: Larimer Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Peace Officers Standards & Training and enter the workforce. Students explore police and law enforcement academy, basic law, arrest control, driving, and firearms. It prepares students currently sponsored or endorsed by a law enforcement agency with approved Colorado Peace Officer Standards and Training (POST) curriculum. FRCC is a Colorado POST-Approved Basic Academy. Attendance is limited to individuals sponsored or endorsed by a law enforcement agency. The FRCC Law Enforcement Academy provides POST certification and an education which prepares the cadet for a career as a member of the law enforcement profession and meet the needs of agencies in the Northern Colorado region. To enroll in this program, students must be employed, sponsored, or endorsed by a participating law enforcement agency.

First Semester

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
LEA 140	Wellness for Law Enforcement	1

Subtotal: 39

Total Credit Hours: 39

PUBLIC SAFETY DISPATCH CERTIFICATE

Locations: Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two-semester) certificate in Public Safety Dispatch and enter the workforce. Students will learn the unique skills required in emergency telecommunications. Students will acquire the core knowledge needed to communicate with someone until help arrives on the scene. Completing the Public Safety Dispatch (PSD) certificate provides a career path with 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.

First Semester

CRJ 110	Intro to Criminal Justice: GT-SS3	3
PSY 101	General Psychology I: GT-SS3	3
PSY 116	Stress Management	3
SOC 231	Sociology of Deviant Behavior: GT-SS3	3
COM 125	Interpersonal Communication	3

Subtotal: 15

Second Semester

CRJ 125	Policing Systems	3
CRJ 280	Internship	1
CRJ 201	Emergency Dispatching	5
ELECTIVE	PSY 249, CRJ 257, or COM 220	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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Early Childhood Education and enter the workforce. Students explore all facets of early childhood education techniques and strategies, child care, growth and development. This AAS 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, students will earn two certificates - Foundations in 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.

First Semester

ECE 101	Introduction to Early Childhood Education	3
ECE 238	ECE Child Growth and Development	3
ECE 103	Guidance Strategies for Young Children	3
ENG 121	English Composition I: GT-CO1	3
PSY 101	General Psychology I: GT-SS3	3

Subtotal: 15

Semester Note: Upon completion of ECE 101 and ECE 103, you **should apply for the Assistant Early Childhood Teacher Certificate** (p. 113).

Second Semester

ECE 102	Intro to ECE Techniques	3
ECE 220	Curriculum Methods/Technologies	3
ECE 256	Working w/Families & Communities	3
LIT 255	Children's Literature	3
MATH	MAT 107 or Higher, MAT 120	3

Subtotal: 15

Semester Note: Upon completion of ECE 101, ECE 103, ECE 238, ECE 102, ECE 220, and ECE 256, you **should apply for the Foundations of Early Childhood Education Certificate** (p. 112).

Third Semester

ECE 111	Infant and Toddler Theory and Practice	3
ECE 205	ECE Nutrition, Health and Safety	3
ECE 240	Admin of ECE Programs	3
ECE 241	Admin: Human Relations ECE	3
ECE 188	Practicum	4

Subtotal: 16

Fourth Semester

ECE 260	The Exceptional Child	3
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ECE 288	Practicum: Early Childhood Education	4
ECE 289	Capstone	1
GT- HI1	HIS 121/122	3
ELECTIVE	Any Early Childhood Education (ECE) Course	3

Subtotal: 14

Semester Note: Upon completion of ECE 101, ECE 103, ECE 238, ECE 102, ECE 220, ECE 111, ECE 205, ECE 240, ECE 241, and ECE 260, you **should apply for the Early Childhood Director Certificate** (p. 111).

Total Credit Hours: 60**Important Program Notes:**

If you are enrolling in ECE 102, ECE 112, ECE 188, and ECE 288, you **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.

EARLY CHILDHOOD TEACHER EDUCATION ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA or BS with licensure in Early Childhood Teacher Education. Child development is explored. Licensure requires a bachelor's degree. The ECE program prepares the student for a career in teaching children (birth to age 5). The program can also prepare students to become an Early Childhood Teacher or director in the field of Early Childhood Education. Applicants must demonstrate an interest in the care and well-being of young children, be free from evidence of physical and mental illness, and be free from personal conduct that may be injurious to children as stated in the Colorado Rules and Regulations for Child Care Centers, section 7.702.51. This program prepares students to become a productive, caring and responsible teacher. Classes emphasize child development skills in the areas of language, social, emotional, cognitive, and physical development. Classes also focus on cultural diversity among children. Students will become familiar with theories concerning child development and ECE, and will participate in many group discussions and hands-on activities that they can apply in the preschool classroom. Students will learn from qualified faculty members who believe in the success of each ECE student.

First Semester

ECE 101	Introduction to Early Childhood Education	3
ECE 103	Guidance Strategies for Young Children	3
ECE 238	ECE Child Growth and Development	3
ENG 121	English Composition I: GT-CO1	3
PSY 101	General Psychology I: GT-SS3	3

Subtotal: 15**Second Semester**

ECE 102	Intro to ECE Techniques	3
ECE 220	Curriculum Methods/Technologies	3
ECE 256	Working w/Families & Communities	3
GT- AH	LIT 255/115	3
MAT 120	Math for Liberal Arts: GT-MA1	4

Subtotal: 16**Third Semester**

ENG 122	English Composition II: GT-CO2	3
GEO 105	World Regional Geography: GT-SS2	3
GT- HI1	HIS 121/122	3
GT- AH	MUS 120, ART 110, or THE 105	3
SCI 155	Integrated Science I w/Lab: GT-SC1	4

Subtotal: 16**Fourth Semester**

SCI 156	Integrated Science II w/Lab: GT-SC1	4
ELECTIVE	Transfer Agreement List Course	3
ELECTIVE	Transfer Agreement List Course	3
ELECTIVE	Transfer Agreement List Course	3

Subtotal: 13**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Agreement, you **must pass with a C- or higher BOTH SCI 155 and SCI 156 to satisfy the GT Pathways science requirement**.

Credits for additional required courses may not be required for the major at a receiving 4-year institution. If not required, they will be **applied to the Bachelor's degree as elective credit toward graduation**. Please **check with the receiving institution to determine in which way these courses will be applied**.

Electives vary by transfer institution per the Statewide Transfer Articulation Agreement. Although these course vary by institution, they must be selected from the following: ECE 111, ECE 112, ECE 240, ECE 241, ECE 205, ECE 260, MAT 135, PSY 235, ECE 238, COM 115, PSY 102, and ECE 226.

Early Childhood Education Certificates

EARLY CHILDHOOD DIRECTOR CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Early Childhood Director and enter the workforce. It prepares students for administrative and leadership roles in early childhood education. Students completing this certificate expand on foundational early childhood education knowledge, skills, and dispositions to develop administrative skills, ethical decision making, risk management, and human relations with staff, family, and community. This certificate meets coursework requirements for "Directors" as outlined in the Colorado Rules Regulating Child Care Centers. Experience hours in early childhood education settings are also required to meet state requirements.

This program can only be completed through a blend of face-to-face and online courses.

First Semester

ECE 101	Introduction to Early Childhood Education	3
ECE 103	Guidance Strategies for Young Children	3
ECE 238	ECE Child Growth and Development	3
ECE 102	Intro to ECE Techniques	3
ECE 220	Curriculum Methods/Technologies	3

Subtotal: 15**Second Semester**

ECE 111	Infant and Toddler Theory and Practice	3
ECE 205	ECE Nutrition, Health and Safety	3
ECE 240	Admin of ECE Programs	3
ECE 241	Admin: Human Relations ECE	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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Early Childhood Education for Paraeducators and enter the workforce. Students explore early childhood education techniques and strategies, family dynamics, curriculum development, and child growth and development. This certificate program prepares the student for a career 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.

First Semester

ECE 101	Introduction to Early Childhood Education	3
ECE 103	Guidance Strategies for Young Children	3
ECE 238	ECE Child Growth and Development	3

Subtotal: 9**Second Semester**

ECE 102	Intro to ECE Techniques	3
ECE 157	Family Dynamics	1
ECE 161	The Team Process	1
ECE 220	Curriculum Methods/Technologies	3
ECE 260	The Exceptional Child	3

Subtotal: 11**Total Credit Hours: 20****Important Program Notes:**

If starting this certificate in the **spring, complete ECE 157 and ECE 161 in the first semester** and ECE 238 in the second semester.

FOUNDATIONS OF EARLY CHILDHOOD EDUCATION CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Foundations of Early Childhood Education and enter the workforce. It prepares professional educators of young children (birth to age eight) with the foundational knowledge, skills, and dispositions in developmentally appropriate practice, child development, family and community relations, early childhood curriculum and assessment, and professional ethics and equity. Coursework meets or exceeds requirements for "Early Childhood Teacher (ECT)" as outlined in the Colorado Rules Regulating Child Care Centers. Experience hours in early childhood education settings are also required to meet state requirements.

First Semester

ECE 101	Introduction to Early Childhood Education	3
ECE 103	Guidance Strategies for Young Children	3
ECE 238	ECE Child Growth and Development	3
ECE 102	Intro to ECE Techniques	3
ECE 220	Curriculum Methods/Technologies	3
ECE 256	Working w/Families & Communities	3

Subtotal: 18**Total Credit Hours: 18****Important Program Notes:**

CDHS Office of Early Childhood

ASSISTANT EARLY CHILDHOOD TEACHER CERTIFICATE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Assistant Early Childhood Teacher and enter the workforce. It provides an introduction to early childhood education as a profession. Coursework meets the requirements for "Assistant Early Childhood Teacher" as outlined in the Colorado Rules Regulating Child Care Centers. This certificate also meets the coursework requirements for "Early Childhood Teacher" for those individuals with 3,640 hours of verifiable satisfactory work experience as outlined in the Colorado Rules Regulating Child Care Center.

First Semester

ECE 101	Introduction to Early Childhood Education	3
ECE 103	Guidance Strategies for Young Children	3

Subtotal: 6**Total Credit Hours: 6****Important Program Notes:**

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.

ECONOMICS ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Economics. Economic trends and effects of political and social change are explored. Careers often require a master's degree. The Associate of Arts Degree in Economics prepares students to transfer as a junior to a four-year Colorado institution. A BS degree in Economics prepares students for advanced degrees, teaching careers, or employment. Economic analysis skills are needed in many careers. Students will be prepared to work in banking, finance, insurance, investment, and the corporate world.

First Semester

ENG 121	English Composition I: GT-CO1	3
ELECTIVE	ECO 101 or Any Approved Elective List Course	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- AH	Any Arts & Humanities (GT-AH) Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 16**Second Semester**

ELECTIVE	Any Approved Elective List Course	3
ENG 122	English Composition II: GT-CO2	3
MAT 135	Intro to Statistics: GT-MA1	3
ECO 202	Principles of Microeconomics: GT-SS1	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 15**Third Semester**

GT- HI1	Any History (GT-HI1) Course	3
ELECTIVE	Any Approved Elective List Course	3
ECO 201	Principles of Macroeconomics: GT-SS1	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 14

Fourth Semester

MAT 201	Calculus I: GT-MA1	5
GT- AH	Any Arts & Humanities (GT-AH) Course	3
ELECTIVE	Any Approved Elective List Course	3
GT- SC1/2	Any Science (GT-SC1/2) Course	4

Subtotal: 15**Total Credit Hours: 60****Important Program Notes:**

Per the Statewide Transfer Articulation Agreement (STAA), ECO 201 and ECO 202 are required **Social & Behavioral Sciences (GT-SS) courses**.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take (8 credits) two gtPathways Natural & Physical Sciences courses (GTSC1, GT-SC2); one must be with laboratory (GT-SC1)**.

If you **take more credits in mathematics and science** than are listed, it **will reduce the 20 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

ELEMENTARY TEACHER EDUCATION ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA with licensure in Elementary Teacher Education. Elementary Teacher careers require a bachelor's degree. The Associate of Arts degree with an emphasis in Elementary* Education prepares students to transfer as a junior to a four-year institution in Colorado in order to become an elementary teacher. Students interested in majoring in education need to identify the four-year college/university to which they plan to transfer. Each individual institution requires different curriculum electives for graduation. *There are no current statewide articulation agreements in secondary or K-12 education, but students can still effectively pursue these options.

First Semester

EDU 221	Introduction to Education	3
PSY 238	Child Development: GT-SS3	3
MAT 155	Integrated Mathematics I	3
GEO 105	World Regional Geography: GT-SS2	3
ENG 121	English Composition I: GT-CO1	3

Subtotal: 15

Semester Note: Some educator preparation programs **require a B- in ENG 121 as an admission requirement**. However, a C- or better **meets the general education GT-CO1 requirement**.

Second Semester

COM 115	Public Speaking	3
MAT 156	Integrated Mathematics II	3
ENG 122	English Composition II: GT-CO2	3
HIS 121	U.S. History to Reconst: GT-HI1	3
GT- AH	LIT 115/201/202/211/221	3

Subtotal: 15**Third Semester**

POS 111	American Government: GT-SS1	3
SCI 155	Integrated Science I w/Lab: GT-SC1	4
ELECTIVE	Transfer Agreement List Course	3
ELECTIVE	Transfer Agreement List Course	3
ELECTIVE	Transfer Agreement List Course	3

Subtotal: 16**Fourth Semester**

SCI 156	Integrated Science II w/Lab: GT-SC1	4
ELECTIVE	Transfer Agreement List Course	3
ELECTIVE	Transfer Agreement List Course	3
ELECTIVE	Transfer Agreement List Course	3
GEN EDU	Transfer Agreement List Course	1

Subtotal: 14**Total Credit Hours: 60****Important Program Notes:**

Completion of MAT 155 and MAT 156 with a C- or higher **will satisfy the GT Pathways math requirement at some institutions but not all**. At the receiving institution's discretion, students **may be asked to complete a GT-MA1 approved course**.

This degree requires 19 credits of electives which vary per university. Please **work with your Pathways Advisor to review the Transfer Articulation Agreement for more information related to all programs and participating institutions**.

Credits for additional required courses **may not be required** for the major at a receiving 4-year institution. If not required, they **will be applied to the Bachelor's degree as elective credit toward graduation**. Please **check with the receiving institution to determine in which way these courses will be applied**.

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 Pathways Advisor** to monitor your completion progress.

GEOGRAPHY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Geography. Students learn to describe and analyze physical and cultural landscape. Students will explore the earth's surface features and climate, how humans are distributed and the ways in which humans interact with their environment. The program also delves into all aspects of the physical and cultural landscape. This program is designed for students wanting to complete the first two years of a bachelor's degree and transfer to a university to complete a BA in Geography. Careers often require a bachelor's degree.

First Semester

ENG 121	English Composition I: GT-CO1	3
GT- MA1	MAT 121/135 or Any GT-MA1	3
GEO 106	Human Geography: GT-SS2	3
GEO 111	Physical Geography: Landforms w/Lab: GT-SC1	4
ELECTIVE	Any Approved Elective List Course	3
		Subtotal: 16

Semester Notes: GEO 111 is offered at Larimer Campus in fall and spring semesters and Westminster Campus in fall semester only. Online offerings are available every semester.

Second Semester

ENG 122	English Composition II: GT-CO2	3
GEO 112	Phys Geography: Climate, Ecosystems, Lab: GT-SC1	4
GT- HI1	HIS 102/112 or Any GT-HI1	3
GT- SS	POS 205, ECO 201/245, or Any GT-SS 1 or 3	3
ELECTIVE	Any Approved Elective List Course	3
		Subtotal: 16

Semester Notes: GEO 112 is offered at Larimer Campus in fall and spring semesters and Westminster Campus in spring semester only. Online offerings are available every semester.

Third Semester

GEO 105	World Regional Geography: GT-SS2	3
GT- SC1	Any Sciences (GT-SC1) Course	4
GT- SC1	Any Sciences (GT-SC1) Course	4
GT- SS	POS 205, ECO 201/245, or Any GT-SS 1 or 3	3
		Subtotal: 14

Semester Notes: Per the Statewide Transfer Articulation Agreement (STAA), two gtPathway natural & Physical Sciences

courses (GT-SC1 only). **NO** GEO-prefix science courses. GEY 111 is **not recommended**.

Fourth Semester

GT- AH	Any Arts & Humanities (GT-AH) Course	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2
		Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3)**.

Per the Statewide Transfer Articulation Agreement (STAA), if GEO 111, GEO 112, GEO 105, and GEO 106 courses are **not required for the major at a receiving 4-year institution**, they will be applied to the Bachelor's degree as **elective credits toward graduation**. Please **check with the receiving institution** to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), for the 14 elective credits, a maximum of 6 credits **may be in GEO or GIS prefix**.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Sciences courses (GTSC1 only)**. **PLEASE NOTE:** NO GEO-prefix science courses. GEY 111 is **not recommended**. For Adams State, you **must take BIO 111 and CHE 101**.

If you take more credits in mathematics and/or science than are listed, it **will reduce the 14 credit of elective needed**. You **must complete 60 credits** to 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 and select your electives.

You **may take GEO 111 and GEO 112** in either Semester 1 or Semester 2. You **should take the course that is offered at your preferred campus or online** depending on course availability. GEO 111 is offered at Larimer Campus in fall and spring and Westminster Campus only in fall semesters. GEO 112 is offered at Larimer Campus in fall and spring and Westminster Campus only in spring semester. GEO 111 and GEO 112 are available online every semester. Campus offerings vary by semester. You **must take BOTH GEO 111 and GEO 112** to successfully complete the AA degree in Geography.

HISTORY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in History. Students analyze history from economic and political perspectives. Careers often require a bachelor's degree. History is the study of the past in order to help us understand the present. Studying History is much more than learning about people, dates, and events - students also learn important skills that are valuable in many careers. These include strong research and writing skills, strong communication skills, and the ability to use digital collections, analyze source material, and present evidence very clearly. This program introduces students to History and it includes courses that are common to all four-year institutions in Colorado. Career paths for History degree holders include public service, law, business, library management, business, marketing, media, and many more. History degree holders are found in many professions around the world. The Associate of Arts (AA) degree in History prepares students to complete the second half of a Bachelor of Arts (BA) in History at a four-year university.

First Semester

ENG 121	English Composition I: GT-CO1	3
GT- MA1	MAT 120 or Any GT-MA1	3
GT- SS	Any Social Sciences (GT-SS3) Course	3
HIS 121	U.S. History to Reconst: GT-HI1	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 15

Second Semester

ENG 122	English Composition II: GT-CO2	3
ELECTIVE	Any Approved Elective List Course	3
GT- SC1	Any Science (GT-SC1) Course	4
GT- SS	Any Social Sciences (GT-SS3) Course	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 16

Third Semester

HIS 122	U.S. History Since Civil War: GT-HI1	3
GT- HI1	HIS 101/111	3
REQUIRED	COM 115/125	3
GT- SC1/2	Any Science (GT-SC1/2) Course	3
ELECTIVE	Any Approved Elective List Course	3

Subtotal: 15

Fourth Semester

GT- AH	Any Arts & Humanities (GT-AH) Course	3
REQUIRED	HIS 102/112	3
GT- HI1	Any History (GT-HI1) Course	3
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	2

Subtotal: 14

Semester Notes: Per the Statewide Transfer Articulation Agreement (STAA), HIS 101 or HIS 111 **are the History (GT-HI1) required courses**.

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3)**.

Per the Statewide Transfer Articulation Agreement (STAA), if HIS 102 or HIS 112, HIS 121, HIS 122, COM 115 or COM 125, and/or Any GT-HI1 course **are not required for the major at a receiving 4-year institution, they will be applied to the Bachelor's degree as elective credit** toward graduation. Please **check with the receiving institution** to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2); one course must be with required laboratory**.

If you take MAT 120 and/or more credits in science than are listed, it **will reduce the 11 credit of elective needed**. You **must complete 60 credits** to 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 and select your electives.

Paralegal

PARALEGAL/LEGAL ASSISTANT ASSOCIATE OF APPLIED SCIENCE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a two-year AAS Degree in Paralegal and enter the workforce. Students explore torts, contracts, ethics, civil litigation, legal research and e-discovery processes. This AAS degree prepares students to work under the supervision of an attorney preparing legal documents, researching and compiling information, and communicating with clients. Students receive training for careers in a variety of legal areas including contracts and property law, legal ethics, research, and writing. Students will choose electives

in fields such as family law, administrative law, evidence, criminal law, probate and estates, employment law, and intellectual property law. They will gain practical hands-on experience in a local work setting to see firsthand what it is like to be a paralegal.

First Semester

ENG 121	English Composition I: GT-CO1	3
POS 111	American Government: GT-SS1	3
GEN EDU	COM 115/125/220	3
MATH	MAT 120/107	3
PAR 115	Introduction to Law	3

Subtotal: 15

Second Semester

ENG 122	English Composition II: GT-CO2	3
PAR 127	Legal Ethics	3
PAR 116	Torts	3
ELECTIVE	PAR 118/125	3
PAR 211	Legal Research	3

Subtotal: 15

Semester Note: Upon completion of ENG 121, PAR 115, PAR 127, and any 6 credits of elective (select one from PAR 116, PAR 118, PAR 125, or PAR 206), you **should apply for the Foundations of Paralegal/Legal Assistant Certificate** (p. 117).

Third Semester

PAR 201	Civil Litigation	3
PAR 219	E-Discovery and Litigation Technology	3
PAR 212	Legal Writing	3
CAPSTONE	PAR 289/280/287	3
ELECTIVE	PAR 118/125	3

Subtotal: 15

Semester Note: Upon completion of ENG 121, PAR 115, PAR 217, PAR 201, PAR 211, PAR 212, PAR 219, a capstone course (select one from PAR 289, PAR 280, PAR 287), and any 6 credits of elective (select one from PAR 116, PAR 118, PAR 125, or PAR 206), you **should apply for the Paralegal/Legal Assistant Certificate** (p. 117).

Fourth Semester

PAR 206	Business Organizations	3
ELECTIVE	Paralegal Elective Course	3
ELECTIVE	Paralegal Elective Course	3
ELECTIVE	Paralegal Elective Course	3
GEN EDU	Any Approved Elective List Course	3

Subtotal: 15

Total Credit Hours: 60

PARALEGAL/LEGAL ASSISTANT CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Paralegal/Legal Assistant and enter the workforce. Students explore legal ethics, civil litigation, legal research and writing, and e-discovery and litigation technology. This certificate program prepares students for an entry-level career as a legal assistant in a law firm, corporate or government agency setting. This program allows for technical training in the paralegal field and to work effectively with computers and legal research.

First Semester

ENG 121	English Composition I: GT-CO1	3
PAR 115	Introduction to Law	3
PAR 127	Legal Ethics	3
ELECTIVE	PAR 116/118/125/206	3
ELECTIVE	PAR 116/118/125/206	3

Subtotal: 15

Second Semester

PAR 201	Civil Litigation	3
PAR 211	Legal Research	3
PAR 212	Legal Writing	3
PAR 219	E-Discovery and Litigation Technology	3
CAPSTONE	PAR 289/280/287	3

Subtotal: 15

Total Credit Hours: 30

Important Program Notes:

Students **may apply ENG 122 (Composition II - 3 credits) toward the ENG 121 (Composition I - 3 credits) requirement**. Students seeking the **Paralegal Assistant AAS degree MUST complete BOTH ENG 121 AND ENG 122 requirements**.

FOUNDATIONS OF PARALEGAL/LEGAL ASSISTANT CERTIFICATE

Locations: Larimer Campus, Westminster Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one semester Certificate in Foundations of Paralegal/Legal Assistant and enter the workforce. Students explore the skills and technology required to work in a legal office environment. This certificate program prepares students for an entry-level career as a legal office receptionist, clerk, or secretary handling administrative and research duties.

First Semester

ENG 121	English Composition I: GT-CO1	3
PAR 115	Introduction to Law	3
PAR 127	Legal Ethics	3

ELECTIVE	PAR 116/118/125/206	3
ELECTIVE	PAR 116/118/125/206	3
		Subtotal: 15

Total Credit Hours: 15

Important Program Notes:

Students may apply **ENG 122 (Composition II - 3 credits)** toward the **ENG 121 (Composition I - 3 credits)** requirement. Students seeking the Paralegal Assistant AAS degree **MUST complete BOTH ENG 121 AND ENG 122 requirements.**

POLITICAL SCIENCE ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your Pathways Advisor.**

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Political Science. Students explore governmental structure and processes. Careers often require a BA degree or higher. Political Science is the study of the political process, and its students understand the difference between an opinion and an argument. Political science graduates have a passion for political life not only locally, but also globally. Students will discover the origin, development, and operation of political systems and public policy. This program introduces students to Political Science and it includes courses that are common to all four-year institutions in Colorado. Career paths for Political Science degree holders include much more than running for political office. They also include public service, law, international relations, business, political campaigns, and working for charitable organizations. The Associate of Arts (AA) degree in Political Science prepares students to complete the second half of a Bachelor of Arts (BA) in Political Science at a four-year university.

First Semester

POS 105	Intro to Political Science: GT-SS1	3
ENG 121	English Composition I: GT-CO1	3
ECO 202	Principles of Microeconomics: GT-SS1	3
GT- HI1	HIS 122/236 or Any GT-HI1	3
GT- AH	PHI 111/112 or Any GT-AH	3
		Subtotal: 15

Second Semester

POS 111	American Government: GT-SS1	3
ENG 122	English Composition II: GT-CO2	3
ECO 201	Principles of Macroeconomics: GT-SS1	3
GT- MA1	MAT 135/121 or Any GT-MA1	3

ELECTIVE	HIS 247 or Any Approved Elective List Course	3
		Subtotal: 15

Third Semester

POS 225	Comparative Government: GT-SS1	3
GT- SC1	ENV 101, GEO 111/112, or Any GT-SC1	4
GT- AH	LIT 115 or Any GT-AH	3
ELECTIVE	SOC 101 or Any Approved Elective List Course	3
ELECTIVE	PSY 102 or Any Approved Elective List Course	3
		Subtotal: 16

Semester Notes: POS 225 is offered at Larimer Campus in the fall semester and Westminster Campus in spring semester.

Fourth Semester

POS 205	International Relations: GT-SS1	3
GT- SC1	ENV 101, GEO 111/112, or Any GT-SC1	4
ELECTIVE	COM 115 or Any Approved Elective List Course	3
ELECTIVE	GEO 105/106 or Any Approved Elective List Course	3
ELECTIVE	PSY 226 or Any Approved Elective List Course	1
		Subtotal: 14

Semester Notes: POS 205 is offered at Larimer Campus in spring semester and Westminster Campus in fall semester.

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete ENG 121 (GT-CO1) and ENG 122 (GT-CO2) OR ENG 122 (GT-CO2) and gtPathways-approved CO3 course (GT-CO3).**

Per the Statewide Transfer Articulation Agreement (STAA), ECO 201 and ECO 202 **are required Social & Behavioral Sciences (GT-SS) courses.**

Per the Statewide Transfer Articulation Agreement (STAA), if POS 105, POS 111, POS 225, and/or POS 225 **are not required for the major** at a receiving 4-year institution, they **will be applied to the Bachelor's degree as elective** credit toward graduation. Please **check with the receiving institution** to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), you must take two gtPathways Natural & Physical Sciences courses (GT-SC1).

Per the Statewide Transfer Articulation Agreement (STAA), 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 Statewide Transfer Articulation Agreement (STAA)** under the Limitation section.

If you take MAT 120 and/or more credits in mathematics or science than are listed, it **will reduce the 16 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

You **may take POS 205 and POS 225** in either Semester 3 or Semester 4. You **should take the course that is offered at your preferred campus or online** depending on course availability. POS 225 is offered at Larimer Campus in the fall semester and Westminster Campus in spring semester. POS 205 is offered at Larimer Campus in spring semester and Westminster Campus in fall semester. Campus offerings vary by semester. You **must take BOTH POS 205 and POS 225** to successfully complete the AA degree in Political Science.

Psychology

PSYCHOLOGY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Psychology. Human behavior, how the mind works and mental illness are explored. Psychology is the study of the mind and of behavior. It studies both individuals and groups of people, and it often involves case studies. Psychologists try to understand how mental functions affect individual and social behavior. They also explore emotion, motivation, personality, and relationships. Careers often require a BA degree or higher. Careers include school and private counseling, psychiatrist, psychologist, and treatment for youth and adults. This program introduces students to Psychology and it includes courses that are common to all four-year institutions in Colorado. The Associate of Arts (AA) degree in Psychology prepares students to complete the second half of a Bachelor of Science (BA) in Psychology at a four-year university.

This MAP is appropriate for transfer to Colorado public institutions with the exception of **Colorado State University – Fort Collins**. Students intending to complete an Associate of Science degree in Psychology and transfer to University of Colorado – Denver should refer to the MAP for the Associate of Science degree in Psychology (p. 120). Students intending to transfer to **Colorado State University – Fort Collins** should **contact an advisor**.

First Semester

PSY 101	General Psychology I: GT-SS3	3
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ENG 121	English Composition I: GT-CO1	3
REQUIRED	COM 125/115	3
GT- HI1	HIS 215/236/244/247 or Any GT-HI1	3
GT- AH	Any Arts & Humanities (GT-AH) Course	3

Subtotal: 15

Second Semester

PSY 102	General Psychology II: GT-SS3	3
ENG 122	English Composition II: GT-CO2	3
GT- BIO	BIO 105/111 or Any GT-SC1	4
GT- MA1	MAT 135/120/121 or Any GT-MA1	3
ELECTIVE	HWE 124 or Any Approved Elective List Course	2

Subtotal: 15

Third Semester

REQUIRED	PSY 217/226/235/238	3
GT- SC1	BIO 201 or Any Science (GT-SC1) Course	4
ELECTIVE	Any Approved Elective List Course	3
GT- AH	PHI 111/112 or Any GT-AH	3
GT- SS	Any Social Sciences (GT-SS) Course	3

Subtotal: 16

Fourth Semester

REQUIRED	PSY 217/226/235/238	3
REQUIRED	PSY 217/226/235/238	3
GT- SS	Any Social Sciences (GT-SS) Course	3
ELECTIVE	Any Approved Elective List Course	2
GT- AH	Any Arts and Humanities (GT-AH) Course	3

Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), you **must take three gt-Pathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4). No more than two (2) courses from any one category.**

Per the Statewide Transfer Articulation Agreement (STAA), credits for additional required courses (PSY 101, PSY 102, COM 115, COM 125, or three gtPathways Psychology courses (GT-SS3) **may not be required for the major at a receiving 4-year institution**. If not required, they **will be applied to the Bachelor's degree as elective credit toward graduation**. Please **check with the receiving institution** to determine in which way these courses will be applied.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take one gtPathways Biology course (Psychology faculty recommend BIO 105 or BIO 111) from GT-SC1 (course with lab) and one gtPathways (GT-SC1) course of the your choosing.**

If you **take more credits in mathematics and science** than are listed, it **will reduce the 8 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

PSYCHOLOGY ASSOCIATE OF SCIENCE

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BS in Psychology. Human behavior, how the mind works and mental illness are explored. Psychology is the study of the mind and of behavior. It studies both individuals and groups of people, and it often involves case studies. Psychologists try to understand how mental functions affect individual and social behavior. They also explore emotion, motivation, personality, and relationships. This program introduces students to Psychology and it includes courses that are common to all four-year institutions in Colorado. Careers often require a BS degree or higher. Career paths for Psychology BS degree holders include working with medical doctors, psychologists, brain researchers, and biologists. The Associate of Science (AS) degree in Psychology prepares students to complete the second half of a Bachelor of Science (BS) in Psychology at a four-year university. Bachelor of Science degrees in Psychology have added skills in math, sciences, and research.

If students are planning to transfer to University of Colorado-Denver and pursue a B.S. in Psychology, they should use this MAP. If they are intending to transfer to Colorado State University-Ft. Collins (CSU) in Psychology, they should follow the Associate of Arts with No Designation and complete the following courses: PSY 200 (Research Methodology) and PSY 258 (Introduction to Neuropsychology) to satisfy required prerequisites for CSU's upper division psychology courses. Students should ask their Pathways Advisor for details about additional required coursework. If they are intending to transfer to Colorado State University – Pueblo, they should see their Pathways Advisor. If they are intending to transfer to other Colorado Public Universities to pursue a B.A. in Psychology, they should view the MAP for an A.A. in Psychology (p. 119).

First Semester

ENG 121	English Composition I: GT-CO1	3
PSY 101	General Psychology I: GT-SS3	3
ELECTIVE	Any Approved Elective List Course	3
BIO 111	General College Biology I w/Lab: GT-SC1	5

Subtotal: 14

Second Semester

PSY 102	General Psychology II: GT-SS3	3
GT- HI1	HIS 102/122/205/236/244/247 or Any GT-HI1	3
ENG 122	English Composition II: GT-CO2	3
GT- AH	PHI 111/112 or Any GT-AH	3
BIO 112	General College Biology II w/Lab: GT-SC1	5

Subtotal: 17

Third Semester

GT- SS	PSY 217/235 or any GT-SS Course	3
GT- AH	PHI 112, HUM 123, LIT 115/212, or Any GT-AH	3
MAT 121	College Algebra: GT-MA1	4
CHE 111	General College Chemistry I w/Lab: GT-SC1	5

Subtotal: 15

Fourth Semester

GT- SS	PSY 217/235 or any GT-SS Course	3
CHE 112	General College Chemistry II w/Lab: GT-SC1	5
REQUIRED	COM 125/115	3
GT- AH	PHI 112, HUM 123, LIT 115/212, or Any GT-AH	3

Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3).

Per the Statewide Transfer Articulation Agreement (STAA), if you **are planning to transfer to University of Colorado Denver**, you **should complete both two-semester sequences of BIO 111 & BIO 112 and CHE 111 & CHE 112** at the community college; in addition, electives **are restricted to non-Psychology courses**.

You **may take any GT-SC1 or Approved Elective List course** if transferring to CSU-Ft. Collins. In order to earn your Associate of Science degree in Psychology, you **must have two sequential science courses and an additional science course**.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take PHI 111 or PHI 112 and six (6) additional credits from at least two different categories** of gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4).

Per the Statewide Transfer Articulation Agreement (STAA), if credits for additional required courses (PSY 101, PSY 102, and COM 115 or COM 125) **are not required for the major** at a receiving 4-year institution, they **will be applied to the Bachelor's degree** as elective credit toward graduation. Please **check with the receiving institution to determine in which way these courses will be applied**.

If you take more credits in mathematics and science than are listed, it **will reduce the 13 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

SOCIOLOGY ASSOCIATE OF ARTS

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

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your degree and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete the first two years of a bachelor's degree at the community college and transfer to a university to complete a BA in Sociology. Social factors and human behaviors in society are explored. Careers often require a BA degree or higher. Sociology is the study of human social behavior, including its organization and the way it has developed over time. Sociology is a social science that explores human social groups, social problems, and change. This program introduces students to Sociology and it includes courses that are common to all four-year institutions in Colorado. Career paths for Sociology degree holders include management, human resources, training and development, research, social services, mental health services, adoption, child care, youth services, disability services, child welfare, victims' rights, labor rights, community organization, and public relations. The Associate of Arts (AA) degree in Sociology prepares students to complete the second half of a Bachelor of Arts (BA) in Sociology at a four-year university.

First Semester

SOC 101	Intro to Sociology I: GT-SS3	3
GT- AH	PHI 111/112 or Any GT-AH	3
ENG 121	English Composition I: GT-CO1	3
REQUIRED	COM 125/115	3
GT- HI1	HIS 236/215 or Any GT-HI1	3
		Subtotal: 15

Second Semester

SOC 102	Intro to Sociology II: GT-SS3	3
ENG 122	English Composition II: GT-CO2	3
GT- MA1	MAT 135/121 or Any GT-MA1	3
ELECTIVE	Any Approved Elective List Course	3
GT- SS	Any Social Sciences (GT-SS) Course	3
		Subtotal: 15

Third Semester

REQUIRED	Any Sociology Course from GT-SS3	3
REQUIRED	Any Sociology Course from GT-SS3	3
GT- SC1	ENV 101 or Any GT-SC1	4
GT- SS	Any Social Sciences (GT-SS) Course	3

GT- AH	LIT 205, /211/212/246 or Any GT-AH	3
		Subtotal: 16

Fourth Semester

REQUIRED	Any Sociology Course from GT-SS3	3
GT- AH	PHI 111/112 or Any GT-AH	3
GT- SC1	GEO 112, ANT 111, or Any GT-SC1	4
ELECTIVE	Any Approved Elective List Course	3
ELECTIVE	Any Approved Elective List Course	1
		Subtotal: 14

Total Credit Hours: 60

Important Program Notes:

Per the Statewide Transfer Articulation Agreement (STAA), you **may complete** ENG 121 (GT-CO1) and ENG 122 (GT-CO2) **OR** ENG 122 (GT-CO2) and a gtPathways-approved CO3 course (GT-CO3)

Additional SOC courses beyond the 5 courses (15 credit hours) listed in the MAP **may not count toward the Sociology major** at the receiving 4-year institution.

Credits for additional required courses may not be required for the major at a receiving 4-year institution. If not required, they will be **applied to the Bachelor's degree as elective credit toward graduation**. Please **check with the receiving institution to determine in which way these courses will be applied**.

Per the Statewide Transfer Articulation Agreement (STAA), you **must take two gtPathways Natural & Physical Sciences courses (GTSC1)**.

If you **take more credits in mathematics and science** than are listed, it **will reduce the 7 credits of electives needed**. You **must complete 60 credits** to 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 and select your electives.

TEACHING ENGLISH AS A SECOND LANGUAGE/ABROAD

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Teaching English as a Second Language Abroad and enter the workforce. Students explore classroom procedures and techniques in teaching and learning the English language successfully. 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. This certificate program prepares students for careers to teach English to children and adults in countries around the world.

First Semester

TEL 103	Career Strat-TESL Workplace	1
TEL 100	Teaching ESL English Study	3
TEL 102	Proc/Techs for ESL Classroom	3
TEL 225	Second Language Acquisition	3
		Subtotal: 10

Second Semester

EDU 134	Teaching ESL to Adults	3
TEL 289	Capstone	3
		Subtotal: 6

Total Credit Hours: 16**Important Program Notes:**

TEL 225 may be taken in either Semester 1 or Semester 2.

TEACHING ENGLISH AS A SECOND LANGUAGE/K-12

Locations: Boulder County Campus

MY ACADEMIC PLAN

Courses are displayed to show the fastest path to your certificate and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

Program Description

This program is designed for students wanting to complete a one-year (two semester) Certificate in Teaching English as a Second Language K-12 and enter the workforce. Students explore K-12 classroom procedures and techniques in teaching and learning the English language successfully. 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. This certificate prepares students for careers as paraeducators or to earn licensure to teach in an elementary or high school classroom. This program is also appropriate for teachers with a bachelor's degree looking to improve their skills teaching English as a Second Language.

First Semester

TEL 103	Career Strat-TESL Workplace	1
TEL 100	Teaching ESL English Study	3
TEL 102	Proc/Techs for ESL Classroom	3
TEL 225	Second Language Acquisition	3
		Subtotal: 10

Second Semester

TEL 245	ESL in the Content Areas	3
TEL 289	Capstone	3
		Subtotal: 6

Total Credit Hours: 16**Important Program Notes:**

TEL 225 may be taken in either Semester 1 or Semester 2.

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. 132) 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, please review DegreeCheck in the eWOLF Student Dashboard or view your program MAP listed by Career and Academic Community by clicking on the icon on the left.

Degrees by Location

BC = Boulder County Campus

BR = Brighton

L = Larimer Campus

LV = Loveland

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.

Transfer Degrees

Associate of Arts

No Specific Area of Designation/General (p. 130) BC, L, W, OL

Areas of Designation:

Anthropology Associate of Arts (p. 107)	BC, L, W, OL
Art History Associate of Arts (p. 51)	BC, L, W, OL
Business Associate of Arts (p. 20)	BC, L, W, OL
Communication Associate of Arts (p. 52)	BC, L, W, OL
Criminal Justice Associate of Arts (p. 108)	BC, L, W, OL
Early Childhood Teacher Education Associate of Arts (p. 111)	BC, L, W, OL
Economics Associate of Arts (p. 113)	BC, L, W, OL
Elementary Education Associate of Arts (p. 114)	BC, L, W, OL

English Associate of Arts (p. 53)	BC, L, W, OL
French Associate of Arts (p. 54)	BC, L, OL
Geography Associate of Arts (p. 98)	BC, L, W, OL
History Associate of Arts (p. 116)	BC, L, W, OL
Music Associate of Arts (p. 61)	L
Philosophy Associate of Arts (p. 64)	BC, L, W, OL
Political Science Associate of Arts (p. 118)	BC, L, W, OL
Psychology Associate of Arts (p. 119)	BC, L, W, OL
Sociology Associate of Arts (p. 121)	BC, L, W, OL
Spanish Associate of Arts (p. 65)	BC, L, W, OL
Studio Art Associate of Arts (p. 66)	BC, L, W, OL
Theatre (p. 67)	L, OL

Associate of Science

No Specific Area of Designation/General BC, L, W, OL

Areas of Designation:

Chemistry Associate of Science (p. 89)	W
Fermentation Sciences Associate of Science (p. 90)	BC, L
Geology Associate of Science (p. 99)	BC, L, W, OL
Horticulture Business Management Associate of Science (p. 101)	L, W
Environmental Horticulture - Landscape Business Associate of Science (p. 102)	L, W
Mathematics Associate of Science (p. 105)	BC, L, W, OL
Physics Associate of Science (p. 106)	BC, L, W, OL
Psychology Associate of Science (p. 120)	BC, L, W, OL

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
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Career and Technical Education Degrees**Associate of Applied Science**

Accounting (p. 19) (ACC)	BC, W, OL
Applied Technology (p. 67) (<i>Technical College/AVS - Transfer Agreement</i>)	BC, L, W, OL
Architectural and Building Science (p. 68) (AEC)	L
Automation and Engineering Technology (p. 69)	BC
Automotive Technology (p. 71) (ASE)	L, W
Business (BUS)	
Business (p. 21)	BC, W, OL
Business Logistics (p. 22)	W
Computer-Aided Drafting and Design (p. 74) (CAD)	L, W
Computer Information Systems (CIS)	
- Computer Information Systems (p. 25)	BC, W, OL
- Database Administration (p. 26)	BC, L, W
- Programming (p. 26)	BC, L, W, OL
Cybersecurity - Networking & Virtualization (CNG)	
- Cybersecurity (p. 28)	L, W
- Network Technologies (p. 29)	BC, L, W
Early Childhood Education (p. 110) (ECE)	BC, L, W, OL
Electronics Engineering Technology (p. 78)	BC
Forestry, Wildlife & Natural Resources (AQT) (NRE) (FSW)	
- Natural Resources Technology (p. 91)	L
- Forestry Technology (p. 92)	L
- Wildlife Technology (p. 93)	L
Health Information Technology (p. 37) (HIT)	W
Heating, Ventilation, Air Conditioning & Refrigeration (p. 79) (HVA)	LV
Highway Maintenance Management (p. 32) (HWY)	OL
Horticulture and Landscape Technologies (HLT)	L, W
Hospitality & Culinary Arts Management (HOS) (CUA)	
- Culinary & Restaurant Management (p. 33)	L
- Hotel & Event Management (p. 34)	L
Integrative Health Professions (p. 38) (IHP)	L, LV, OL
Interior Architecture & Design (p. 82) (IND)	L
Medical Assisting (MAP)	
- Medical Assisting (p. 41)	BC

Medical Office Technology (MOT)

- Medical Administrative & Billing Specialist (p. 42) BC

Multimedia Technology (MGD)

- Digital Animation (p. 55) BC, W

- Graphic Design (p. 56) BC, L, W

- Video Production & Editing (p. 56) BC, W

- Web Design (p. 57) BC, W

Nursing (p. 44) (NUR) L, W

Paralegal Studies (p. 116) (PAR) L, W

Recording Arts Technology (p. 62) (MUS) L, W

Surgical Technology (p. 49) (STE) L, W

Veterinary Technology (p. 50) (VET) L

Welding Technology (p. 85) (WEL) L

Associate of General Studies

No Specified Area/General (p. 131) BC, L, W

Associate of Science**Associate of Science General Degree**

General AS Degree (p. 130) BC, L, W, OL

Certificates**Accounting (ACC) Certificates**

- Bookkeeping (p. 19) BC, L, W, OL

- Tax Preparation (p. 20) BC, W, OL

Architectural & Building Science (AEC) Certificate

- Architectural Drafting (p. 68) L, W

Automation & Engineering Technology (AET) Certificates

- Industrial Automation & Robotics (p. 70) BC

- Industrial Maintenance (p. 69) BC

- Manufacturing Fundamentals (p. 70) BC

Automotive Technology (ASE) Certificates

- Automatic Transmission/Transaxle (p. 73) L, W

- Automotive Electrical/Electronic Systems (p. 72) L, W

- Automotive Heating & Air Conditioning (p. 74) L, W

- Brakes (p. 73) L, W

- Engine Performance (p. 72) L, W

- Engine Repair (p. 72) L, W

- General Automotive Maintenance & Repair (p. 73) L, W

- Manual Drivetrain and Axles (p. 74) L, W

- Suspension and Steering (p. 74) L, W

Business (BUS) Certificates

- Business Specialization (p. 24)	BC, L, W, OL
- Foundations of Business (p. 23)	BC, BR, L, W, OL
- Foundations of Leadership & Management (p. 24)	BC, OL
- International Business Basics (p. 24)	BC, OL
- Logistics (p. 23)	W
- Project Management (p. 25)	BR, W
- Retail Management (p. 22)	BR, W, OL
- Small Business Operations (p. 25)	BC, BR, L, W, OL
- Small Business Ownership (p. 23)	BC, BR, L, W, OL

Computer-Aided Drafting & Design (CAD) Certificates

- 3D Printing & 3D Scanning (p. 75)	L, W
- Basic Computer-Aided Drafting & Design (p. 76)	L, W
- Revit (p. 75)	L, W
- Sketchup (p. 76)	L, W
- Solidworks (p. 76)	L, W

Computer Information Systems (CIS) Certificates

- Applications Specialist (p. 28)	BC, L, W, OL
- Database (p. 28)	BC, L, W
- Programming (p. 27)	BC, L, W, OL
- Web Developer (p. 27)	BC, L, W, OL

Cybersecurity (CNG) Certificates

- Cloud Computing & Virtualization (p. 31)	L, W
- Cybersecurity Fundamentals (p. 30)	L, W
- Linux Server Administration (p. 32)	BC, L
- Network Infrastructure (p. 31)	L
- Network Technician (p. 31)	L, W
- Networking Basics (p. 32)	L, W
- Windows Server Administration (p. 30)	L

Construction Trades (CON) Certificates**(Offered only with our partnering high school programs)**

- Construction Essentials (p. 77)	
- Construction Fundamentals (p. 77)	
- Electrical Fundamentals (p. 77)	
- Plumbing Fundamentals (p. 77)	

Criminal Justice, Law Enforcement Academy (LEA) & Public Safety (CRJ) Certificates

- Peace Officers Standards and Training (p. 109)	L
- Public Safety Dispatch (p. 110)	W

Dental Assisting (DEA) Certificate

- Dental Assisting (p. 35)	L
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Early Childhood Education (ECE) Certificates

- Assistant Early Childhood Teacher (p. 113)	BC, L, W, OL
- Early Childhood Director (p. 111)	BC, L, W, OL
- Early Childhood Education for Paraeducators (p. 112)	BC, L, W, OL
- Foundations of Early Childhood Education (p. 112)	BC, L, W, OL

Electronics Engineering Technology (EET) Certificates

- Basic Electronics (p. 78)	BC
- Electronics Assembly (p. 79)	BC
- Electronic Systems & Automation (p. 79)	BC

Emergency Medical Services (EMS) Certificates

- Clinical EMT (p. 36)	BC, L, W
- Emergency Medical Technician (p. 36)	BC, L, W

Forestry, Wildlife, & Natural Resources (AQT) (FST) (NRE) Certificates

- Environmental Education (p. 95)	L
- Forestry (p. 95)	L
- Natural Resources (p. 94)	L
- Natural Resources Geographic Information Systems (p. 94)	L
- Natural Resources Recreation (p. 94)	L
- Wildland Fire (p. 95)	L
- Wildlife (p. 96)	L

Geographic Information Systems (GIS) Certificates

- Foundations of Geographic Information Systems (p. 98)	BC
- Geographic Information Systems (p. 97)	BC

Health Information Technology (HIT) Certificate

- Medical Coding (p. 37)	W
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Heating, Ventilation, Air Conditioning & Refrigeration (HVA) Certificates

- Residential Air Conditioning and Heating (p. 80)	LV
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- Light Commercial Air Conditioning and Heating (p. 81)	LV	Medical Office Technology (MOT) Certificates	
- Commercial Refrigeration (p. 81)	LV	- Medical Billing Specialist (p. 43)	BC
- HVAC/R Fundamentals (p. 82)	LV	- Medical Office Specialist (p. 42)	BC
Horticulture & Landscape Technologies (HLT) Certificates		Multimedia Technology (MGD) Certificates	
- Floral Design (p. 102)	L	- Digital Animation (p. 55)	W
- Horticulture (p. 103)	L, W	- Digital Imaging (p. 58)	L, W
- Irrigation Technician (p. 105)	L, W	- Fundamentals in Multimedia Technology (p. 61)	BC, L, W
- Landscape Contracting Technician (p. 103)	L	- Graphic Design (p. 59)	BC, L, W
- Landscape Design (p. 103)	W	- Multimedia (p. 59)	BC, L, W
- Landscape Maintenance Technician (p. 104)	L, W	- Video Production and Editing (p. 60)	BC, W
- Nursery, Greenhouse and Garden Center Management (p. 104)	L, W	- Web Design (p. 60)	BC, W
- Tree Care Technician (p. 104)	W	Optics Technology Certificate	
Hospitality & Culinary Arts Management (HOS) Certificates		- Optics Technology (p. 83)	BC
- Culinarian (p. 34)	L	Nurse Aide (NUA) Certificate	
- Foundations of Culinary Arts (p. 35)	L	- Nurse Aide (p. 47)	L, W
- Restaurant Management (p. 35)	L	Practical Nursing (NUR) Certificates	
Integrative Health Professions (IHP) Certificates		- Practical Nursing - Exit Option (p. 46)	L, W
- Aromatherapy (p. 40)	L	- Practical Nursing (p. 46)	L
- Integrative Health Professions (p. 40)	L, OL	Paralegal Studies (PAR) Certificates	
- Integrative Health and Wellness Coaching (p. 38)	L	- Foundations of Paralegal/Legal Assistant (p. 117)	L, W
- Massage Therapy (p. 39)	L	- Paralegal/Legal Assistant (p. 117)	L, W
- Reflexology (p. 39)	L	Patient Care Technician (PCT) Certificates	
- Yoga Teacher (p. 40)	L	- Electrocardiogram (p. 47)	L, W
Interior Architecture & Design (IND) Certificates		- Health Care Customer Service Basics (p. 48)	BR, W, OL
- Fundamentals in Interior Design, Drafting & Communications (p. 83)	L	- Patient Care Technician (p. 47)	L, W
- Kitchen & Bath Design (p. 83)	L	Pharmacy Technician (PHT) Certificate	
Machining Technology (MAC) Certificates		- Pharmacy Technician (p. 48)	W
- CNC Machining (p. 84)	BC	Phlebotomy (HPR) Certificate	
- Manual Machining (p. 85)	BC	- Phlebotomy (p. 48)	L, W
- Precision Machining Technology (p. 84)	BC	Recording Arts Technology (MUS) Certificates	
Massage Therapy (MST) Certificate		- Foundations of Recording Arts Technology (p. 64)	L, W
- Massage Therapy (p. 39)	L	- Recording Arts Technology (p. 63)	L, W
Medical Assisting (MAP) Certificate		Sterile Processing Technology (SPI) Certificate	
- Medical Assisting (p. 41)	BC, L, W	- Sterile Processing (p. 49)	W

Teaching English as Second Language (TEL) Certificates

- Teaching English as a Second Language/Abroad (p. 121) BC
- Teaching English as a Second Language/K-12 (p. 122) BC

Veterinary Technology (VET) Certificate

- Veterinary Assistant (p. 50) L

Welding Technology (WEL) Certificates

- Comprehensive Welding (p. 86) L
- Creative Metalworking (p. 87) L
- Gas Metal Arc Welding (MIG) (p. 87) L
- Gas Tungsten Arc Welding (TIG) (p. 88) L
- Metal Fabrication (p. 86) L
- Oxyacetylene Welding (p. 88) L
- Pipe Welding (p. 86) L
- Shielded Metal Arc Welding (p. 87) L
- Welding Fundamentals (p. 88) L

Other Degrees**Associate of General Studies**

- General AGS Degree (p. 131) BC, L, W, OL

Degree/Elective Information

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.

Degree Descriptions

To learn more about the different types of 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 bachelor and associate degrees and certificates offered at FRCC.

B.A.S. Degrees

This degree prepares students to enter the workforce in skilled and technical occupations. It builds upon an Associate of Applied Science (A.A.S.) degree enhancing employment opportunities. The B.A.S. degree incorporates applied hands-on learning in a specific area of study (e.g. Geospatial Science (p. 96) or Nursing (p. 43)). View programs by location (p. 123) or by career & academic community (CAC) by clicking on the icon on the left.

GEOSPATIAL SCIENCE BACHELOR OF APPLIED SCIENCE

Locations: Boulder County Campus

MY ACADEMIC PLAN**Program Description**

This program is designed for students wanting to complete a four-year BAS Degree in Geospatial Science and enter the workforce. Students explore both theoretical and practical experience in geospatial science. This degree path prepares students to perform professional geospatial science-based work using geographic information systems (GIS), remote sensing, programming, databases, unmanned aerial vehicles (UAVs), and global navigation satellite system (GNSS) technologies. Upon completion, students will be qualified for career opportunities in numerous fields such as analyst, scientist, instructor, and biological science or security agency environments. Students will also be qualified to continue on to a Master's program in a geospatial field if desired.

This BAS degree is intended to be a continuation of the AAS in GIS from Front Range Community College, but the courses are open to non-degree seeking students as well. All students must complete the GIS Certificate coursework along with MAT 135 (p. 240) (Introduction to Statistics), and ENG 121 (p. 211) (English Composition I) prior to beginning upper-level coursework for the BAS.

Transfer credits from accredited programs will be considered.

First Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

ENG 121	English Composition I: GT-CO1	3
GIS 101	Introduction to Geographic Information Systems	3
GIS 110	Intro to Cartography for GIS	3
GIS 150	Relational Database Mgmt for GIS	3
ELECTIVE	BUS 217 or MAR 216	3

Subtotal: 15

Second Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

GIS 131	Global Positioning Sys for GIS	3
GIS 210	Intermediate Geographic Information Systems	3
MAT 135	Intro to Statistics: GT-MA1	3
GIS 212	GIS Remote Sensing - Digital Image	4
COM 220	Intercultural Communication: GT-SS3	3

Subtotal: 16

Semester Note: Upon completion of GIS 101, GIS 110, GIS 150, and GIS 131, you **should apply for the Foundations of Geographic Information Systems Certificate.**

Third Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

GIS 165	GIS Project Management	3
GIS 260	GIS Survey I	3
MAN 225	Managerial Finance	3
ELECTIVE	BUS 102 or MAN 216	3

Subtotal: 12

Fourth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

GIS 211	Spatial Data Modeling & Analysis for GIS	4
GIS 261	GIS Survey II	3
GIS 205	Geographic Information Systems Applications	3
GEN EDU	GEO 111 or GEY 135	4
CAPSTONE	GIS 280/289	3

Subtotal: 17

Semester Note: Upon completion of GIS 101, GIS 110, GIS 150, GIS 131, GIS 165, GIS 205, GIS 210, GIS 211, and GIS 212, you **should apply for the Geographic Information Systems Certificate.**

Fifth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

GIS 335	Geospatial Statistics	4
CSC 119	Introduction to Programming	3
GIS 301	GIS for Natural Sciences	3
GIS 350	Advanced Database for GIS	4
GEO 106	Human Geography: GT-SS2	3

Subtotal: 17

Sixth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

ELECTIVE	MGD 112/133/141	3
GIS 410	Geomorphology and GIS	4
GIS 411	Hydrology Analysis with GIS	4
CSC 160	Computer Science I: (Language)	4

Subtotal: 15

Seventh Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

GIS 312	Advanced Remote Sensing	4
GIS 311	Advance Spatial Analysis	4
GIS 305	Programming for GIS	3
GEN EDU	PHY 105, BIO 105/221, CHE 105, or GEO 111	4

Subtotal: 15

Eighth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

GIS 412	Photogrammetry and LiDAR	4
ELECTIVE	Emphasis Course	3
ELECTIVE	Emphasis Course	3
GIS 488	Practicum	4

Subtotal: 13

Total Credit Hours: 120

NURSING BACHELOR OF SCIENCE

Locations: Online Learning

MY ACADEMIC PLAN

Program Description

This program is designed for students wanting to complete a four-year BSN Degree in Nursing and enter the workforce. Students explore procedures to provide and manage care in various health care facilities. Students acquire skills and techniques to perform in nursing care facilities, hospitals, clinics, physician offices, research laboratories, pharmaceutical companies, education institutions, state, public and government institutions, insurance and law firms, and private companies. The RN to BSN program is a continuation of preparation for entry-level nursing practice as a registered nurse. The program is a combination of hybrid and online courses, and can be completed in four semesters full-time. For students currently enrolled in the associate degree nursing program as well as those working full-time as a registered nurse, the program is flexible allowing extended time to earn a degree. As some employers show a preference for baccalaureate prepared nurses, the BSN can increase eligibility for nursing roles in direct patient care and leadership. The student must be licensed as a registered nurse prior to completion of the RN-BSN program.

First Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed.** If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows.** If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

ENG 121	English Composition I: GT-CO1	3
PSY 235	Human Growth & Development: GT-SS3	3
BIO 201	Human Anatomy & Physiology I w/Lab: GT-SC1	4
NUTRITION	HPR 108 or HWE 100	1
BIO 204	Microbiology w/Lab: GT-SC1	4

Subtotal: 15-17

Semester Note: First Semester courses are **required and must be taken prior to program admittance**. These are fall semester courses. You **should complete the Nursing Program application process** prior to declaring as a nursing student and **take Semester 2 through Semester 9 as a full-time nursing student**. You should plan to take Semester 3, 6, and 9 in Summer Semesters.

Second Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

NUR 109	Fundamentals of Nursing	6
NUR 112	Basic Concepts of Pharmacology	2
BIO 202	Human Anatomy & Physiology II w/Lab: GT-SC1	4
MAT 103	Math for Clinical Calculations	3

Subtotal: 15

Semester Note: You **must complete this program** as a full-time nursing student beginning in Semester 2 (spring semester). **Contact an advisor** regarding your scheduling needs.

Third Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

ENG 122	English Composition II: GT-CO2	3
MAT 135	Intro to Statistics: GT-MA1	3
GT- HI1	Any History (GT-HI1) Course	3
GT- SS	Any Social & Behavioral Science (GT-SS) Course	3

Subtotal: 12

Semester Note: **MAT 135** is a prerequisite to NUR 303. Courses in Semester 3, 6, and 9 **should be completed in summer semesters**.

Fourth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

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

Subtotal: 17

Semester Note: The program requires 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 availability varies. Please check with the Nursing program director.**

Fifth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

NUR 206	Advanced Concepts of M/S Nursing I	6.5
NUR 212	Pharmacology II	2
NUR 211	Psychiatric-Mental Health Nursing	4
ELECTIVE	NUR 304/305/306/307	3

Subtotal: 15.5

Sixth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

GEN EDU	Any Arts & Humanities (GT-AH) Course	3
GEN EDU	Any GT-AH, GT-HI, or GT-SS Course	3
GEN EDU	Any GT-AH or GT-SS Course	3

Subtotal: 9

Semester Note: Courses in Semester 3, 6, and 9 **should be completed in summer semesters**.

Seventh Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your Pathways Advisor**.

NUR 216	Advanced Concepts of M/S Nursing II	5
NUR 230	Transition to Professional Nursing Practice	4
NUR 301	Integration into Baccalaureate Nursing Practice	3
NUR 302	Trends in Nursing Practice	3

Subtotal: 15

Eighth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have

questions or concerns about your MAP, please **see your Pathways Advisor**.

NUR 303	Nursing Research/Evidence Based Practice	3
NUR 410	Community Health Nursing Practicum	6
NUR 408	Legal/Ethical Issues	3
ELECTIVE	NUR 304/305/306/307	3

Subtotal: 1

Ninth Semester

Courses are displayed to show the fastest path to your award and **should be completed in the order listed**. If you are unable to complete all courses listed in a semester, **complete as many courses in this sequence as your schedule allows**. If you have questions or concerns about your MAP, please **see your**

Pathways Advisor.

NUR 409	Leadership in the Nursing Profession	3.5
NUR 411	Senior Seminar	3

Subtotal: 6.5

Semester Note: Courses in Semester 3, 6, and 9 should be completed in summer semesters.

Total Credit Hours: 120

A.S. DEGREE

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

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 may pursue an associate of science degree with designation in the following areas: biology (p. 88), chemistry (p. 89)*, geology (p. 99), fermentation sciences (p. 90), horticulture business management (p. 101), environmental horticulture-landscape business (p. 102), mathematics, (p. 105) physics (p. 106), or psychology (p. 120).

Many students find **tailoring the AS Degree works well** when transferring in **biology** (p. 88), **chemistry** (p. 89), **geology** (p. 99), and **physics** (p. 106). **Students should work with an advisor to determine which pathway is best for them.**

While a student **may tailor the general 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 an indication of a more specific area of study unless the student completes the requirements for an associate of science degree with designation.

**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 Pathways 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.*

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.

A.A. DEGREE

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

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 (p. 107), art history (p. 51), business (p. 20), communication (p. 52), criminal justice (p. 108), economics (p. 113), early childhood education (p. 111), elementary education (p. 114), English (literature emphasis) (p. 53), French (p. 54), geography, history (p. 116), music (p. 61), philosophy (p. 64), political science (p. 118), psychology (p. 119), sociology (p. 121), Spanish (p. 65), studio art (p. 66), and theater (p. 67).

While a student may tailor the general 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 an indication of a more specific area of study unless the student completes the requirements for one of the areas of designation noted above.

Total Credit Hours: 60

- 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.

AAS Degrees & Certificates

These degrees prepare 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.

A.G.S. DEGREE

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

The Associate of General Studies (AGS) 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.

Total Credit Hours: 60

- A minimum of 15 credits must be completed from approved gtPathways (Guaranteed Transfer) coursework (p. 132).
- 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.

ELECTIVE LISTS

Students completing an Associate Degree at FRCC may need to complete elective courses when specified. The Approved Elective List (p. 131) 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. 132) 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 (p. 132).

The statement "or higher" does not include specialized courses (p. 136).

CATEGORIES & COURSES

Mathematics & Science

Includes GT-MA1 (p. 133); GT-SC1 (p. 133); GT-SC2 (p. 134) and courses below:

- AQT 102
- ANT 111
- AST 101, AST 102, AST 160 (p. 189)
- BIO 105 or higher (p. 189)
- CHE 101 or higher (p. 193)
- CSC 119 or higher (p. 200)
- ENV 101, ENV 110
- FER 101, FER 102, FER 201, FER 203
- GEO 111, GEO 112, GEO 160
- GEY 108, GEY 111 or higher (p. 215)
- GIS 101 or higher (p. 216)
- HLT 101 or higher {excludes HLT 208, HLT 216, HLT 249}
- MAT 120 or higher (p. 239)
- MET 150
- NRE 100, NRE 110, NRE 121, NRE 200, NRE 204, NRE 205, NRE 225
- PHY 105 or higher (p. 259)
- SCI 105 or higher (p. 262)

Liberal Arts, Communication & Design

Includes GT-AH1; (p. 132) GT-AH2 (p. 132); GT-AH3 (p. 133); GT-AH4 (p. 133) and courses below. Courses in Multimedia, Manufacturing, Drafting & Design³ are highly dependent on transfer institution and major.

- Communication

- COM 115 or higher (p. 198)
- ENG 121 or higher (p. 211)
- HIS 265: CO3

- Arts & Expression

- ART 107 or higher (p. 183)
- DAN 105 or higher (p. 202)²
- MUS 100 or higher (p. 246)
- THE 105 or higher (p. 265)

- Literature & Humanities

- HUM 103 or higher (p. 224)
- LIT 115 or higher (p. 235)

- Ways of Thinking

- PHI 111 or higher (p. 257)

- World Languages

- ARA 101 or higher (p. 182)
- ASL 101 or higher (p. 188)
- CHI 101 or higher (p. 194)
- FRE 101 or higher (p. 213)
- GER 101 or higher (p. 215)
- ITA 101 or higher (p. 233)
- JPN 101 or higher (p. 234)
- RUS 101 or higher (p. 261)
- SPA 101 or higher (p. 263)

- 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
- 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 (p. 134); GT-SS2 (p. 134); GT-SS3 (p. 134); GT-HI1 (p. 133) and courses below. Courses in Education³ are highly dependent on transfer institution and major.

- History

- HIS 101 or higher (p. 218), {excludes HIS 265: CO3}

- Economic & Political Systems

- ECO 101 or higher (p. 206)
- POS 105 or higher (p. 260)

- Geography

- GEO 105, GEO 106, GEO 165, GEO 200

- Human Behavior, Culture, or Social Framework

- ANT 101 or higher (p. 181), {excludes ANT 111: SC1}
- COM 220
- CRJ 110 or higher (p. 199)
- ETH 200 or higher (p. 213)
- JOU 105 or higher (p. 234)
- PSY 101 or higher (p. 260)
- SOC 101 or higher (p. 262)
- WST 200 or higher (p. 270)

- Education³

- ECE 101 or higher (p. 204)
- EDU 111 or higher (p. 207)

Business & Information Technology

Includes no GT pathway courses. Courses in Business & Information Technology³ are highly dependent on transfer institution and major.

- ACC 101 or higher (p. 178)
- BUS 102 or higher (p. 190)
- CIS 115 or higher (p. 194)
- ENP 105
- FIN 201
- HOS 110, HOS 141
- MAN 103 or higher (p. 237)
- MAR 106 or higher (p. 238)

Military Leadership

- AIR 101 or higher (p. 180)
- ARM 111 or higher (p. 182)

Outdoor Studies, Physical Education & Wellness

- IHP 101, IHP 201, IHP 204, IHP 240, IHP 260, IHP 261, IHP 262, IHP 263
- HPR 108, HPR 117, HPR 137, HPR 205 or HPR 208
- HWE 100 or higher (p. 226) {excludes HWE 121}
- OUT 126 or higher (p. 254)²
- PED 101 or higher (p. 256)²

¹AAS degrees (p. 130) and AA & AS Degrees with Designation (p. 135) 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.

GT PATHWAY COURSES

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 TRANSFER (GT) PATHWAYS GENERAL EDUCATION CURRICULUM

Arts and Expression • Arts GT Courses - AH1

GT-AH1 Courses

ART 110	Art Appreciation: GT-AH1	3
ART 111	Art History Ancient to Medieval: GT-AH1	3
ART 112	Art History Renaissance to 1900: GT-AH1	3
ART 207	Art History 1900 to Present: GT-AH1	3
COM 130	Communication & Popular Culture: GT-AH1	3
DAN 125	Dance History: GT-AH1	3
DAN 150	Dance Appreciation: GT-AH1	3
ENG 221	Creative Writing I: GT-AH1	3
MUS 120	Music Appreciation: GT-AH1	3
MUS 121	Music History Medieval - Classical: GT-AH1	3
MUS 122	Music History Romantic - Present: GT-AH1	3
MUS 123	Survey of World Music: GT-AH1	3
MUS 125	History of Jazz: GT-AH1	3
THE 105	Theatre Appreciation: GT-AH1	3
THE 108	Theatre Script Analysis: GT-AH1	3
THE 211	Dev of Theatre Greek-Renaissance: GT-AH1	3
THE 212	Dev Theatre Restoration - Modern: GT-AH1	3
THE 215	Playwriting: GT-AH1	3

Literature and Humanities • GT Courses - AH2

GT-AH2 Courses

HUM 103	Intro to Film Art: GT-AH2	3
HUM 115	World Mythology: GT-AH2	3
HUM 121	Humanities: Early Civilization: GT-AH2	3
HUM 122	Humanities: Medieval-Modern: GT-AH2	3
HUM 123	Humanities: Modern World: GT-AH2	3
LIT 115	Intro to Literature I: GT-AH2	3

LIT 201	World Literature to 1600: GT-AH2	3	HIS 207	American Environmental History: GT-HI1	3
LIT 202	World Literature After 1600: GT-AH2	3	HIS 208	American Indian History: GT-HI1	3
LIT 205	Ethnic Literature: GT-AH2	3	HIS 215	Women in U.S. History: GT-HI1	3
LIT 211	American Lit to Civil War: GT-AH2	3	HIS 218	History of Science and Tech: GT-HI1	3
LIT 212	American Lit After Civil War: GT-AH2	3	HIS 225	Colorado History: GT-HI1	3
LIT 221	British Literature to 1770: GT-AH2	3	HIS 235	History of American West: GT-HI1	3
LIT 222	British Literature Since 1770: GT-AH2	3	HIS 236	U.S. History Since 1945: GT-HI1	3
LIT 225	Intro to Shakespeare: GT-AH2	3	HIS 243	History of Modern China: GT-HI1	3
LIT 246	Literature of Women: GT-AH2	3	HIS 244	History of Latin America: GT-HI1	3
LIT 259	Survey African American Lit: GT-AH2	3	HIS 245	U.S. in the World: GT-HI1	3
LIT 268	Celtic Literature: GT-AH2	3	HIS 246	History of Mexico: GT-HI1	3
Ways of Thinking • GT Courses - AH3			HIS 247	20th Century World History: GT-HI1	3
GT-AH3 Courses			HIS 249	History of Islamic Civiliz: GT-HI1	3
PHI 111	Introduction to Philosophy: GT-AH3	3	HIS 250	African American History: GT-HI1	3
PHI 112	Ethics: GT-AH3	3	HIS 251	History Christianity in the World: GT-HI1	3
PHI 113	Logic: GT-AH3	3	HIS 255	The Middle Ages: GT-HI1	3
PHI 114	Comparative Religions: GT-AH3	3	HIS 259	Modern Middle East: GT-HI1	3
PHI 115	World Religions - West: GT-AH3	3	HIS 260	US Foreign Relations History: GT-HI1	3
PHI 116	World Religions - East: GT-AH3	3	Mathematics • GT Courses - MA1		
PHI 205	Business Ethics: GT-AH3	3	GT-MA1 Courses		
PHI 214	Philosophy of Religion: GT-AH3	3	MAT 120	Math for Liberal Arts: GT-MA1	4
PHI 218	Environmental Ethics: GT-AH3	3	MAT 121	College Algebra: GT-MA1	4
PHI 220	Philosophy Death & Dying: GT-AH3	3	MAT 122	College Trigonometry: GT-MA1	3
World Languages • GT Courses - AH4			MAT 123	Finite Mathematics: GT-MA1	4
GT-AH4 Courses			MAT 125	Survey of Calculus: GT-MA1	4
FRE 211	French Language III: GT-AH4	3	MAT 135	Intro to Statistics: GT-MA1	3
FRE 212	French Language IV: GT-AH4	3	MAT 166	Pre-Calculus: GT-MA1	5
GER 211	German Language III: GT-AH4	3	MAT 201	Calculus I: GT-MA1	5
GER 212	German Language IV: GT-AH4	3	MAT 202	Calculus II: GT-MA1	5
ITA 211	Italian Language III: GT-AH4	3	MAT 203	Calculus III: GT-MA1	4
ITA 212	Italian Language IV: GT-AH4	3	MAT 204	Calculus III/Engineer Applications: GT-MA1	5
JPN 211	Japanese Language III: GT-AH4	3	MAT 215	Discrete Mathematics: GT-MA1	4
JPN 212	Japanese Language IV: GT-AH4	3	MAT 261	Diff Equations/Engineering App. GT-MA1	4
RUS 211	Russian Language III: GT-AH4	3	MAT 265	Differential Equations: GT-MA1	3
RUS 212	Russian Language IV: GT-AH4	3	Natural and Physical Sciences • GT Courses - SC1		
SPA 211	Spanish Language III: GT-AH4	3	GT-SC1 Courses		
SPA 212	Spanish Language IV: GT-AH4	3	AGY 240	Introductory Soil Science: GT-SC1	4
Communication • GT Courses - CO1			ANT 111	Biological Anthropology with Laboratory: GT-SC1	4
GT-CO1 Courses			AST 101	Planetary Astronomy w/Lab: GT-SC1	4
ENG 121	English Composition I: GT-CO1	3	AST 102	Stellar Astronomy w/Lab: GT-SC1	4
ENG 131	Technical Writing I: GT-CO1	3	BIO 104	Biology: A Human Approach: GT-SC1	4
Communication • GT Courses - CO2			BIO 105	Science of Biology with Lab: GT-SC1	4
GT-CO2 Courses			BIO 111	General College Biology I w/Lab: GT-SC1	5
ENG 122	English Composition II: GT-CO2	3	BIO 112	General College Biology II w/Lab: GT-SC1	5
Communication • GT Courses - CO3			BIO 201	Human Anatomy & Physiology I w/Lab: GT-SC1	4
GT-CO3 Courses			BIO 202	Human Anatomy & Physiology II w/Lab: GT-SC1	4
ENG 201	English Composition III: GT-CO3	3	BIO 204	Microbiology w/Lab: GT-SC1	4
HIS 265	Writing About History: GT-CO3	3	BIO 208	General College Microbiology w/Lab: GT-SC1	5
History • GT Courses - HI1			BIO 220	General Zoology with Lab: GT-SC1	5
GT-HI1 Courses			BIO 221	Botany w/Lab: GT-SC1	5
HIS 101	Western Civ: Antiquity-1650: GT-HI1	3	BIO 224	Genetics	4
HIS 102	Western Civ: 1650-Present: GT-HI1	3			
HIS 111	The World: Antiquity-1500: GT-HI1	3			
HIS 112	The World: 1500-Present: GT-HI1	3			
HIS 121	U.S. History to Reconst: GT-HI1	3			
HIS 122	U.S. History Since Civil War: GT-HI1	3			
HIS 203	Civil War Era American History: GT-HI1	3			
HIS 205	Women in World History: GT-HI1	3			

CHE 101	Intro to Chemistry I w/Lab: GT-SC1	5	ECO 201	Principles of Macroeconomics: GT-SS1	3
CHE 102	Introduction to Chemistry II with Lab	5	ECO 202	Principles of Microeconomics: GT-SS1	3
CHE 105	Chemistry in Context w/Lab: GT-SC1	5	ECO 211	Gender in the Economy: GT-SS1	3
CHE 111	General College Chemistry I w/Lab: GT-SC1	5	ECO 245	Environmental Economics: GT-SS1	3
CHE 112	General College Chemistry II w/Lab: GT-SC1	5	POS 105	Intro to Political Science: GT-SS1	3
ENV 101	Environmental Science w/Lab: GT-SC1	4	POS 111	American Government: GT-SS1	3
GEO 111	Physical Geography: Landforms w/Lab: GT-SC1	4	POS 125	American State & Local Govt: GT-SS1	3
GEO 112	Phys Geography: Climate, Ecosystems, Lab: GT-SC1	4	POS 205	International Relations: GT-SS1	3
GEY 111	Physical Geology w/Lab: GT-SC1	4	POS 215	Current Political Issues: GT-SS1	3
GEY 112	Historical Geology w/Lab: GT-SC1	4	POS 225	Comparative Government: GT-SS1	3
GEY 135	Environmental Geology w/Lab: GT-SC1	4	Geography • GT Courses -SS2		
GEY 216	General Oceanography w/Lab: GT-SC1	4	GT-SS2 Courses		
MET 150	General Meteorology w/Lab: GT-SC1	4	GEO 105	World Regional Geography: GT-SS2	3
PHY 105	Conceptual Physics w/Lab: GT-SC1	4	GEO 106	Human Geography: GT-SS2	3
PHY 107	Energy Science & Tech w/Lab: GT-SC1	4	Human Behavior, Culture or Social Frameworks • GT Courses -SS3		
PHY 111	Physics: Algebra-Based I w/Lab: GT-SC1	5	GT-SS3 Courses		
PHY 112	Physics: Algebra-Based II w/Lab: GT-SC1	5	The State Guaranteed General Education content areas are identified by the following designations:		
PHY 211	Physics: Calculus-Based I w/Lab: GT-SC1	5	Written Communication - 6 Credit Hours		
PHY 212	Physics: Calculus-Based II w/Lab: GT-SC1	5	2 courses		
SCI 155	Integrated Science I w/Lab: GT-SC1	4	- Introductory Writing Course (GT-CO1) and Intermediate Writing Course (GT-CO2)		
SCI 156	Integrated Science II w/Lab: GT-SC1	4	OR		
SCI 155 & SCI 156 are intended for Early Childhood Education & Elementary Education Students ONLY . Students MUST pass BOTH SCI 155 & SCI 156 with a "C" or better 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 pursuing the following agreements: Early Childhood Teacher Education (p. 135) or Elementary Teacher Education (p. 135) and should seek advisement from the four-year college/university and Front Range Community College advisors before enrolling.			- Intermediate Writing Course (GT-CO2) and Advanced Writing Course (GT-CO3)		
Natural and Physical Sciences • GT Courses - SC2			Mathematics - 3 Credit Hours		
GT-SC2 Courses			1 course (or a series of three 1-credit hour courses) (GT-MA1)		
(Lecture Course Without Required Laboratory)			Arts & Humanities, History and Social & Behavioral Sciences - 15 Credit Hours		
AST 150	Astrobiology: GT-SC2	3	Arts & Humanities - 2 courses (minimum 3 credits each)		
AST 155	Astronomy Ancient Cultures: GT-SC2	3	- Arts and Expression (GT-AH1)		
AST 160	Cosmology: GT-SC2	3	- Literature and Humanities (GT-AH2)		
BIO 103	Principles of Animal Biology	3	- Ways of Thinking (GT-AH3)		
BIO 116	Introduction to Human Disease	3	- World Languages (must be Intermediate/200 level) (GT-AH4)		
ENV 110	Natural Disasters: GT-SC2	3	History - 1 course (minimum 3 credits) (GT-HI1)		
GEY 108	Geology of National Parks: GT-SC2	3	Social & Behavioral Sciences - 1 course (minimum 3 credits)		
SCI 105	Science in Society: GT-SC2	3	- Economic or Political Systems (GT-SS1)		
Social and Behavioral Sciences Economics or Political Systems • GT Courses - SS1			- Geography (GT-SS2)		
GT-SS1 Courses			- Human Behavior, Culture, or Social Frameworks (GT-SS3)		
AGE 102	Agriculture Economics: GT-SS1	3	<i>To reach a minimum of 15 credits, please select 1 additional course (minimum 3 credits) in Arts & Humanities or History or Social & Behavioral Sciences.</i>		
ECO 101	Economics of Social Issues: GT-SS1	3			

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)

Transfer 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. Continue with the same degree from entrance to graduation.
6. Retain documentation demonstrating that all the above requirements were satisfied (transcripts, advising records, etc.) and file a Degree/Certificate Application.

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 participating 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. 135).

Statewide Transfer Articulation Agreements

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 participating university, and complete the bachelor's degree in

no more than an additional 60 credits (for a total of 120 credits). View official agreements below.

- **Anthropology** (Approved: 5/4/12; Effective: Fall 2012; Revised March 2020)
- **Art History** (Approved: 12/4/14; Effective: Spring 2015; Revised October 2019)
- **Biology** (Approved: 12/4/14; Effective: Spring 2015; Revised May 2019)
- **Business** (Approved: 1/7/11; Effective: April 2011; Revised December 2018)
- **Chemistry** (Approved: 12/4/14; Effective: Spring 2015; Revised December 2018)
- **Communication** (Approved: 11/6/14; Effective: Spring 2015; Revised December 2018)
- **Criminal Justice** (Approved: 1/22/13; Effective: Spring 2013; Revised March 2020)
- **Economics** (Approved: 1/7/11; Effective: April 2011; Revised March 2020)
- **Early Childhood Teacher Education** (Approved: 8/7/15; Effective: Fall 2015; Revised Dec. 2018)
- **Elementary Teacher Education** (Approved: 8/7/15; Effective: Fall 2015; Revised March 2020)
- **Engineering** (See below)
- **English** (Approved: 12/4/14; Effective: Spring 2015; Revised May 2019)
- **Environmental Horticulture – Landscape Business** (Approved: 8/4/16; Effective: Fall 2016; Rev. Dec. 2018)
- **Fermentation Sciences** (Approved: 12/04/2015; Effective date: Fall 2015; Revised Dec. 2018)
- **French** (Approved: 5/4/12; Effective: Fall 2012; Revised March 2020)
- **Geography** (Approved: 9/4/12; Effective: Fall 2014; Revised December 2018)
- **Geology** (Approved: 5/9/14; Effective: Fall 2014; Revised March 2020)
- **History** (Approved: 4/1/2011; Effective: Fall 2011; Revised December 2018)
- **Horticulture Business Management** (Approved: 12/14/16; Effective: Spring 2015; Rev. Dec. 2018)
- **Mathematics** (Approved: 4/1/2011; Effective: Fall 2011; Revised March 2020)
- **Music** (Approved: 12/4/14; Effective: Spring 2015; Revised December 2018)
- **Nursing** (See below)
- **Philosophy** (Approved: 9/4/2014; Effective: Fall 2014; Revised March 2020)
- **Physics** (Approved: 12/4/14; Effective: Spring 2015; Revised December 2018)
- **Political Science** (Approved: 3/2/2012; Effective: Fall 2012; Revised December 2018)
- **Psychology-AA/BA** (Approved: 4/1/2011; Effective: Fall 2011; Revised December 2018)

- **Psychology-AS/BS** (Approved: 4/1/2011; Effective: Fall 2011; Revised December 2018)
- **Sociology** (Approved: 3/2/12; Effective: Fall 2012; Revised May 2019)
- **Spanish** (Approved: 4/1/2011; Effective: Fall 2011; Revised March 2020)
- **Studio Art** (Approved: 12/4/14; Effective: Spring 2015; Revised October 2019)
- **Theatre** (Approved: 12/4/14; Effective: Spring 2015; Revised March 2019)

Pre-Engineering Transfer Agreements

- Colorado School of Mines (1/11/2018)
- Colorado State University (5/6/2015)
- Colorado State University-Pueblo (1/4/2018)
- Colorado Mesa University (3/24/2015)
- Fort Lewis College (11/4/2014)
- Metropolitan State University of Denver (8/6/2015)
- University of Colorado Boulder (11/10/2015)
- University of Colorado Denver (8/21/2019)
- University of Colorado Colorado Springs (3/19/2015)

All degrees with designation and other transfer agreements may be found at <https://higher.ed.colorado.gov/transfer-degrees>

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. 136) 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. 136) 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. 127) & GT List (p. 132) sections of this catalog.

To view Programs offered at FRCC by location (p. 123) or by Career and Academic Community (CAC (p. 18)), view our Program Information (p. 15) 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. 178); CCR (p. 193); EDU (p. 207); ESL (p. 212); and MAT (p. 239).

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. 178) 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.

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.

XXX 188 - Practicum

Provides the learner the opportunity for the practical application of classroom theory within a given program of study.

XXX 170-174 - Clinical

Offers the clinical practicum to apply the related theory.

XXX 175-177 - Special Topics

Provides students with a means to pursue in-depth exploration of special topics of interest.

XXX 178-179 - Seminar/Workshop

Provides students with select areas of study within a program of study.

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.

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.

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.

XXX 288 - Practicum

Provides the learner the opportunity for the practical application of classroom theory within a given program of study.

XXX 289 - Capstone

Focuses on demonstrated culmination of learning within a given program of study.

XXX 270-274 - Clinical

Offers the clinical practicum to apply the related theory.

XXX 275-277 - Special Topics

Provides students with a means to pursue in-depth exploration of special topics of interest.

XXX 278-279 - Seminar/Workshop

Provides students with select areas of study within a program of study.

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.

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 via eWOLF and select the term and subject of interest to get started, or speak with a Pathways Advisor.

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
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
ESL-	English as a Second Language
ETH-	Ethnic Studies
FER-	Fermentation Science
FIN-	Finance
FLD-	Floral Design
FRE-	French
FSW-	Fire Science Wildland
GEO-	Geography
GER-	German
GEY-	Geology
GIS-	Geographic Information Systems
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
HWY-	Highway Maintenance Management
IHP-	Integrative Health Professions
IND-	Interior Design
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
PSY-	Psychology
REC-	Recreation
RUS-	Russian
SCI-	Science
SOC-	Sociology
SPA-	Spanish
STE-	Surgical Technology
TEL-	Teaching English as a Second Language
THE-	Theatre
TRE-	Tree Care
VET-	Veterinary Technology
WEL-	Welding
WST-	Women & Gender 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 each academic year. Fees vary by campus. The state of Colorado also pays a portion of the cost of higher education attending Colorado public institutions for eligible students. 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 2019-2020. 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	\$242.90	- \$94.00	\$148.90
Online classes	\$357.20	- \$94.00	\$263.20
Nursing classes	\$318.00	- \$94.00	\$224.00

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.

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 for COF 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 <https://higher.ed.colorado.gov/programs-services/the-college-opportunity-fund>.

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 COF credits. Students seeking this waiver must meet with a Pathways 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

Some courses are assessed course fees to cover the cost of consumable materials and supplies. Certain courses and/or programs require services performed by outside parties. One example is malpractice insurance. A list of fees can be found at <https://www.frontrange.edu/tuition>.

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 each academic year. Fees are charged regardless of parking on campus, attending programs, etc. to support equal access for all students. 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/paying-for-college/tuition-and-fees/payment-options>. 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 will have a late charge added to their total amount owed. 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.

Students are responsible for dropping classes they do not intend to take, 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 payment 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 funding 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 for additional classes until the balance has been paid.

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 paid 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.
 - a. Only students who are degree/certificate seeking are eligible for financial aid funding.
 - b. 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).
 - a. The application is available on the U.S. Department of Education's website at www.studentaid.gov.
 - b. A new FAFSA must be submitted each academic year, with the yearly application opening October 1st every year.
 - c. Financial aid applications are accepted throughout the academic year with a priority consideration date of April 1st to be considered for certain limited available funds.
3. Additional information is sometimes needed by the Financial Aid Office to determine eligibility for funding.
 - a. Submit all requested documentation as soon as possible to expedite the process.
 - b. Students can view any additional requirements or supporting documentation that is needed by clicking on the "Financial Aid Requirements" icon on the eWOLF Dashboard.
 - c. Submission methods may vary according to the document request.

d. A financial aid offer will not be made until supporting documentation is complete.

4. Aid offers for the fall term are generally sent beginning the prior spring term and continue throughout the aid year once eligibility has been determined.
 - a. Notification of offers are sent via email to the student.

Eligibility Criteria

To qualify for Federal financial aid, students must meet at least the following criteria:

- Be enrolled in an eligible degree and/or certificate program.
- Be a U.S. citizen, U.S. permanent resident, or eligible non-citizen as defined by the U.S. Department of Education.
- 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 student 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 policy.

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 on the Financial Aid website. For more information on Satisfactory Academic Progress, please review

the Financial Aid Satisfactory Academic Progress Policy or see your FRCC Financial Aid advisor.

Funding Sources

Students have access to many different sources of funding which include grants (p. 142), work study (p. 142), scholarships (p. 142), and loans (p. 142). In this section (p. 142), you will find general information about different funding sources and summer aid (p. 142). 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 scholarship 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 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. In addition, developmental courses require eligible placement scores in order to be approved for VA educational benefits. The VA educational benefits office requires prior training and transcripts from previous colleges to be officially evaluated within two semesters. Failure to comply within the 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.

In compliance with Title 38 of the U.S. Code of Federal Regulations, §3679, prior to the published tuition deadline, students eligible for benefits through Vocational Rehabilitation & Employment and the Post-9/11 GI Bill must have documentation from the VA demonstrating continued eligibility for VA education benefits. Acceptable documentation is a recent award letter, Certificate of Eligibility, or a Statement of Benefits from www.VA.gov for students using the Post-9/11 GI Bill or a current VA Form 28-1905 from the case manager of students using Vocational Rehabilitation & Employment. Provided this information is submitted prior to the tuition deadline, students will be held in classes without any penalty until tuition and fees are paid by VA.

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.

Tuition information is reported to VA after the drop deadline and payments will be applied to student accounts once received by FRCC. Failure to successfully complete courses, including failed courses, drops, and withdrawals, may result in a reduction of benefits payable to the student and/or FRCC. Students may also be required to reimburse VA or FRCC for previously paid benefits. If for any reason, VA determines a student is ineligible for benefits, if benefits expire during the term or if the student is not eligible at the 100% funding level, the student will be responsible for paying the balance on his or her account.

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 their websites for more information.

Students receiving benefits through Montgomery GI Bill-Active Duty, Montgomery GI Bill-Selected Reserves, or Dependents' Educational Assistance must have pending financial aid, payment in full, or a payment plan scheduled before the tuition deadline to remain enrolled in courses.

Air Force <https://www.airforce.com/>

Army www.goarmy.com

Army/Air National Guard <https://co.ng.mil/Army/>

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.

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. 146)
S	Satisfactory (p. 146)
U	Unsatisfactory (p. 146)
S/A	Satisfactory (A-level) work in a designated developmental course (p. 146)
S/B	Satisfactory (B-level) work in a designated developmental course (p. 146)
S/C	Satisfactory (C-level) work in a designated developmental course (p. 146)
U/D	Unsatisfactory (D-level) work in a designated developmental course (p. 146)
U/F	Unsatisfactory (F-level) work in a designated developmental course (p. 146)
W	Withdrawal (p. 146)
AW	Administrative Withdrawal (p. 146)
AU	Audit (p. 146)
PLA	Prior Learning Assessment Credit ("C" or better)
CR	Credit
IP	In Progress
NC	Non-Credit
R	Repeated Course (p. 147)
SP	Satisfactory Progress (p. 146)
Z	Grade not yet reported (p. 146)

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

Prerequisite courses are courses that must be taken before entering another course. These are indicated in each course description in the catalog.

Students must earn a grade of "C" or better in the pre-requisite course to enroll in the course which follows.

Courses that require a "B" or better are noted in this catalog. An earned grade of "D", "F", or "U" will not satisfy the pre-requisite requirement and will require the student to retake the course until a "C" or better is reached or repeat course limits exhausted. See Repeated Courses & Limits below for more information.

Students must earn a grade of "C" or better for all courses applied toward an 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 any certificate. Some programs or courses also require that students achieve specific grades or GPAs to continue in the program.

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.

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.

Academic Standing

Academic Standing applies to all students who have attempted 9 or more credits at a Colorado Community College System (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, 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 (p. 4) 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 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.

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. In order to apply for Academic Renewal, students must wait a minimum of 2 academic years from the last term being considered 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. For a Reverse Transfer Degree only, the student may fulfill this requirement by demonstrating enrollment in at least 6 credit hours with a 2.0 term GPA during last semester of attendance at the four year institution.
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 Pathways 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 Pathways Advisor.

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 a Pathways 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://www.frontrange.edu/graduation-and-beyond/graduation>

Note that:

- The name you request to be printed on your diploma must match college records. To update your records, please log into your student account in eWOLF and submit the Personal Identification Change Request.

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 degree/certificate application by the priority deadline at <https://www.frontrange.edu/graduation-and-beyond/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.

- 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 degree/certificate 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 CCE 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.

For information see the **Academic Suspension Appeals** section.

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. For FRCC PLA information please view [here](#).

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 <https://www.cccs.edu/policies-and-procedures/system-presidents-procedures/sp-9-42-prior-learning-assessment-credit/>.

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 enrolled.

- 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.

Credit may be awarded for GT courses. Public four-year institutions may recalculate 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 learning 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 at the new college.

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) (<https://higher.ed.colorado.gov/Academics/Complaints/FileComplaint.asp>) when the issue involves one of the following areas:

- Violation of the Student Bill of Rights (see Student Bill of Rights (p. 156))
- 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 <https://higher.ed.colorado.gov/filing-student-complaint>

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 for the following:

- Denial of program completion/graduation
- Academic dismissal from a program
- Appeal an end of semester grade (final grade)

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

- 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.

- Formal Appeal - A College Wide Appeal Form must be initiated according to the procedures and timelines listed below:

1. Final grade appeals must be initiated by the student within thirty calendar days of the awarding of the grade by the instructor after the semester ends.
2. 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.
3. 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.
4. The Dean of Instruction will convene an administrative hearing.
5. 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.
6. 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 academic standing 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. 147).

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.

For more information, contact the Office of the Registrar at 303-404-5414.

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 Pathways 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 & Outreach 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. A 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.cccs.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 withdraw 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 Pathways 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 Office of the Registrar.

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 1 year 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 CCOnline 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 (p. 162). Students who violate the CCCS Student Code of Conduct will be subject to college Disciplinary Procedures (p. 163). 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

<https://www.bouldercounty.org/families/addiction/>

Fort Collins

<https://www.summitstonehealth.org/>

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:

- 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.
- Update your record with address, phone number, and other contact information.
- 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 (Peer-to-Peer) 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 (Peer-to-Peer) 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 & 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.

6. 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.

7. 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: JoAnne Wilkinson, Executive Director, Organizational Development and Human Resources, 303-678-3707, 2190 Miller Drive, Longmont, CO 80501 or joanne.wilkinson@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?FrontRange&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

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](#).

Your Right to Know

Current and prospective students at Front Range Community College, have a right to certain information that the college is required by law to provide. Safety related information about crimes and campus security programs are provided on the Campus Safety & Security website or are available in their office. 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. 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.

FRCC is committed to disclosing consumer information you may find helpful. We make every effort to ensure our information is accurate, readily available and can be viewed on our website or requested in person.

Campus Security and Preparedness

The Campus Security and Preparedness department's mission is to provide a safe and secure learning and working environment on Front Range Community College campuses through professional officer presence and professional customer service while leveraging technology.

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>

Violence Against Women Act (VAWA)

The Violence Against Women Act (VAWA) is a landmark piece of legislation that sought to improve criminal justice and community-based responses to domestic violence, dating violence, sexual assault and stalking in the United States. On

March 7, 2013, President Obama reauthorized the Violence Against Women Act, including section 304, which addresses sexual violence in higher education. Victims of domestic violence, dating violence, sexual assault and stalking have been able to access services, and a new generation of families and justice system professionals have come to understand that domestic violence, dating violence, sexual assault and stalking are crimes that our society will not tolerate.

Front Range Community College embraces the tenants of VAWA and supports VAWA through the education and training of our campus communities by providing a supportive educational environment and victim resources. Front Range Community College prohibits the offenses of domestic violence, dating violence, sexual assault and stalking and reaffirms its commitment to maintain a campus environment emphasizing the dignity and worth of all members of the College community. The college utilizes Colorado law to define consent, provides bystander training and warning signs of abusive behavior and promotes safety strategies. FRCC offers VAWA education through mandatory employee training, as well as additional presentations, in person training, open forums and VAWA related displays throughout the academic year.

For more information about the Clery Act and VAWA, please contact the Campus Security and Preparedness Department, the Dean of Student Affairs, or the Title IX Office in Human Resources at 303-678-3707.

Family Education Rights and Privacy

FRCC 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

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) <https://higher.ed.colorado.gov/Academics/Complaints/FileComplaint.aspx> when the issue involves one of the following areas:

- Violation of the Student Bill of Rights (see Student Bill of Rights (p. 156))
- 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 <https://higherred.colorado.gov/search?search=academics+appeals>.

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.

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 JoAnne Wilkinson, 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 joanne.wilkinson@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: <https://www.ftc.gov/tips-advice/business-center/guidance/fighting-identity-theft-red-flags-rule-how-guide-business>

Identity Theft Consumer Information: <https://www.consumer.ftc.gov/features/feature-0014-identity-theft>

Notice of Non-Discrimination Statement

Front Range Community College is committed to diversity in its people and programs. The 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 JoAnne Wilkinson, 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 joanne.wilkinson@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 & 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 ADA, Title VI and VII Coordinator(s) (EO Coordinator) and Deputy Coordinator(s) are 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, they 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.

Who to Report to

Report all concerns or complaints relating to discrimination, harassment, or sexual misconduct to: JoAnne Wilkinson, 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: <https://www2.ed.gov/about/offices/list/ocr/index.html>

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/pacific/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/>

Preliminary Steps

This complaint process involves an immediate initial inquiry to determine if there is sufficient evidence to believe a violation has occurred. If the inquiry warrants, 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 60 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 employees and students may have about the implementation of policies and procedures that govern the institution.

In all cases, the Title IX/EO Coordinator will give consideration to the victim in how the grievance is pursued, but reserves the right when necessary to protect the community, to investigate and pursue a resolution when an alleged victim chooses not to participate in the grievance process.

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 investigator(s) 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(s) 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 they 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:

- The accused was previously found to be responsible
- The previous incident was substantially similar to the present allegation
- Information indicates pattern of behavior & 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/EO 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.

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 JoAnne Wilkinson, Executive Director for further information at 303-678-3707.**

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.

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.

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.

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.

- A grade of "C" or better is considered passing.

- 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. 136) 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. 136) 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. 135) & GT List (p. 132) sections of this catalog.

To view Programs offered at FRCC by location (p. 123), requirements or by MAPs (p. 18), view our Programs 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.

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.

AAA 091 - Online Learning Strategies (1)

Introduces specific skills and strategies to successfully use online instruction and college eservices. 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.

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.

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.

ACC - Accounting

ACC 101 - Fundamentals of Accounting (3)

Introduces accounting fundamentals with emphasis on the procedures and practices used in business organizations. Major topics include the accounting cycle for service and merchandising companies, including end-of-period reporting.

Prerequisite: None.

ACC 121 - Accounting Principles I (4)

This course introduces accounting principles for understanding the theory and logic that underlie procedures and practices for business organizations. Major topics include the accounting cycle for service and merchandising companies, internal control principles and practices, notes and interest, inventory systems and costing, and plant and intangible asset accounting.

ACC 122 - Accounting Principles II (4)

This course continues the application of accounting principles to business organizations. Major topics include corporate equity and debt financing, investments, cash flow statements, financial analysis, budgeting, cost and managerial accounting.

Prerequisite: ACC 121.

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.

ACC 132 - Tax Help Colorado (2)

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.

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.

Prerequisite: Prerequisite/Corequisite: ACC 131 or ACC 132.

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: Prerequisite/Corequisite: ACC 121 and CIS 155.

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.

ACC 211 - Intermediate Accounting I (4)

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. Focuses on the preparation and analysis of business information relevant and useful to external users of financial reports. Explores the theories, principles and practices surveyed in Accounting Principles and critically examines `real-world` financial analysis and reporting issues.

Prerequisite: ACC 122.

ACC 212 - Intermediate Accounting II (4)

Focuses on the theoretical and practical aspects of accounting for long-term liabilities, stockholders` equity, investments, pensions and leases. Includes income tax allocation, financial statement analysis, cash flow statements and accounting methods changes.

Prerequisite: ACC 211.

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.

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.

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: Prerequisite/Corequisite: ACC 131 or ACC 132.

ACC 245 - Computerized Acct Prof Pkg (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.

ACC 267 - AIPB Certification Review (1)

Serves as culmination of the bookkeeping certificate. It prepares students to enter the workforce as a bookkeeper and take the Certified Bookkeeper exam prepared by the American Institute of Professional Bookkeepers (AIPB).

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.

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.

ACC 289 - Capstone (1)

Provides pending accounting graduates with the opportunity to evaluate analysis skills. Using the knowledge acquired from their academic studies, the student evaluates the financial standing of three different companies. Financial analysis using spreadsheet capabilities and written report skills are included. The student works independent of a traditional classroom setting.

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.

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: Prerequisite/Corequisite: AEC 101 and CAD 224.

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.

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.

AEC 123 - Commercial Construction Drawing (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.

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.

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.

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.

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.

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.

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.

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)

Applies knowledge of building construction techniques and architectural drawing conventions in developing plans, elevations, sections and details of a building structure by developing a set of construction drawings from design development drawings and specifications.

Prerequisite: AEC 121, AEC 122 and AEC 123.

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 USAF officer profession. Uses lectures, films and videos, and group activities to examine Air Force issues, officership qualities, and military customs and courtesies. Examines the communication skills necessary for an Air Force officer.

AIR 102 - Foundations of the U.S. Air Force II (1)

Continues the topics covered in AIR 101. This course introduces students to the U.S. Air Force and the USAF officer profession. The course utilizes instructor lectures, films, videos and group activities to examine Air Force organizational structure and missions of Air Force organizations with an emphasis on leadership, military history, and communicative skills.

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.

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.

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.

AIR 202 - Evolution of USAF Air and Space Power II (1)

Continues the topics covered in AIR 201. The course 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.

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.

AIR 204 - Military Leadership Lab IV (1)

Complements AIR 202 by providing cadets with opportunities for increasingly higher levels of 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.

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.

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.

ANT - Anthropology**ANT 101 - Cultural Anthropology: GT-SS3 (3)**

Examines the study of human cultural patterns, including communication, economic systems, social and political organizations, religion, healing systems, and cultural change. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

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).

ANT 103 - Archaeology Laboratory: GT-SS3 (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).

ANT 104 - Physical Anthropology Laboratory: GT-SS3 (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).

ANT 107 - Introduction to Archaeology: GT-SS3 (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, the works of selected archaeologists, and 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).

ANT 108 - Archaeology of World Rock Art: GT-SS3 (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).

ANT 111 - Biological Anthropology with Laboratory: GT-SC1 (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. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

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).

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.

ANT 201 - Intro to Forensic Anthropology: GT-SS3 (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).

ANT 215 - Native Peoples of North America: GT-SS3 (3)

Studies 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. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

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).

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.

ANT 225 - Anthropology of Religion: GT-SS3 (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. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

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).

ANT 250 - Medical Anthropology: GT-SS3 (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).

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.

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.

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.

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.

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.

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.

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.

ARA 211 - Arabic Language III (3)

Continues Arabic Language II in the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the Arabic language. This course is conducted predominantly in Arabic.

Prerequisite: ARA 112.

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.

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.

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.

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.

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.

ART 110 - Art Appreciation: GT-AH1 (3)

Introduces the cultural significance of the visual arts, including media, processes, techniques, traditions, and terminology. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

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).

ART 111 - Art History Ancient to Medieval: GT-AH1 (3)

Provides the knowledge base to understand the visual arts, especially as related to Western culture. This course surveys the visual arts from the Ancient through the Medieval periods. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

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).

ART 112 - Art History Renaissance to 1900: GT-AH1 (3)

Provides the knowledge base to understand the visual arts, especially as related to Western culture. This course surveys the visual arts from the Renaissance to 1900. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

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).

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.

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.

ART 121 - Drawing I (3)

Investigates the various approaches and media that students need to develop drawing skills and visual perception.

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.

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.

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.

ART 128 - Figure Drawing I (3)

Introduces the basic techniques of drawing the human figure.

Prerequisite: ART 121.

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.

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.

ART 132 - Visual Concepts 3-D Design (3)

Focuses on learning to apply the elements and principles of design to three-dimensional problems.

ART 133 - Jewelry and Metal Work I (3)

Introduces the construction of jewelry designs in metals and small casting techniques.

ART 134 - 4-D Design: Time-Based Art (3)

Explores the artistic possibilities of time and movement in art and design. These include analog and digital art forms ranging from performance art through animation and video. Emphasis is

placed on creative problem solving skills and the application of elements and principles of design in time-based media.

ART 138 - Film Photography I (3)

Introduces black and white film photography as a fine art medium and develops skills necessary for basic camera and lab operations.

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.

ART 140 - Color Photography I (3)

Covers the fundamentals of color photography such as color theory and light, production, processing and printing color negatives.

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.

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.

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.

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.

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.

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.

ART 152 - Landscape Painting (3)

Focuses on specific landscape concerns in the painting media of your choice.

Prerequisite: ART 151.

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.

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.

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.

ART 161 - Ceramics I (3)

Introduces traditional and contemporary ceramic forms and processes including hand building and throwing on the potter's wheel.

ART 162 - Hand Built Clay I (3)

Provides instruction in several methods of hand building and the study of functional and decorative design elements.

ART 163 - Hand Built Clay II (3)

Provides continued instruction in various methods of hand building.

Prerequisite: ART 162.

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.

ART 165 - Sculpture I (3)

Introduces the fundamentals of sculpture such as modeling, casting, carving, and the processes of assemblage.

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.

ART 167 - Sculpting the Figure (3)

Focuses on sculpting the human figure using modeling techniques in clay.

Prerequisite: ART 165.

ART 205 - Museum Studies (3)

Provides an overview of the museum field. Covers the museum as a business, its history and role in society, and planning and implementation of a museum exhibition.

ART 207 - Art History 1900 to Present: GT-AH1 (3)

Introduces the concepts necessary to understand modern visual art, with an emphasis on world art of the 20th century. This

course surveys world art of the 20th century, including Modernism to Post-Modernism. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

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).

ART 217 - Fiber Design II (3)

Continues instruction in fiber design (ART 117 Fiber Design I).

Prerequisite: ART 117.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

ART 233 - Jewelry and Metal Work II (3)

Emphasizes conceptual design development, using casting and specialized techniques.

Prerequisite: ART 133.

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.

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.

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.

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.

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.

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.

ART 245 - Digital Photo Studio (3)

Introduces the basic concepts of digital imaging as applied to photography. Using applicable technology and hands on experience, modern developments are presented leading to the present applications of digital imaging which combine traditional photographic ideas with electronic media. Enables the student to learn how to operate image manipulation software using a variety of scanning equipment, software tools and output devices by executing new assignments and applying these technologies to their photographic process.

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.

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.

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.

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.

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.

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.

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.

ART 261 - Ceramics II (3)

A continuation of ART 161, this course emphasizes skill, technique and form.

Prerequisite: ART 161.

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.

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.

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.

ART 266 - Sculpture III (3)

Focuses on advanced individual sculpture projects, emphasizing experimentation with materials, accomplished technique and conceptual significance.

Prerequisite: ART 265.

ASE - Auto Service Technology

ASE 102 - Intro to the Automotive Shop (2)

Prepares the incoming automotive student to work in the shop safely and gain familiarity with the shop and common equipment.

ASE 110 - Automotive Brake Service I (2)

Introduces the basic theory of automotive braking systems including operation, diagnosis, basic repair of disc and drum friction assemblies, and basic hydraulic braking systems. This course meets MLR/AST/MAST program accreditation requirements.

Prerequisite: Prerequisite/Corequisite: ASE 102. This course and ASE 102 may be taken at the same time.

ASE 111 - Automotive Brake Service II (2)

Covers diagnostics, test procedures, and repair to automotive foundation braking system. This course also introduces the components, types of Antilock Braking Systems (ABS), and traction control systems of current vehicles. This course meets MLR/AST/MAST program accreditation requirements.

Prerequisite: Prerequisite/Corequisite: ASE 110. This course and ASE 110 may be taken at the same time.

ASE 120 - Basic Automotive Electricity (2)

Introduces vehicle electricity, basic electrical theory, circuit designs, and wiring methods. This course focuses on multimeter usage and wiring diagrams. This course meets MLR/AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 102. This course and ASE 102 may be taken at the same time.

ASE 123 - Starting and Charging Systems (2)

Covers the operation and theory of a vehicle battery, testing, service, and repair of starting and charging systems including voltage testing, draw testing. This course meets MLR/AST/MAST program requirements.

Prerequisite: Prerequisite/Corequisite: ASE 120. This course and ASE 120 may be taken at the same time.

ASE 130 - General Engine Diagnosis (2)

Covers how to perform basic engine diagnosis to determine condition of engine including engine support systems. This course meets MLR/AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 102. This course and ASE 102 may be taken at the same time.

ASE 134 - Automotive Fuel and Emissions Systems I (2)

Focuses on the diagnosis and repair of automotive fuel emission control systems, filter systems, and spark plugs. This course also includes maintenance to Diesel Exhaust Fluid (DEF) systems.

Prerequisite: Prerequisite/Corequisite: ASE 120. This course and ASE 120 may be taken at the same time.

ASE 140 - Suspension and Steering I (2)

Focuses on diagnosis and service of suspension and steering systems and components. This course meets MLR/AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 102. This course and ASE 102 may be taken at the same time.

ASE 141 - Suspension and Steering II (2)

Covers design, diagnosis, inspection, service of suspension, and steering systems used on light trucks and automobiles including power steering and Supplemental Restraint System (SRS) service. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 140. This course and ASE 140 may be taken at the same time.

ASE 150 - Manual Drive Train and Axle Maintenance (2)

Covers the operating principles and repair procedures relating to axle-shafts, propeller shafts, and universal joints. This course meets MLR/AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 102. This course and ASE 102 may be taken at the same time.

ASE 151 - Man Trans/Transaxles/Clutches I (2)

Focuses on the diagnosis and repair of automotive manual transmissions, transaxles, clutches, and related components. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 150. This course and ASE 150 may be taken at the same time.

ASE 160 - Automotive Engine Repair (2)

Focuses on the service of cylinder head, valve-train components, and cooling system components including engine removal, re-

installation, and re-mounting systems. This course meets MLR/AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 102. This course and ASE 102 may be taken at the same time.

ASE 162 - Automotive Engine Service & Repair (2)

Covers engine sealing requirements and repair procedures including engine fasteners, bolt torque, repair of fasteners, cooling system, and basic engine maintenance. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 191. This course and ASE 191 may be taken at the same time.

ASE 191 - Automotive Engine Repair & Rebuild (4)

Focuses on the disassembly, diagnosis, and reassembly of the automotive engine including the diagnostic and repair procedures for the engine block and cylinder head assemblies. This course meets MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 160. This course and ASE 160 may be taken at the same time.

ASE 192 - Manual Transmission, Transaxles, Clutches II (3)

Focuses on the diagnosis and repair of automotive differentials, four wheel drive units, and all-wheel drive units. This course meets MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 151. This course and ASE 151 may be taken at the same time.

ASE 210 - Automotive Power and ABS Brake Systems (2)

Covers the operation and theory of the modern automotive braking systems including the operation, diagnosis, service, and repair of the anti-lock braking systems and power assist units. This course also covers the machining operations of today's automobile brake systems. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 111. This course and ASE 111 may be taken at the same time.

ASE 250 - Automatic Transmission/Transaxle Service (1)

Focuses on practical methods of maintaining, servicing, and performing minor adjustments on an automatic transmission and transaxle. This course meets MLR/AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 102. This course and ASE 102 may be taken at the same time.

ASE 251 - Automotive Transmission and Transaxle Repair (3)

Covers diagnosis, principles of hydraulics, principles of electronic components, power flow, theory of operation including removal, installation, and replacement of transmission/transaxle and components. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 250. This course and ASE 250 may be taken at the same time.

ASE 264 - Intro to Automotive HVAC Systems (1)

Covers basic operation of heating and air conditioning components. This course meets MLR/AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 120. This course and ASE 120 may be taken at the same time.

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.

ASE 291 - Automotive & Diesel Body Electrical (3)

Provides a comprehensive study of the theory, operation, diagnosis, and repair of vehicle accessories. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 123. This course and ASE 123 may be taken at the same time.

ASE 292 - Automotive Computers & Ignition Systems (3)

Focuses on the inspection and testing of typical computerized engine control and ignition systems. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 120. This course and ASE 120 may be taken at the same time.

ASE 293 - Auto Fuel Injection & Emissions Systems II (3)

Focuses on the diagnosis and repair of electronic fuel injection systems and modern exhaust systems. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 134 and ASE 292. This course and ASE 134 and ASE 292 may be taken at the same time.

ASE 294 - Suspension & Steering III (3)

Covers operation of steering and power steering systems including different alignment types and procedures.

Prerequisite: Prerequisite/Corequisite: ASE 141. This course and ASE 141 may be taken at the same time.

ASE 295 - Heating & Air Conditioning Systems (3)

Covers the diagnosis and service of vehicle heating and air conditioning systems and their components. This course meets AST/MAST requirements.

Prerequisite: Prerequisite/Corequisite: ASE 264. This course and ASE 264 may be taken at the same time.

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.

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.

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.

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. Students must complete this course with a `B` or higher or pass the ASL 121 proficiency test at 80% or better prior to acceptance into the Interpreting and Transliterating Preparation program.

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.

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.

ASL 125 - Fingerspelling (3)

Provides the student an opportunity to develop expressive and receptive finger spelling through various class activities.

Prerequisite: ASL 122.

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.

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.

ASL 243 - Discourse Analysis (3)

Introducing students to a systemic process for developing awareness of the various factors people use to express and negotiate meaning and applying this awareness to achieve deeper levels of understanding of meaning in various contexts.

Prerequisite: ASL 222.

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.

AST - Astronomy**AST 101 - Planetary Astronomy w/Lab: GT-SC1 (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 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).

AST 102 - Stellar Astronomy w/Lab: GT-SC1 (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 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).

AST 160 - Cosmology: GT-SC2 (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).

BIO - Biology

BIO 104 - Biology: A Human Approach: GT-SC1 (4)

Develops a basic knowledge of the structure and function of the human body by studying the body's structure as a series of interrelated systems. Includes cardiovascular, respiratory, digestive, lymphatic, musculoskeletal, nervous, endocrine, reproductive and urinary systems, and genetics. Emphasizes disease prevention and wellness. This course includes laboratory experience. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

Offered: *(GT-SC1).

BIO 105 - Science of Biology with Lab: GT-SC1 (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).

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.

BIO 111 - General College Biology I w/Lab: GT-SC1 (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).

BIO 112 - General College Biology II w/Lab: GT-SC1 (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).

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.

BIO 201 - Human Anatomy & Physiology I w/Lab: GT-SC1 (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, and nervous systems. Includes a mandatory hands-on laboratory experience covering microscopy, observations, and dissection. This is the first semester of a two-semester sequence. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: ENG 121 or ENG 122. These courses may be taken concurrently. Offered: *(GT-SC1).

BIO 202 - Human Anatomy & Physiology II w/Lab: GT-SC1 (4)

Focuses on the integrated study of the human body and the histology, anatomy, and physiology of the following systems and topics: endocrine, cardiovascular, hematology, lymphatic and immune, urinary, fluid and electrolyte control, digestive, nutrition, respiratory, reproductive, and development. Includes a mandatory hands-on laboratory experience involving microscopy, observations, and dissection. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: BIO 201 and CCR 092, CCR 093, or CCR 094 or equivalent testing scores. CCR courses may be taken concurrently. Offered: *(GT-SC1).

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: Prerequisite/Corequisite: BIO 202. This course and BIO 202 may be taken at the same time.

BIO 204 - Microbiology w/Lab: GT-SC1 (4)

Covers the diversity of microorganisms, their structure, physiology, and the identification process. There is an emphasis on microorganisms that cause infectious disease and the process of infection, host immune responses, and methods to control microorganisms. Laboratory experiences include culturing, identifying, and controlling microorganisms. This course is designed for students pursuing a health science field. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: ENG 121 or ENG 122. These courses may be taken concurrently. Offered: *(GT-SC1).

BIO 208 - General College Microbiology w/Lab: GT-SC1 (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. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: CCR 092, CCR 093, or CCR 094 or equivalent testing scores. CCR courses may be taken concurrently. Offered: *(GT-SC1).

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.

BIO 216 - Human 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.

BIO 221 - Botany w/Lab: GT-SC1 (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 is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: CCR 092, CCR 093, or CCR 094 or equivalent testing scores. These courses may be taken concurrently. Offered: *(GT-SC1).

BIO 222 - General College Ecology (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.

BIO 224 - Genetics: GT-SC1 (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 is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: BIO 111. Offered: *(GT-SC1).

BUS - Business

BUS 102 - Entrepreneurial Operations (3)

Explores the essential requirements for starting and operating a business. This course covers basic concepts of business law, marketing, finance and operations. It guides the development of an effective business plan and prepares students to launch and sustain their own businesses.

BUS 115 - Introduction to Business (3)

Introduces the application of fundamental business principles to local, national, and international forums. This course examines the relationship of economic systems, governance, regulations, and law upon business operations. It surveys the concepts of career development, business ownership, finance and accounting, economics, marketing, management, operations, human resources, regulations, and business ethics.

BUS 116 - Personal Finance (3)

Surveys the basic personal finance needs of most individuals and introduces the personal finance tools useful in planning and instituting a successful personal financial philosophy. The course emphasizes the basics of budgeting, buying, saving, borrowing, career planning, investing, retirement planning, estate planning, insurance, and income taxes.

BUS 120 - Introduction to E-Commerce (3)

Provides an introduction to electronic commerce and the business trends in the dynamic e-commerce environment. This course covers the definition of e-commerce, technology and software requirements, security issues, electronic payment and marketing strategies. This course focuses on what to expect in business-to consumer (B2C) and business-to-business (B2B) e-commerce markets when creating an e-business.

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.

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.

BUS 203 - Introduction to International Business (3)

Provides an understanding of the fundamental nature of international business. This course will cover the development of international business; theories and methods of international trade; financing mechanisms and terms used in export documentation and export finance; effects of economic, political and cultural environment on international business and trade; impact of geography on business transactions; impact of legal systems of international business; and developing an effective international marketing strategy.

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 given to economic regulation, social regulation, labor-management issues, environmental issues, and contract fundamentals. This course analyzes the role of law in social, political, and economic change business environments.

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.

BUS 218 - Legal Environment of Business II (3)

Focuses on legal statutes that regulate business and consumers. This course examines the legal entities of business organizations including formation, governance, and applications. The techniques of commercial transactions and negotiations will be developed with business entities for the successful promotion of commerce. Corporate responsibility, its role in ethical decision-making, and its application of law and regulation will be analyzed.

BUS 226 - Business Statistics (3)

Focuses on statistical study, sampling, organizing and visualizing data, descriptive statistics, probability, bi-nominal distributions, normal distributions, confidence intervals, linear regression, and correlation. Intended for business majors.

Prerequisite: MAT 050 or higher with a grade of "C" or better or appropriate diagnostic scores.

BUS 278 - Seminar/Workshop (2)

Provides students with an experiential learning opportunity.

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.

BUS 289 - Capstone (2)

Demonstrates the culmination of learning within a given program of study.

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.

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.

Prerequisite: Prerequisite/Corequisite: CAD 100 or HLT 130.

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.

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.

CAD 120 - Chief Architect (3)

Introduces residential and light commercial software design in order to produce 3D models and construction documents using the software Chief Architect.

CAD 153 - Introduction to Creo Basics (3)

Introduces basic Creo software, a 3D Parametric Solid modeling program, and its operations such as part, assembly, and drawing creation. The course includes how to construct, modify, and manage complex parts in 3D space as well as produce 2D drawings from the 3D models.

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.

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 101.

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 101.

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.

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 101.

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.

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.

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.

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.

CAD 225 - AutoCAD Architecture/Software (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.

Prerequisite: CAD 101.

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: Prerequisite/Corequisite: CAD 224. This course and CAD 224 may be taken at the same time.

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: CAD 224 and AEC 123.

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: CAD 101.

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.

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.

CAD 246 - Fusion/AutoDesk (3)

Focuses on parametric modeling and direct manipulation modeling techniques to create 3D designs using the Fusion software.

Prerequisite: CAD 100.

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.

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.

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: Prerequisite/Corequisite: CAD 115 or CAD 255.

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.

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.

CAD 269 - AR and VR in CAD (1)

Explores the current and emerging technology and concepts involving augmented and virtual reality (AR/VR) in the computer-aided drafting and design industries. This course presents AR and VR content for three dimensional presentation.

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.

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.

CAD 289 - Capstone (3)

Provides a demonstrated culmination of learning within a given program of study.

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 in CCR 092 College Composition and Reading. The course includes any foundational skills needed by the student. Any student enrolled in CCR 091 is required to co-enroll in CCR 092.

Corequisite: CCR 092.

CCR 092 - Composition and Reading (5)

Integrates and contextualizes college-level reading and writing.

Prerequisite: Appropriate diagnostic scores required.

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.

Prerequisite: Appropriate diagnostic scores required.

Corequisite: 100-Level GT course as offered by campus/section.

CCR 094 - Studio 121 (3)

Integrates and contextualizes reading and writing strategies tailored to co-requisite ENG 121 coursework.

Prerequisite: Appropriate diagnostic scores required.

Corequisite: ENG 121.

CHE - Chemistry**CHE 101 - Intro to Chemistry I w/Lab: GT-SC1 (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).

CHE 102 - Intro to Chemistry II w/Lab: GT-SC1 (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).

CHE 105 - Chemistry in Context w/Lab: GT-SC1 (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).

CHE 111 - General College Chemistry I w/Lab: GT-SC1 (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).

CHE 112 - General College Chemistry II w/Lab: GT-SC1 (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).

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.

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.

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.

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.

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.

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.

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.

CHI 211 - Chinese Language III (3)

Continues Chinese Language II in the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the Chinese language. This course is conducted predominantly in Chinese.

Prerequisite: CHI 112.

CIS - Computer Information Systems**CIS 109 - Management Software: Using AVImark (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.

Prerequisite: Prerequisite/Corequisite: VET 102.

CIS 115 - Introduction to Computer Information Systems (3)

Provides an overview of computer information systems and their role in society. This course emphasizes terminology and the identification of computer components and systems used in personal and business environments. This course discusses the evaluation of systems and measures that can be applied to protect them.

CIS 118 - Introduction to PC Applications (3)

This course 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.

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.

CIS 128 - Operating System: Using Linux & Microsoft Windows (3)

Introduces the functions and capabilities of an operating system, including configuring and modifying the operating system environment.

CIS 135 - Complete PC Word Processing (3)

Introduces basics of word processing software to create, edit, format, and print documents as well as advanced features to enhance documents. This course includes working with images,

creating/using styles, formatting multi-page documents using advanced features of headers/footers and section breaks, integrating software to create and format tables and charts, using mail merge, and creating documents with columns.

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.

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.

CIS 155 - PC Spreadsheet Concepts: Excel (3)

Introduces basic to advanced features of spreadsheet software to design and create accurate, professional worksheets for use in business and industry. The course includes entering data, creating formulas, professional formatting, creating charts, creating, sorting and filtering tables, creating and using templates, applying built-in functions, creating pivot tables, applying "what-if analysis" with data tables, creating macros, and using solver features.

CIS 167 - Desktop Publishing (3)

Introduces the concepts and applications for desktop publishing. Emphasizes page layout and design with techniques for incorporating text and graphics and final production of printed documents.

CIS 202 - Automated Project Management: MS Project (3)

Provides an in-depth exploration of project management concepts and techniques. Uses software to automate project management processes. Emphasizes critical thinking, goal setting, and communication with team members, management, and customers. Real-world scenarios will be used to create task lists, assign and level resources, and modify project files. GANTT charts, critical path methodology, PERT, project tracking and reporting will be utilized in the management of projects.

CIS 218 - Advanced PC Applications (3)

Emphasizes solving business problems by integrating data from all of the software applications that facilitate the production of useful information. Advanced capabilities of a PC software applications suite are utilized. Printed documents, reports, slides, and forms are produced to communicate information.

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.

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.

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: Prerequisite/Corequisite: This course and CIS 145 may be taken at the same time.

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.

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.

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.

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.

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.

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.

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.

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 or higher. This course and CNG 124 may be taken at the same time.

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.

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.

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.

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.

Prerequisite: Prerequisite/Corequisite: This course and CNG 120 and CNG 124 may be taken at the same time.

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.

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.

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.

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.

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.

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.

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.

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 OS in a variety of network operating system environments.

Corequisite: CNG 124.

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.

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.

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.

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.

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.

CNG 230 - Fast Track CCNA 1 and 2 (5)

Presents the first of two parts of a CCNA (CISCO Certified Network Associate) certification preparation course for students that already have a solid networking background. It consists of internetworking, internet protocols, IP subnetting, introduction to the Cisco IOS, IP routing, EIGRP (Enhanced Interior Gateway Routing Protocol), and OSPF (Open Shortest Path First).

Prerequisite: CNG 124.

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 (Variable Length Subnet Masking), Layer 2 switching, VLANs (Virtual Local Area Network), ACLs (Access Control List), and other advanced routing concepts.

Prerequisite: Prerequisite/Corequisite CNG 230.

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.

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.

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.

CNG 241 - Information Storage and Management (3)

Teaches students to configure, manage, and backup data using current information storage technologies.

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 CNG 142.

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.

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.

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.

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.

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 (CNG 201 or CNG 212).

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.

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.

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.

COM 130 - Communication & Popular Culture: GT-AH1 (3)

Introduces four key theoretical models for examining popular culture: Narrative Theory, Rhetorical Theory, Gender Theory, and Critical Race Theory. Emphasis is on popular American media texts, including books, comics/graphic novels, films, music, and television. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Offered: *(GT-AH1).

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.

COM 215 - Gender Communication (3)

Examines contemporary theories and research in gendered communication. The course will involve reading and discussion in areas of gender differences in self-perception, social and media images of men and women, language usage and nonverbal behavior differences among genders. Relevant concepts include verbal communication, nonverbal communication, context, language, perception, and conflict.

COM 216 - Advanced Public Speaking (3)

Emphasizes the continued study of rhetorical theory and analysis as it relates to public speaking.

Prerequisite: COM 115.

COM 217 - Group Communication (3)

Examines group communication theories with an emphasis on leadership and group behaviors. The course provides opportunities for group participation.

COM 220 - Intercultural Communication: GT-SS3 (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. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

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).

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.

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.

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.

COM 285 - Independent Study (3)

Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

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.

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.

Prerequisite: CON 110.

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.

Prerequisite: CON 110 and CON 111.

CON 289 - Capstone: Construction (2)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: CON 110 and CON 111.

CRJ - Criminal Justice

CRJ 110 - Intro to Criminal Justice: GT-SS3 (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).

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.

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.

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.

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.

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 and CRJ 125 and PSY 101 and PSY 116 and SOC 231 or PSY 226.

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.

CRJ 209 - Criminal Investigations I (3)

Covers the function of the preliminary investigation at a crime scene to include securing the scene, crime scene searchers, police drawings, and recognition and collection of evidence.

Prerequisite: CRJ 110 with a grade of "C" or above.

CRJ 210 - Constitutional Law (3)

Focuses on the powers of government as they are allocated and defined by the United States Constitution. The course includes intensive analysis of United States Supreme Court decisions.

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.

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.

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.

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.

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.

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.

CRJ 280 - Internship (1)

Provides placement of the student into the criminal justice field to integrate theory with practice.

Prerequisite: Before enrolling in this course students must pass the background check.

CSC - Computer Science

CSC 119 - Introduction to Programming (3)

Focuses on a general introduction to computer programming. This course emphasizes the design and implementation of structured and logically correct programs with good documentation. It is centered on basic programming concepts, including control structures, modularization, and data processing. A structured programming language is used to implement program designs. It emphasizes the writing of multiple programs following the software development process, from start to finish, including design, implementation, and testing.

Prerequisite: Equivalent testing score or successful completion of MAT 055 or higher.

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.

CSC 161 - Computer Science II: (Language) (4)

Continues algorithm development and problem solving techniques not covered in Computer Science I using a high-level programming language. Students are able to gain experience in the use of data structures and the design and implementation of larger software projects. Intensive computer laboratory experience is required for this course.

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.

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.

Prerequisite: Prerequisite/Corequisite: CSC 119.

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.

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.

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.

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).

CSC 233 - Object-Oriented Programming: (Lang) (3)

Provides students will 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.

CSC 234 - C++ Programming (Platform) (4)

Starts with basic differences between C++ and other programming languages and progresses to programming advanced C++ concepts such as operator overloading, friends, references, namespaces, pointers and dynamic arrays, templates, streams and file I/O, recursion, polymorphism,

exception handling and Standard Template Library. The course covers large programs that are coded implementing object-oriented design principles such as classes and objects, polymorphism, encapsulation, composition, inheritance and templates.

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.

CSC 240 - Java Programming (3)

Introduces the Java Platform, Standard Edition (Java SE), to develop Graphical User Interface (GUI) applications. Language constructs will include loops, conditionals, methods, and arrays. The code will incorporate event and exception handling, File I/O, and Object-Oriented Programming (OOP) concepts.

Prerequisite: CSC 119 or CSC 160.

CSC 241 - Advanced Java Programming (3)

Covers advanced programming topics including multi-threading, network/internet programming, database programming, and JavaBeans. This course focuses on writing Java Enterprise Edition (Java EE) complex programs.

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.

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.

CUA - Culinary Arts

CUA 101 - Food Safety and Sanitation (2)

Introduces the student to 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.

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.

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.

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 for preparation and cooking of various types of potatoes, rice, legumes, pastas, casseroles and grain products with special attention given to complimentary proteins.

Prerequisite: CUA 101 and CUA 125.

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 is 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.

CUA 233 - Advanced Line Prep & Cookery (4)

Focuses on preparation of complete meals to order. Emphasizes cooking center of the plate items such as meat, fish, seafood, and poultry as well as accompaniment foods such as starches and vegetables. Enables the student to prepare sauces, entree salads, edible garnishes, and meals determined by the menu prepared for a dining room setting. Emphasizes line supervisor, saute cook, pantry cook, cooks helper and runner responsibilities.

CUA 256 - Marketing in Hospitality Industry (3)

Involves the student in a study of foodservice marketing including marketing planning, use of marketing information in the foodservice operation, marketing research, understanding foodservice customers, advertising and promotion, hospitality group sales, and menu design and pricing strategies. At the conclusion of this course, the student will take a nationally

recognized test and receive a certificate from the Education Foundation of the National Restaurant Association.

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.

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.

CUA 281 - Internship (4)

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 - Introduction to Web Authoring (3)

Explores the complete set of web authoring skills using HTML and/or other languages. The course covers links, backgrounds, controlling text and graphic placement, tables, image maps and forms.

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.

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.

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.

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.

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.

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)

Introduces basic concepts and skills of hip hop and how it is fused with athleticism. This course will cover the progression of the hip hop dance genre beginning with foundational hip hop vocabulary. The history and culture of this genre are examined. This is a beginning level course.

DAN 106 - Hip Hop Dance II (1)

Includes a continuing study of hip hop dance movement and cultural concepts and focuses on advancing technique work and proficiency. This course expands and deepens understanding of vocabulary, choreography, styles of the dance, history, and current trends.

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.

DAN 112 - Modern Dance II (2)

Includes a continuing study of modern dance movement concepts. Focuses on advancing technique work and proficiency. Expands and deepens understanding of alignment, strength, flexibility, endurance, coordination, rhythm and spatial awareness. Improvisation may be included. This course is for students who have successfully completed Modern I or have previous dance training. This course may be repeated up to two times for credit.

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.

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.

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.

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.

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.

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.

DAN 125 - Dance History: GT-AH1 (3)

Examines Western & non-Western dance as an expression of cultural value throughout history from early Renaissance dance through present day dance trends. Attention is given to social, political, economic, environmental, racial and gender effects as it pertains to the historical development of dance forms within societies. Explores how our cultural lens shifts our perception of movement, the body, and our values. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

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).

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Prerequisite: Prerequisite/Corequisite: DEA 111, DEA 120, DEA 121, DEA 123, DEA 125, DEA 126, DEA 132, DEA 134, DEA 181.

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: Prerequisite/Corequisite: DEA 120, DEA 121, DEA 125, DEA 126, DEA 132.

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.

Prerequisite: Prerequisite/Corequisite: DEA 120, DEA 121, DEA 125, DEA 126, DEA 132.

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.

DEA 121 - Dental Science I (3)

Includes fundamentals of the oral structures as they apply oral histology, embryology, morphology, pathology and dental anatomy.

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.

Prerequisite: Prerequisite/Corequisite: DEA 120, DEA 121, DEA 125, DEA 126, DEA 132.

DEA 123 - Dental Materials I (3)

Includes fundamentals of dental materials as they apply to clinical and laboratory applications of cements, bases, liners, dental metals, resins, glass ionomers, ceramics and dental abrasives.

Prerequisite: Prerequisite/Corequisite: DEA 120, DEA 121, DEA 125, DEA 126, DEA 132.

DEA 124 - Dental Materials II (3)

Includes fundamentals of dental materials as they apply to clinical and laboratory applications of hydrocolloid and elastomeric impressions materials, gypsum products, dental waxes, study and final working models, and fabrication of provisional crowns, custom impression trays and bleaching trays.

Prerequisite: Prerequisite/Corequisite: DEA 120, DEA 121, DEA 125, DEA 126, DEA 132.

DEA 125 - Dental Radiography (3)

Focuses on the science of radiography, the application of radiographic techniques, and aseptic techniques.

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.

DEA 131 - Advanced Dental Radiography (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 and aseptic techniques. Enables the student to expose radiographs on the x-ray mannequin and patients. Students must be a minimum of 18 years of age.

Prerequisite: Prerequisite/Corequisite: DEA 120, DEA 121, DEA 125, DEA 126, DEA 132.

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.

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.

Prerequisite: Prerequisite/Corequisite: DEA 120, DEA 121, DEA 125, DEA 126, 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: Prerequisite/Corequisite: DEA 102.

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: Prerequisite/Corequisite: DEA 104, DEA 122, DEA 124, DEA 131, DEA 181 and DEA 183.

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: Prerequisite/Corequisite: DEA 182.

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.

DRV - Driving

DRV 138 - Driver Training (6)

Provides over-the-road driving experience with the driving instructor to prepare participants for the CDL driving test. This class drills students in safe driving procedures both on and off the road, including driving empty and loaded vehicles, proper turning and backing, appropriate use of brakes, shifting, and observing speed limits, signals, road signs, and port-of-entry procedures.

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.

ECE 102 - Intro to ECE 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: Prerequisite/Corequisite: ECE 101, ECE 103, ECE 238. This course and ECE 101, ECE 103, and ECE 238 may taken at the same time.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

ECE 188 - Practicum (4)

Provides students with field experience in early childhood programs.

Prerequisite: ECE 102.

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.

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.

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.

ECE 220 - Curriculum Methods/Technologies (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.

ECE 228 - Early Language and Literacy (3)

Provides foundational knowledge of the developmental progression of language and literacy acquisition of mono- and bilingual children age's birth to age 8. This course provides opportunities to explore and practice language and literacy teaching strategies to use with young children in home, classroom, and community settings.

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: ECE 238. ECE 238 may be taken concurrently.

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.

ECE 240 - Admin of ECE 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.

ECE 241 - Admin: Human Relations ECE (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.

ECE 256 - Working w/Families & Communities (3)

Examines professional attitudes related to working with diverse families and how unconscious bias may affect family-professional partnerships in early care and education settings. This course covers theoretical perspectives of families and communities, communication strategies, and an exploration of activities and resources to support family engagement in their children's education. Supporting equity and inclusion of all family cultures in early care and education settings for children ages birth through eight.

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: ECE 238 or PSY 238. ECE 238 or PSY 238 may be taken concurrently.

ECE 288 - Practicum: Early Childhood Education (4)

Provides students with advanced field experience opportunities in early childhood education programs.

Prerequisite: Prerequisite: ECE 188.

ECE 289 - Capstone (1)

Incorporates a demonstrated culmination of learning within a given program of study.

Prerequisite: Prerequisite/Corequisite: ECE 288. This course and ECE 288 may be taken at the same time.

ECO - Economics**ECO 101 - Economics of Social Issues: GT-SS1 (3)**

Examines major contemporary socio-economic issues and policies such as drugs and crime, education, health care, poverty and inequality, and globalization. These issues will be explored using economic tools and methods. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

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).

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.

ECO 201 - Principles of Macroeconomics: GT-SS1 (3)

Focuses on the study of the national economy, emphasizing business cycles and long-run growth trends. Explores how macroeconomic performance is measured, including Gross Domestic Product and labor market indicators. Examines the saving-investment relationship and its relationship to Aggregate Supply and Aggregate Demand. Discusses money and banking, international trade, fiscal and monetary policy. Explores the macroeconomic role of the public sector. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

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).

ECO 202 - Principles of Microeconomics: GT-SS1 (3)

Focuses on the study of individual decision making, emphasizing households, business firms and industry analysis. Explores market models, including competition, monopoly, monopolistic competition and oligopoly. Examines market failure and related efficiency criteria for government intervention. Explores public policy, including labor market issues, poverty and the environment. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

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).

ECO 211 - Gender in the Economy: GT-SS1 (3)

Introduces the role of gender in the economy including the concepts of femininity and masculinity and how these concepts play a role in consumption, labor, marriage, poverty, inequality, and globalization. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

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).

ECO 245 - Environmental Economics: GT-SS1 (3)

Introduces contemporary environmental issues and policies meant to reduce environmental degradation. It introduces the concept of market failure due to pollution. The course covers government pollution reduction policies for air, water, and natural environments. It also covers analytical tools that are used to analyze the effectiveness of these policies. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

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).

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.

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.

EDU 132 - Planning & Delivering Instr to Adults (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.

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.

EDU 134 - Teaching 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.

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.

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.

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.

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.

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. This course includes current issues of education reform, technology as it relates to education, and considerations related to becoming a teacher in the state of Colorado. The course addresses diversity in the preschool through secondary school system.

Prerequisite: College level English proficiency or CCR 093 or higher or COM 115.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Prerequisite: MAT 121 or above (MAT 122, MAT 125, MAT 166 or any 200-level MAT).

EGG 145 - Intro to Engineering Computing (4)

Introduces techniques for designing, implementing, and testing computer programs in higher-level programming languages to solve problems common in engineering domains. This course uses elementary numerical methods, visualization, and tools from engineering.

Prerequisite: Prerequisite/Corequisite: MAT 201 or higher.

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: MAT 201. Corequisite: Corequisite/Prerequisite: PHY 211. This course and PHY 211 may be taken at the same time.

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.

Prerequisite: EGG 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.

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.

EGT 201 - Engineering Materials (3)

Investigates the physical and mechanical properties of engineering materials used within industry. Includes the study of ferrous and nonferrous metals, polymers (plastics), ceramics, composites, and other advanced materials.

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.

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.

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.

Prerequisite: CON 110.

EIC 165 - Solid State Devices & Circuits (4)

Explores the basic properties of diodes, transistors, triacs, SCRs and other solid state devices. Covers applications of solid state devices in control and power conversion and the circuits in equipment likely to be encountered in power installations.

Prerequisite: ELT 112.

EIC 168 - Maintenance Management (1)

Covers the critically important but often overlooked component of maintenance management. Focuses on the implementation of a maintenance program or improvement of an existing program. Covers how to reduce unscheduled overtime, excessive material costs, and the number of breakdown repairs.

EIC 230 - Instrument & Process Control II (4)

Introduces the basic concepts, principles, equipment and components of instrumentation and control systems found in the process and energy supply industries. The fundamental process variables of pressure, temperature, level, flow and physical properties will be presented. Control loop structure and function will be introduced. The function and operation of a proportional-integral-derivative (PID) controller will be introduced. Students will assemble and operate basic control loops in a laboratory setting.

Prerequisite: ELT 252.

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.

EIC 289 - Capstone (2)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: Prerequisite/Corequisite: CON 110 and EIC 110.

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: Prerequisite/Corequisite: MAT 108 or MAT 121 or MAT 122 or MAT 125 or MAT 166 or higher.

ELT 112 - Advanced DC-AC (3)

Continues to build on ELT 106 (p. 209) and covers advanced concepts of DC-AC circuits. Includes an expanded treatment of power supplies, dual-supply rectifier circuits, and Zener diode voltage regulators. Emphasizes troubleshooting.

Prerequisite: ELT 106.

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.

ELT 165 - Electronic Assembly (3)

Introduces electronic assembly methods with an emphasis on processes, safety, component recognition, and soldering techniques for both through hole and surface mount components.

ELT 215 - Operational Amplifiers (3)

Focuses on a study of integrated operational amplifiers and their applications. Troubleshooting is emphasized.

Prerequisite: ELT 106.

ELT 237 - Vacuum & Power RF Systems (3)

Covers vacuum systems and RF (radio frequency) energy sources in the manufacture of semiconductor devices. Includes gas laws and gas properties, vacuum pumps, gauges and valves, and leak detection techniques. Addresses plasma physics, RF generators, transmission lines, RF interference, and safety.

Prerequisite: ELT 112.

ELT 252 - Motors and Controls (3)

Enables the student to study, construct, test, and evaluate basic industrial control systems, including AC/DC motors, stepper motors, power sources, generators, tachometers, line diagrams and logic functions. Covers safety standards and preventive maintenance.

Prerequisite: ELT 106.

ELT 254 - Industrial Wiring (3)

Focuses on the required and recommended practice for industrial wiring. The National Electrical Code is applied to industrial power and control wiring. Covers specification and installation of wiring, conduit, enclosures, and termination components in lecture and applied during lab.

Prerequisite: ELT 106.

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 252.

ELT 261 - Microprocessors (3)

Focuses on basic operation and applications of microprocessors. Enables the student to write machine and assembly language programs, interface microprocessors to various devices, and troubleshoot microprocessor-based systems.

Prerequisite: ELT 147.

ELT 267 - Introduction to Robotics (1)

Introduces basic robotics. Enables the student to program a robot in a higher-level language to perform various tasks. Covers building and interfacing of sensor circuits.

Corequisite: ELT 268.

ELT 268 - Robotics Technologies (3)

Introduces industrial robotics as well as a survey of the technologies and equipment used in manufacturing automation and process control. Includes axis configurations, work envelopes, programming, troubleshooting, and maintenance. Incorporates a survey of automation topics including history, computer and hardwired controls, sensors and transducers, motors and actuators, fluid power, etc. and provides a preview of the other ELT classes that cover those subjects.

Prerequisite: ELT 258. Corequisite: This course and ELT 267 may be taken at the same time.

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.

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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher.

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.

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.

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.

EMS 126 - EMT Refresher (2)

Provides the student with a refresher course designed to meet the recertification requirements for the State of Colorado and/or a portion of the recertification requirements for National Registry.

EMS 132 - EMS IV/IO Therapy (2)

Focuses on cognitive and skill practice for the Colorado scope of practice for the IV/IO endorsement as outlined in the Intravenous/Intraosseous Therapy and Medication Administration course curriculum.

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.

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.

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.

EMS 170 - EMT Clinical (1)

Provides the EMT student with the clinical experience required for initial certification and some renewal processes.

Prerequisite: Prerequisite/Corequisite: EMS 121. This course and EMS 170 may be taken at the same time.

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-Basic.

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.

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.

ENG 121 - English Composition I: GT-CO1 (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. This is a statewide Guaranteed Transfer course in the GT-CO1 category.

Offered: *(GT-CO1).

ENG 122 - English Composition II: GT-CO2 (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. This is a statewide Guaranteed Transfer course in the GT-CO2 category.

Prerequisite: ENG 121 or ENG 131. Offered: *(GT-CO2).

ENG 131 - Technical Writing I: GT-CO1 (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. This is a statewide Guaranteed Transfer course in the GT-CO1 category.

Prerequisite: CCR 092, CCR 093 or CCR 094 with a grade of C or better or equivalent placement test score for college level writing. Offered: *(GT-CO1).

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.

ENG 201 - English Composition III: GT-CO3 (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. This is a statewide Guaranteed Transfer course in the GT-CO3 category.

Prerequisite: ENG 122. Offered: *(GT-CO3).

ENG 221 - Creative Writing I: GT-AH1 (3)

Examines techniques for creative writing by exploring 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. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Offered: *(GT-AH1).

ENG 222 - Creative Writing II (3)

Provides continued development of written expression in the 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. This course is a creative writing workshop centered around producing and critiquing creative work.

ENG 226 - Fiction Writing (3)

Provides techniques for analyzing and writing fiction, including the study of form and technique with an emphasis on the writing process.

ENG 227 - Poetry Writing (3)

Teaches techniques for creating poems, including study of figurative language, forms, and sound patterns of poetry.

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.

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.

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.

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.

ENP 106 - E-Ship Opportunity Feasibility Study (3)

Determines if a business venture is feasible based on personal, professional, and financial goals. This course will help to identify and analyze the present climate for business ideas through an industry analysis, target market analysis, competitive analysis, and financial analysis.

ENP 205 - Marketing for the Entrepreneur (3)

Covers marketing strategies to launch and sustain an entrepreneurial venture. This course will include topics on marketing entrepreneurial ventures utilizing innovative and financially responsible marketing strategies. This course will help students to develop an understanding of entrepreneurial marketing goals and objectives. The course covers marketing principles and electronic marketing.

ENP 206 - Entrepreneurship Legal Issues (3)

Explores legal issues related to business entities including sole proprietorship, general partnerships, limited partnerships, and corporations. This course reviews articles of incorporation and the filing process, employment law, property, landlord tenant rights and duties, and business insurance.

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.

ENV - Environmental Sciences

ENV 101 - Environmental Science w/Lab: GT-SC1 (4)

Introduces the basic concepts of ecology and the relationship between environmental problems and biological systems. This

course includes interdisciplinary discussions on biology, chemistry, geology, energy, natural resources, pollution, and environmental protection. A holistic approach is used when analyzing how the foundations of natural sciences interconnect with the environment. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SC1).

ENV 110 - Natural Disasters: GT-SC2 (3)

Introduces 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 is a statewide Guaranteed Transfer course in the GT-SC2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken concurrently with this course. Offered: *(GT-SC2).

ESL - English as a Second Language

ESL 021 - Basic Grammar (3)

Develops competency in basic grammatical structures through oral and written practice.

ESL 022 - Intermediate Grammar (3)

Builds on basic grammar structures. This course develops competency in intermediate grammar structures with continued emphasis on oral and written communication.

ESL 023 - Advanced Grammar (3)

Builds on intermediate level grammar structures. This course develops competency in advanced grammatical structures with increased emphasis on written communication.

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.

ESL 032 - Intermediate Listening & Speaking (3)

Teaches listening, pronunciation, and conversation skills. Increases speed and accuracy in speaking through free and guided conversational practice.

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.

ESL 041 - Basic Reading (3)

Improves comprehension of simple written texts through vocabulary building and reading strategies.

Prerequisite: 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.

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.

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.

ESL 052 - Intermediate Composition (3)

Introduces the fundamentals of paragraph organization and development. Emphasizes development of sentence variety and grammatical competency within well-organized paragraphs.

ESL 053 - Advanced Composition (3)

Reviews paragraph organization and develops the skill of writing essays using selected rhetorical modes. This course emphasizes accurate use of advanced grammatical structures. Includes summarizing, paraphrasing, and research writing.

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.

ETH - Ethnic Studies**ETH 200 - Intro to Ethnic Studies: GT-SS3 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course. Offered: *(GT-SS3).

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.

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.

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.

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.

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.

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.

FIN - Finance**FIN 101 - Introduction to Finance (3)**

Examines the financial markets, financial instruments and the actors in these markets. The course covers the use of time value of money and other financial models to value different types of capital, financial data to analyze performance and to examine capital budgeting alternatives, and analyzes working capital needs and costs.

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.

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.

FLD 200 - Advanced Floral Design (3)

Focuses on advanced floral design concepts and techniques including special event, wedding and sympathy arrangements.

FLD 289 - Capstone (4)

Focuses on a demonstrated culmination of learning within the floral design program of study.

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.

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.

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.

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.

FRE 211 - French Language III: GT-AH4 (3)

Continues the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the French language. This course is conducted predominantly in French. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: FRE 112 and CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course. Offered: *(GT-AH4).

FRE 212 - French Language IV: GT-AH4 (3)

Continues the development of increased functional proficiency at intermediate mid level in speaking, aural comprehension, reading, writing, and cultural competency in the French language. This course is conducted predominantly in French. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

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).

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.

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.

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.

GEO - Geography

GEO 105 - World Regional Geography: GT-SS2 (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. This is a statewide Guaranteed Transfer course in the GT-SS2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course. Offered: *(GT-SS2).

GEO 106 - Human Geography: GT-SS2 (3)

Introduces geographic perspectives and methods in the study of human societies by examining the spatial characteristics of populations, language, religion, ethnicity, politics, and economics. This course examines the relationships between physical environments and human societies. This is a statewide Guaranteed Transfer course in the GT-SS2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course. Offered: *(GT-SS2).

GEO 111 - Physical Geography: Landforms w/Lab: GT-SC1 (4)

Examines 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 is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course. Offered: *(GT-SC1).

GEO 112 - Phys Geography: Climate, Ecosystems, Lab: GT-SC1 (4)

Introduces the principles of meteorology, climatology, ecology, and regional climate classification. The course investigates the geographic factors which influence climate and ecosystems such as topography, elevation, winds, ocean currents, and latitude. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course. Offered: *(GT-SC1).

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.

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.

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.

GEO 210 - Careers & Research in the 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.

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.

GER 102 - Conversational German II (3)

Continues the sequence for students who wish to understand and speak German. Covers basic patterns, expressions, and grammar.

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.

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.

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.

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.

GER 211 - German Language III: GT-AH4 (3)

Continues the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the German language. This course is conducted predominantly in German. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: GER 112. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

GER 212 - German Language IV: GT-AH4 (3)

Continues the development of increased functional proficiency at intermediate mid level in speaking, aural comprehension, reading, writing, and cultural competency in the German language. This course is conducted predominantly in German. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: GER 211. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

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.

GEY - Geology**GEY 108 - Geology of National Parks: GT-SC2 (3)**

Explores significant geologic features and the processes that create them using examples and case studies from the U.S. National Park System. Weathering and erosional landforms, caves and reefs, coasts, glaciers, volcanoes, and complex mountains are discussed. Fundamental geologic concepts including plate tectonics, deep time, and rock classification are introduced and incorporated throughout the course.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course. Offered: *(GT-SC2).

GEY 111 - Physical Geology w/Lab: GT-SC1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SC1).

GEY 112 - Historical Geology w/Lab: GT-SC1 (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. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SC1).

GEY 135 - Environmental Geology w/Lab: GT-SC1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SC1).

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.

GEY 208 - Geology Field Studies (3)

Involves in-depth field studies of the geology of a specific region in the United States. Field trips lasting less than a week constitute the major activities 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.

GIS - Geographic Information Systems**GIS 101 - Introduction to Geographic Information Systems (3)**

Surveys the development, application and use of geographic information systems (GIS).

GIS 110 - Intro to Cartography for GIS (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.

GIS 131 - Global Positioning Sys for GIS (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.

GIS 150 - Relational Database Mgmt 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 portion of a GIS.

GIS 165 - GIS 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.

GIS 205 - Geographic Information Systems Applications (3)

Develops student 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.

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.

GIS 211 - Spatial Data Modeling & Analysis for GIS (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.

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 understand local to global earth observation characteristics based on remotely sensed data and logical interpretation.

Prerequisite: GIS 101.

GIS 240 - Raster Based GIS (3)

Focuses on raster-based Geographic Information Systems (GIS) concepts and analysis in combination with advanced vector-based geoprocessing tools. The course provides preparation for the demands of GIS technician and analyst positions.

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.

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.

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.

GIS 289 - Capstone (3)

Provides a demonstrated culmination of learning within a given program of study.

GIS 301 - GIS for Natural Sciences (3)

Evaluates topics and practices central to natural sciences and resource management, utilizing GIS to examine the practices of spatial analysts in various fields. Utilizing a module based layout, major topics in natural sciences including conservation, resource planning, wildlife, and forestry will be examined independently, focusing on the unique practices and toolsets within GIS for each.

Prerequisite: GIS 210.

GIS 305 - Programming for GIS (3)

Introduces students to basic computer programming concepts that can be used in a GIS environment. Develops the programming skills needed to create scripts for automating GIS data management and analysis, accessing spatial data and properties, performing queries, retrieving data values from tables, and incorporating logic and looping. Emphasizes best practices for writing code, error handling, and demonstrates how to share and publish these scripts. Programming experience not required, but may be helpful.

Prerequisite: GIS 205, GIS 210.

GIS 311 - Advance Spatial Analysis (4)

Expands on spatial analysis knowledge and application to focus on geostatistical techniques including interpolation, spatial statistics, and regression. Examines the theories behind these techniques and puts them into practice. Multiple approaches to performing these analyses will also be explored.

Prerequisite: GIS 210, GIS 211.

GIS 312 - Advanced Remote Sensing (4)

Builds on the knowledge of remote sensing fundamentals and basic image analysis. Discusses and applies the concepts and computer-based methods of advanced information extraction from remotely sensed data with emphasis on the analysis and integration of data from multiple sources at local to global scales.

Prerequisite: GIS 210, GIS 212.

GIS 335 - Geospatial Statistics (4)

Analyzes methodology in spatial modeling, estimation, and prediction with a focus on spatial-temporal processes. Provides students the skills necessary to investigate geographically represented data using five broad topical areas: (1) point pattern

analysis; (2) area data analysis; (3) continuous data analysis; (4) spatial sampling; and (5) multivariate spatial and temporal analysis.

Prerequisite: GIS 210, MAT 135.

GIS 350 - Advanced Database for GIS (4)

Expands on students existing database knowledge to analyze and evaluate GIS data, compare data structures and formulate plans as to how they can combine, synthesize and transform data into a state appropriate for GIS analysis. Students will contrast data models, build methods for measuring data quality and increase their efficiency in designing data related workflows.

Prerequisite: GIS 150, GIS 210.

GIS 410 - Geomorphology and GIS (4)

Constructs a knowledge base of surficial earth system processes for informing spatial analysis. Concepts of landform development and evolution will be addressed in desert, mountainous, arctic and other environments through the lens of a GIS. Multiple spatial analysis techniques will be applied throughout the course in the context of each geomorphologic focus. Other geomorphological methodologies will be examined to extend the scope of GIS analysis beyond physical processes to include environmental and social factors.

Prerequisite: GIS 210, (GEY 135 or GEO 111).

GIS 411 - Hydrology Analysis with GIS (4)

Examines hydrology concepts and the various methods used for conducting hydrologic analysis with GIS. Studies the techniques used for stream and watershed delineation, groundwater modeling, floodplain delineation, and modeling water runoff. Techniques will be tied to practical applications in a variety of fields. Visualization of these datasets in 2D and 3D will also be explored.

Prerequisite: GIS 210, (GEY 135 or GEO 111).

GIS 412 - Photogrammetry and LiDAR (4)

Introduces the basic principles of photogrammetry and the development of the photogrammetric technologies. Discusses the typical geometry of an aerial photograph and the basic mathematical functions and formulations used in photogrammetry. Acquisition of aerial imagery and the accuracy and precision of measurements will be covered. Investigates the differences between a map and a photograph and the reasons for these differences. Increase understanding of photogrammetry by exploring examples of use.

Prerequisite: GIS 210, GIS 212.

GIS 488 - Practicum (4)

Provides students an opportunity to gain practical experience in applying their educational 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 practicum supervisor.

Prerequisite: GIS 101, GIS 110, GIS 131, GIS 150, GIS 165, GIS 210, GIS 212, GIS 211, GIS 205, MAT 135, ENG 121.

HEQ - Heavy Equipment

HEQ 140 - Heavy Equipment Operations I (6)

Introduces basic operation and safety of heavy equipment including utility tractors. Basics of earthmoving, grading, and other aspects of the trade are also covered.

HIS - History

HIS 101 - Western Civ: Antiquity-1650: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 102 - Western Civ: 1650-Present: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 111 - The World: Antiquity-1500: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 112 - The World: 1500-Present: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 121 - U.S. History to Reconst: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 122 - U.S. History Since Civil War: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 203 - Civil War Era American History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: (GT-HI1).

HIS 205 - Women in World History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: (GT-HI1).

HIS 207 - American Environmental History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: (GT-HI1).

HIS 208 - American Indian History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

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.

HIS 215 - Women in U.S. History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 218 - History of Science and Tech: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 225 - Colorado History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 235 - History of American West: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 236 - U.S. History Since 1945: GT-HI1 (3)

Focuses on the major political, economic, social, and cultural developments that have shaped modern America from 1945 to the present.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 243 - History of Modern China: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 244 - History of Latin America: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 245 - U.S. in the World: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 246 - History of Mexico: GT-HI1 (3)

Focuses on the major political, economic, social, and cultural developments of Mexico from Pre-Columbian times to the present.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 247 - 20th Century World History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

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).

HIS 249 - History of Islamic Civiliz: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 250 - African American History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 251 - History Christianity in the World: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 255 - The Middle Ages: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

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.

HIS 259 - Modern Middle East: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 260 - US Foreign Relations History: GT-HI1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-HI1).

HIS 265 - Writing About History: GT-CO3 (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: ENG 122. Offered: (GT-CO3).

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.

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.

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.

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.

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: Prerequisite/Corequisite: HIT 101, HIT 105, HIT 111.

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.

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.

HIT 221 - ICD Coding II (2)

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 coding.

Corequisite: HIT 220.

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.

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.

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.

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.

HIT 289 - HIT Capstone Course (3)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: Prerequisite/Corequisite: HIT 188.

HLT - Horticulture and Landscape Technologies**HLT 101 - Introduction to Horticulture (4)**

Introduces the biology of horticultural plants, and basic horticultural practices.

HLT 130 - Landscape Design I (3)

Teaches basic graphic communications and drafting. Introduces design theory and the visual thinking and problem solving techniques used in landscape design. The course will emphasize peer review of student work.

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.

HLT 150 - Irrigation I (3)

Introduces students to relevant irrigation components and their use, installation and maintenance.

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.

HLT 160 - Greenhouse Management (4)

Covers greenhouse design, systems, management, and the major greenhouse crops and their cultural needs.

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.

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.

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.

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.

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.

HLT 221 - Woody Plants: Trees and Conifers (3)

Teaches the identification, landscape usage and culture of regionally adapted deciduous trees and conifers.

HLT 222 - Woody Plants: Shrubs and Vines (3)

Teaches the identification, landscape usage and culture of regionally adapted shrubs and vines.

HLT 223 - Annuals, Bulbs, and Grasses (2)

Teaches the identification, landscape usage and culture of regionally adapted annual color crops, ornamental grasses, and bulbs.

HLT 224 - Herbaceous Perennials (4)

Teaches the identification, landscape usage and culture of regionally adapted herbaceous perennials.

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.

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. The course introduces grading plan development and the rendering of hardscape construction details.

Prerequisite: HLT 130.

HLT 232 - Landscape Design III (3)

Concludes instruction 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 presentation to a review panel.

Prerequisite: HLT 230.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

HOS 210 - Event Finances (3)

Examines the concepts and techniques for maximizing event income including ticket fees, retail sales, grants, and sponsorships.

HOS 221 - Basic Hotel & Restaurant Accounting (3)

Helps to develop a basic understanding of hotel and restaurant accounting procedures, with a focus on the computerized accounting used in today's hospitality accounting situations. You'll learn about taxation of business income, the role of governmental agencies, and how to read and analyze financial statements.

HOS 226 - Supervision in Hospitality Industry (3)

Teaches the skills that can help develop effective supervision and management skills that are essential to success in the industry. Topics include how to recruit, select, and train; increase productivity; control labor costs; communicate effectively; manage conflict and change; and use time management techniques. Resources on creating a professional development plan for your hospitality career can help set the direction for future educational and professional endeavors.

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.

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.

HOS 280 - Internship (5)

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.

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.

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.

HPR 106 - Law & Ethics for Health Professions (2)

Introduces student to the study and application medico-legal concepts in medical careers. This course seeks to establish a foundation for ethical behavior and decision making in health professions.

HPR 108 - Dietary Nutrition (1)

Studies the basic nutritional principles in clinical practice in 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 disease states.

HPR 112 - Phlebotomy (4)

Teaches the duties associated with the practice of venipuncture, capillary puncture, and special collection procedures. This course provides experience with quality control, infection control, safety procedures, as well as laboratory computer systems. Successful completion of this course, with an adequate number of blood draws, will constitute eligibility for application for a National Phlebotomy Registry Examination.

Prerequisite: Prerequisite/Corequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken at the same time with this course.

HPR 117 - Anatomical Kinesiology (3)

Studies the anatomical basis of human movement.

Prerequisite: MST 208. Corequisite: MST 211. This course and MST 211 may be taken at the same time.

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.

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.

HPR 138 - Intro to Medical Terminology (1)

Introduces the structure of medical terms with emphasis on using and combining the most common prefixes, roots, and suffixes. This course includes terms related to major body systems and provides accepted pronunciation of terms.

HPR 179 - Seminar: Phlebotomy (1)

Provides students with an experiential learning opportunity.

Prerequisite: Prerequisite/Corequisite: HPR 112 and HPR 180 may be taken concurrently.

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.

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.

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.

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.

HPR 208 - Medical Record Terminology (2)

Demonstrates knowledge of medical terminology with emphasis on combining complex prefixes, roots and suffixes. Course includes pathophysiology for major body systems. Course includes terms related to diagnostic tools per body systems, as well as commonly used medical abbreviations. Course applies medical terminology knowledge in interpreting the medical record.

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.

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.

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 - Intro to Film Art: GT-AH2 (3)**

Introduces film terminology and narrative techniques to explore how film conveys meaning and to study the relationships among film form, content, and audience reception. This course emphasizes active viewing, discussion, and critical analysis of films from different cultures and eras. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: (GT-AH2).

HUM 115 - World Mythology: GT-AH2 (3)

Introduces an interdisciplinary approach to world mythology. The course illustrates and connects common themes in mythology to world religion, philosophy, art, literature, music, and contemporary culture using various interpretive methods. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

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.

HUM 121 - Humanities: Early Civilization: GT-AH2 (3)

Introduces the interdisciplinary study of ideas that have defined cultures through a survey of the visual, performing, and literary arts, emphasizing connections among diverse cultures, including European and non-European, from the prehistoric to the early medieval era. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

HUM 122 - Humanities: Medieval-Modern: GT-AH2 (3)

Introduces the interdisciplinary study of ideas that have defined cultures through a survey of the visual, performing, and literary arts, emphasizing connections among global cultures from the medieval to the early modern era. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

HUM 123 - Humanities: Modern World: GT-AH2 (3)

Introduces the interdisciplinary study of ideas that have defined cultures through a survey of the visual, performing, and literary arts, emphasizing connections among global cultures from the European Enlightenment to the postmodern era. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

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.

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.

HVA-Heating Ventilation and Air Conditioning**HVA 101 - Intro to Air Conditioning & 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.

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.

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.

HVA 104 - Electrical Components (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.

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.

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.

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.

HVA 200 - International Residential Codes (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.

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.

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.

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.

HVA 235 - Specialty Refrigeration Units (4)

Covers the advanced study of refrigeration equipment such as cascade refrigeration units, and two stage refrigeration units.

Prerequisite: MAC 101 and MTE 238.

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.

HVA 280 - Internship (2)

Gives the students an opportunity to apply their course studies in a specific area.

Prerequisite: HVA 102 and HVA 104.

HVA 289 - Capstone (2)

Demonstrates culmination of learning within a given program of study.

HWE - Health Wellness Education

HWE 100 - Human Nutrition (3)

Introduces basic principles of nutrition with emphasis on personal nutrition. This course focuses on macro and micro nutrients and their effects on the functions of the human body. Special emphasis is placed on the application of wellness, disease, and lifespan as it pertains to nutrition.

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.

HWE 108 - Weight Loss (1)

Focuses on calories in relationship to body weight and proper dietary behaviors that encourage weight loss.

HWE 109 - Weight Management and Exercise (2)

Offers guided instruction in weight management. Emphasis is placed on the development of weight management programs and the role of exercise in maintaining weight loss.

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.

HWE 112 - Health & Wellness for the Elderly (3)

Focuses on 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.

HWE 121 - Wilderness First Aid (2)

Provides more advanced wilderness care for the First Responder or EMT provider.

HWE 124 - Fitness and Wellness (2)

Provides information on fitness and wellness and serves as a guide to design, implement, and evaluate a complete personal fitness and wellness program.

HWE 140 - Nutrition of Pregnancy (1)

Examines the basic nutrition principles during pregnancy and lactation. Emphasis will be placed on normal pregnancy, gestational diabetes, normal lactation, and common problems in breastfeeding.

HWE 141 - Infant Nutrition (1)

Examines the basic nutrition principles for infants and toddlers from birth to 18 months of age.

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".

HWE 237 - Exercise, Nutrition & Body Composition (3)

Focuses on the concepts of improved performance in all fitness areas. Emphasis is placed on how carbohydrates, fat, and protein impact performance, and the relationship between metabolism and weight for all populations. Addresses unhealthy diets, eating

patterns, and behavior modifications to change negative food relationships within a variety of populations.

Prerequisite: HWE 100.

HWY - Highway Maintenance Management

HWY 100 - Highway Maintenance & Operations Safety (1)

Introduces performance of highway maintenance and operations work activities emphasizing safety and establishing a safety-focused work culture.

HWY 101 - Intro to Highway Maintenance & Operations (3)

Introduces highway maintenance and operations job activities within state, county, city, and municipal public works (road and bridge) agencies. This course explores career opportunities in highway maintenance and assessments of fit to career interests.

HWY 105 - Traffic Control (2)

Introduces design, set up, and maintenance of temporary traffic control in a highway maintenance work zone.

HWY 110 - Highway Asset Management (1)

Introduces the strategic approach to managing and prioritizing the use of highway assets (e.g., equipment, materials, staffing) to best achieve targeted roadway and bridge performance levels given existing asset conditions and available funding. This course instructs how to use reliable data and clear performance metrics to support trade-off decision making on the most effective use of assets to advance agency objectives.

HWY 115 - Pavement Preservation (2)

Introduces concepts, techniques, and treatments to extend the life of asphalt pavements.

HWY 180 - Internship I (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.

HWY 181 - Internship II (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.

HWY 182 - Internship III (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.

HWY 183 - Internship IV (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.

HWY 184 - Internship V (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.

HWY 210 - Gravel Road Maintenance (2)

Introduces the management of unimproved, gravel, and low volume roads. Instructs on the best maintenance and rehabilitation practices of gravel roads within available agency budgets.

HWY 255 - Highway Maintenance Leadership (4)

Introduces leading a highway maintenance organization and managing highway maintenance and operations activities. This course covers the integrated technical and non-technical/managerial roles and responsibilities of a highway maintenance manager.

HWY 280 - Internship VI (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.

HWY 281 - Internship VII (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.

HWY 282 - Internship VIII (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.

HWY 283 - Internship IX (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.

HWY 284 - Internship X (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.

HWY 288 - Practicum (2)

Provides students an opportunity to gain practical experience in applying their 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 practicum supervisor.

HWY 289 - Capstone (2)

Provides a demonstrated culmination of learning within a given program of study.

IHP - Integrative Health Professions

IHP 101 - Introduction to Integrative Health (2)

Introduces the spectrum of diverse health practices found within the emergence of the Integrative Health field. The course explores the history, theoretical foundations, and common treatment modalities categorized under the five primary domains of Complementary Alternative Medicine (CAM). This course also provides an overview of the Integrative Health Professions Program and tools for success.

IHP 104 - Exploring Dream Interpretation (1)

Introduces the purpose and theories of dreaming and explores the potential benefits of dream interpretation as a tool for facilitating health and personal growth. This course discusses simple techniques for dream recall, recording dreams, and methods to interpret the unconscious meanings of dreams.

IHP 106 - Enhancing Personal Empowerment (1)

Describes how self-talk, self-worth, and personal beliefs impact one's self-esteem and reactions to stress and life experiences. The course reviews various personal development theories and New Thought philosophies on the power and influence of positive thinking. Specific techniques, tools, and protocols for developing an empowerment plan to help increase self-esteem, confidence, and positive personal and professional growth are presented in this course.

IHP 107 - Stress Management for Health (1)

Explores various types and causes of stress and seeks to identify specific skills to healthily manage personal, academic and professional stress in order to reach one's full potential. Breathing and relaxation techniques are emphasized. This course discusses healthy coping methods to reduce stress and improve concentration. The course will emphasize evaluation of communication skills and thinking patterns in order to create healthier lifestyles.

IHP 108 - Journaling Towards Wellness (1)

Describes journaling as an effective tool for introspection on personal growth and for developing a path towards wellness for oneself and as a practitioner with a client. This course introduces various journaling techniques and connects their use to various health-related and coaching practices that serve to promote insight into a more balanced state of well-being.

IHP 109 - The Human-Animal Bond (1)

Introduces and explores the history and current therapeutic applications of the human-animal bond. This course focuses on theories, research, and experiential testimony regarding the health benefits and traits of pet ownership, animals in public places, animal-assisted activity, and animal assisted therapy. This course reviews the impact of death on both animals and humans and identifies community services that assist with such loss.

IHP 111 - Intro to Massage Techniques I (1)

Provides a general history of massage therapy up to modern day. An emphasis on the physiological as well as psychological impact of massage therapy on overall health, injury restoration, and illness prevention will be covered. Provides a basic overview of musculoskeletal anatomy as it relates to massage therapy and will include demonstrations of specific hands-on techniques required to complete a full body Swedish massage.

IHP 112 - Intro to Massage Techniques II (1)

Reviews Swedish massage techniques. This course covers advanced application of technique, communication skills, and environmental adaptations necessary to work with special populations. Special populations are defined here as infants, children, pregnant women, older adults, obese, athletes, and terminally ill.

IHP 114 - A & P Integrative Therapies (4)

Provides a general knowledge of anatomy and physiology of the major body systems with additional focus given to the identification and functions of the muscular and skeletal systems as they pertain to integrative therapies. This course is specifically designed for individuals specializing in integrative health trainings with direct application, relevant pathologies, and potential treatment connected to holistic therapies including massage, reflexology, energy work, aromatherapy, and yoga.

IHP 115 - Intro to Reflexology (1)

Provides an introductory overview of Reflexology as practiced within the United States. The course will review the history of Reflexology as well as modern day acupressure application techniques to reduce stress. This course provides connections between basic foot anatomy and meridian zone maps in their identification of reflex points on the feet as they relate to organ systems throughout the body.

IHP 116 - Reflexology of Hands & Feet (3)

Provides extended foot and hand anatomy instruction to further assess the physiological and psychological responses of the body to alleviate stress/pain using energy and touch. This course presents advanced protocols of Reflexology and application of more sophisticated techniques on the hands and feet. It covers the application of self-care and reviews the scope of practice emphasizing the necessary recording procedures and proper documentation.

Prerequisite: Prerequisite/Corequisite: This course and IHP 115 may be taken at the same time.

IHP 117 - Meridian Acupoint Tapping (2)

Applies elements of cognitive therapy, exposure therapy, and memory reconsolidation with Traditional Chinese Acupressure in the form of light fingertip tapping on meridian end-points for self-application and for application with others. This course teaches Tapping protocols for identification, assessment, balancing and clearing of blockages in the body energy system, and examines the impact of cognitive beliefs caused by stressful events and other adverse life conditions in health and wellness.

IHP 118 - Acupressure Techniques (1)

Focuses on acupressure, a form of bodywork involving pressure with palms, forearms, elbows, and fingers along the meridians used in traditional Chinese acupuncture. The course will emphasize hands-on instruction to demonstrate how to energize, balance, and ease common aches and discomforts in order to promote wellness and enhance the skill-set of massage therapists and other body workers.

Prerequisite: Prerequisite/Corequisite: This course and IHP 111 may be taken at the same time.

IHP 120 - Reiki Level I (1)

Examines the history and development of the energy modality of Reiki. The course will explain the basic concept of 'Qi,' how it works, and its impacts on all facets of health. Specific skills

training and demonstrations of Reiki energy will be provided to conduct hands-on energy sessions on oneself as well as on others for the purpose of clearing and balancing energy to benefit health.

IHP 121 - Reiki Level II (1)

Demonstrates advanced Reiki energy healing techniques and further prepares students for the role of a professional practitioner. Advanced content describing the additional Usui Reiki symbols, their meanings, and their various applications will be explained. This course will describe advanced techniques and provide demonstrations and hands-on practice giving full Reiki treatment sessions as well as long-distance sessions. Further discussion of ethics and creating a professional healing space will be included.

Prerequisite: Prerequisite/Corequisite: This course and IHP 120 may be taken at the same time.

IHP 122 - Reiki Level III Master Teacher (1)

Provides the necessary training, visual demonstrations, and hands-on practicing of mastery level techniques that will further enhance the ability to channel Reiki energy for healing purposes. This course will expand the use of Usui Reiki symbols, explain the master symbols, and advanced mastery level techniques to perform Reiki attunements and become teachers of Reiki.

Prerequisite: Prerequisite/Corequisite: This course and IHP 121 may be taken at the same time.

IHP 124 - Health Apps of Crystals (1)

Introduces the historical and modern day theories and perspectives on the energetic healing properties contained within crystals and minerals. Methods to clear, charge, cleanse, and utilize crystals and minerals will be reviewed. The course will discuss the specific properties of crystals/minerals and their use in conjunction with other energetic healing modalities to enhance overall health.

IHP 130 - Intro to Aromatherapy (1)

Provides an introductory level of information about the historical origins, safety precautions as well as various applications and uses of essential oils to reduce stress, aid in relaxation, and benefit health. Emphasis will be placed on various types and properties of common essential oils and how to safely use them as supplements to other holistic treatment modalities.

IHP 135 - Intro to Herbalism (1)

Explores the philosophy, ethics, and applications of Herbalism. It introduces pharmacokinetics and composition of herbs and their effects on bodily systems. The course will focus on the habitat, means of harvesting, storing, processing, and usage of a select group of herbs. The course will provide step-by-step guidance to safe creation of herbal products, and it will teach how to access quality sources of information.

IHP 141 - Growing & Preserving Organic Foods (1)

Introduces the information and skills needed to grow and preserve organic herbs and food for personal use. This course discusses various techniques and space considerations for organic gardening. Course content will include soil health, microgreens, pollination, hydroponics, seed saving, methods of preserving food and community resources for enhancing knowledge of gardening as well as for sharing information and products.

IHP 155 - Introduction to Qigong (2)

Provides an overview of the history of Traditional Chinese Medicine (TCM). It teaches the application of Qigong that integrates physical postures, breath work, and mental focus to aid in the healing of various physiological, emotional, and psychological health conditions. This course teaches 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.

IHP 158 - Intro to Health & Wellness Coaching (1)

Describes the introductory knowledge and tools for basic coaching skills. This course will offer instruction for performing assessment, goal-setting techniques, and the essential positive communication procedures utilized between coach and client. The information, skills and professional protocols necessary to help facilitate and motivate others in the movement towards lifestyle and behavioral changes will be provided within the context of becoming an effective health and wellness coach.

Prerequisite: Prerequisite: CCR 092 or higher OR. Corequisite: This course and ENG 121 and IHP 101 may be taken at the same time.

IHP 161 - Introduction to Homeopathy (1)

Introduces the history and development of Homeopathy. It will explore the guiding principles and rules for using homeopathic remedies as well as how they work to activate immune response and promote detoxification. The content will review past successes, current research studies, and scientific theories that explain how and why homeopathic remedies work in treating modern ailments.

IHP 162 - Exploring the Sacred Wild (1)

Examines the Gaia Theory/Hypothesis as well as familiarizes students with the essence of reconnecting with the inner and outer landscapes of the Sacred Wild. This course explores the field of Ecopsychology and investigates the deep primordial connection between human beings, the natural world, and our impact on the Earth (Gaia).

IHP 188 - Practicum (1)

Provides students an opportunity to gain practical experience in applying their educational 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 practicum supervisor.

IHP 200 - Creating Healing Presence (1)

Applies the mind-body-spirit connection to understand the meaning of "presence," as being the quality of a holistic self-giving exchange during the healing or dying process. The course describes how enhanced self-awareness, personal discovery, and the quality of "presence" can significantly influence patient healing responses to illness or trauma. This course examines specialized techniques for profoundly connecting with others and creating a sacred space during the healing continuum and throughout the dying process.

IHP 201 - Integrative Health Keystone (3)

Provides a comprehensive foundation to the philosophy, theory, and practice of Holism in the emerging field of Integrative Health/Medicine. This course offers an inclusive summary of modalities under the identified domains of Complementary

Alternative Medicine (CAM) that are used to treat and prevent illness, facilitate healing, and sustain/regain optimal health. Research related to the body-mind-spirit response and the importance of self-care, using intuition, and the practitioner-client relationship will be reviewed.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time.

IHP 203 - The Role of Art in Healing (1)

Recognizes the role of visual art in healing that includes both didactic information and experiential learning. The course examines how the role of art in healing has evolved over the years and explores different models, approaches, and focuses of healing through visual art.

IHP 204 - Ethics in Integrative Health (2)

Examines the ethical issues associated with the practice of integrative health therapies with emphasis on the significance of boundaries, creating safe working environments, and maintaining a healing presence. This course addresses self-care, professional codes of ethics, confidentiality, scopes of practice within various treatment modalities as well as safe and appropriate touch. An examination of the psychological and physical dynamics of professional practitioner-client relationships as well as tools for effective communication will be discussed.

Prerequisite: CCR 092 or higher OR. Corequisite: ENG 121. This course and ENG 121 may be taken at the same time.

IHP 205 - Integrative Health Business Practices (2)

Describes the necessary components for creating professional career goals in becoming an integrative health professional practitioner. Content will examine the necessary skills and steps to become a small business entrepreneur or a professional practitioner entering existing practices/organizations. This course provides instruction for developing individualized business plans or professional portfolios as well as reviews the benefits of joining professional organizations.

Prerequisite: CCR 092 or higher OR. Corequisite: ENG 121. This course and ENG 121 may be taken at the same time.

IHP 209 - Exploring Holistic Animal Care (3)

Introduces contemporary views about providing holistic animal care and safe application of various homeopathic, energetic, and natural remedies with pets/animals. The course will discuss communication techniques and how to provide animals with healthier nutrition, nontoxic toys, and safe environments to optimize their overall wellness. Students will examine diverse views regarding the treatment of animals from past to present, the grief process, and new applications of holistic veterinary training and animal care.

IHP 215 - Advanced Reflexology (2)

Discusses advanced anatomy of the hands and feet and connects to advanced reflexology techniques to address specific health issues. It focuses on enhancing the skill of learning-enhanced reflexology protocols as well as anatomy and reflexology of the ear. This course synthesizes information from previous courses in order to conduct advanced practice sessions, engage in discussions on professional practitioner ethics, and prepare for the reflexology clinical experience.

Prerequisite: Prerequisite/Corequisite: This course and IHP 116 may be taken at the same time.

IHP 220 - Healing Touch Level I (1)

Provides experiential training that encourages personal reflection in regards to the use of energy and touch to facilitate healing responses in others. This course will provide the step-by-step process using the energy modality of Healing Touch (HT) in mastering energetic touch intervention techniques that can be utilized to support health and to facilitate the healing process.

IHP 221 - Healing Touch Level II (1)

Focuses on advanced knowledge and skills training in the techniques necessary to conduct a full one-hour healing sequence. Protocols for initial intake interviews, choosing appropriate energetic flow techniques, and using proper session documentation will be introduced. This course enhances the knowledge required to conduct an energetic health history interview and to conduct several advanced specialized Healing Touch (HT) techniques.

Prerequisite: Prerequisite/Corequisite: IHP 220. This course and IHP 220 may be taken at the same time.

IHP 222 - Healing Touch Level III (1)

Explores advanced topics in the art of being an energy healer and what is necessary to transform a basic level practice into a professional practice by utilizing more expansive energetic flows and techniques. The course will provide information to deepen the understanding of the human energy field and how it manifests within physical, emotional, mental, and spiritual bodies. The importance of self-care and implementing pre-session practices for the Healing Touch (HT) practitioner's professional well-being will be reviewed.

Prerequisite: Prerequisite/Corequisite: IHP 221. This course and IHP 221 may be taken at the same time.

IHP 224 - Jin Shin Level I (2)

Examines the Jin Shin energy modality that is based upon ancient Chinese Acupuncture. Instruction will be provided on pulse readings and corresponding touch points to access the body's meridians by the use of flows to remove energy blockages through twenty-six safety energy locks. The course will explore a greater understanding of the mind-body connection using this modality to promote mental-emotional-physical balance as a practitioner.

IHP 225 - Jin Shin Level II (2)

Expands upon the knowledge and techniques of the Jin Shin energy modality. The course will advance kinesthetic skills by going more in depth about the mind-body connection of each of the twenty-six safety energy locks. The course will provide greater focus on the mental-emotional aspects of energy work. It will cover advanced proficiency in the ability to take and interpret pulses and in performing full energy sessions of Jin Shin.

Prerequisite: Prerequisite/Corequisite: IHP 224. This course and IHP 224 may be taken at the same time.

IHP 227 - Bach Flower Essences (2)

Examines the history, creation, and purpose of Bach Flower Essences. An exploration of how stress and emotions affect the physical body will be introduced. A viable connection will be made between energy medicine theories to reducing stress and

their corresponding negative emotions. The course will discuss the purpose and relevant application of all thirty-eight Bach Flower Remedies, proper blending, and storage techniques as well as their use in restoring emotional balance for wellness.

IHP 230 - Applied Aromatherapy (3)

Explains the historical and cultural uses of aromatherapy/essential oils and the distillation process through present day. This course addresses basic Botany and examines how essential oils interact with human physiology. The course will review modern research/clinical studies addressing the efficacy of essential oils as well as creating therapeutic blends. The course will examine the safety, contraindications, and practice of using essential oils as well as the ethics and scope of practice of an aromatherapist.

Prerequisite: CCR 092 or higher OR. Corequisite: ENG 121.

IHP 231 - Advanced Aromatherapy (4)

Incorporates and expands upon the knowledge of aromatherapy to prepare for careers utilizing essential oils as a healing modality. The course provides advance techniques in safely using essential oils in therapeutic manner or as a complement to other treatment practices. Content will include reviewing profiles of essential oils, refining the consulting process with clients, performing intake interviews, recommending appropriate essential oils/blends and advising others on how to safely use and properly apply oils/blends.

Prerequisite: IHP 230.

IHP 235 - Applied Herbalism (2)

Applies introductory knowledge to explore the advanced usage of plants and herbs, plant-based remedies as well as a greater understanding of pharmacokinetics and body systems. The creation of safe herbal products will be conducted while also exploring the spiritual and intuitive side of practicing herbalism. Emphasis will be placed on plant identification, selection, and the ethical utilization of herbalism.

Prerequisite: Prerequisite/Corequisite: This course and IHP 135 may be taken at the same time.

IHP 240 - Holistic Nutrition: Digestive Wellness (3)

Examines the concept of the gut as the "second brain" and the importance of digestive health as a major determinant of overall wellness. The course describes different digestive imbalances, gut flora healing protocols, and how the use of natural therapies to treat digestive disorders can impact overall health. The course will review current research on digestion and evaluate controversial topics in nutrition.

Prerequisite: Prerequisite/Corequisite: IHP 201. This course and IHP 201 may be taken at the same time.

IHP 250 - RYT 200 Yoga Teacher Training (10)

Provides training in applicable anatomy, educational and physical requirements, and specific kinesthetic techniques necessary to become a professional Hatha Yoga (RYT200) instructor. This course describes the history, philosophy, and practice of Yoga and its multi-faceted impact on health. Special training is given to provide modifications for those with various health-related conditions or limitations. Content will focus on lesson plans preparation, protocol and skill development, and the ethical practices in becoming a registered yoga instructor.

IHP 251 - Advanced Yoga Institute (5)

Advances the understanding and experience of Hatha Yoga by building upon and deepening the proficiencies taught in RYT200 (Registered Yoga Teacher) level courses. The course provides preparation for teaching more sophisticated principles and techniques of yoga. It will cover advanced skills in yoga posture techniques, methodology, anatomy, philosophy, and practical applications. It applies higher RYT instruction that includes addressing needs of special populations, specialized accommodations, yoga for wellness, and alignment to other integrative health topics.

Prerequisite: IHP 250.

IHP 252 - Mindfulness for Health & Wellness (2)

Examines the mental, emotional, spiritual, and physiological impact of mindfulness and meditation techniques on the brain, bodily systems and on overall stress reduction. This course explores the historical and cultural evolution of mindfulness techniques and investigates the overall health benefits of various breathing and meditation practices in promoting wellness. Content will promote experiential mindfulness exercises and information on diverse meditation tools for individual practice development and for teaching to others.

IHP 258 - Advanced Integrative Health Coaching (3)

Provides training in the use of advanced coaching skills necessary to become Health and Wellness Coaches. This course will provide instruction and demonstrations on the systematic coaching process based on behavioral change, positive psychology, human motivation, health promotion, and the professional coaching competencies. The content will focus on the advanced coaching protocols necessary to support and motivate future clients to make lasting behavioral changes in order to create healthier lifestyles and sustain overall wellness.

Prerequisite: Prerequisite/Corequisite: This course and IHP 158 may be taken at the same time.

IHP 259 - Specialized Coaching Techniques (2)

Identifies advanced skills and specified techniques required to assist future coaching clients with fitness goals. This course will apply previously learned coaching practices to the fitness world when working with clients possessing various health conditions and diverse physical abilities. The course will provide specific knowledge, safety standards, and corresponding specialized techniques on how to support and motivate clients who desire to make lasting behavioral and lifestyle changes to achieve optimal health using fitness.

Prerequisite: Prerequisite/Corequisite: IHP 258.

IHP 260 - PNI: Exploring Mind-Body Connection (3)

Examines the evolving theory of Psychoneuroimmunology (PNI). Content will focus on the impact of stress and the views of body-mind connection on health. This course will describe the physiological and psychological interrelationship between the central nervous system, the immune system, and the endocrine system, and their combined impact on illness and wellness. The course will review conventional healthcare concepts and introduce contemporary integrative theories that are influencing health education, medical training, and health careers.

Prerequisite: Prerequisite/Corequisite: IHP 201. This course and IHP 201 may be taken at the same time.

IHP 261 - Traditional Chinese Medicine (3)

Introduces the history, theories, principles, and various modalities in the practice of Traditional Chinese Medicine (TCM). This course will discuss the TCM approach to treating pain, illness, and disease using acupuncture, herbalism, massage, nutrition, cupping, meditation, and martial arts. Using a review of ancient materials and current research, this course will examine how TCM views, diagnoses, and treats disease. This course will describe the education and training required for various careers using TCM.

Prerequisite: Prerequisite/Corequisite: IHP 201. This course and IHP 201 may be taken at the same time.

IHP 262 - Foundations of Lifestyle Medicine (3)

Introduces the foundational principles of Lifestyle Medicine and evidence supporting lifestyle-based treatment approaches. This course will explore the dimensions of a healthy lifestyle from a whole-person perspective and examine how the theories and findings from various fields of behavior differ. It discusses how Positive Psychology can be applied to optimize well-being. Course content will examine the roles, resources, and professional careers of health/wellness coaches and other integrative health professionals utilizing the ideologies of Lifestyle Medicine.

Prerequisite: Prerequisite/Corequisite: IHP 201. This course and IHP 201 may be taken at the same time.

IHP 263 - Intro to Ayurveda Medicine (3)

Introduces Ayurvedic medicine as the ancient healing system of India, based upon the premise that when the body, mind, and spirit are in balance, there is no opportunity for disease. With an emphasis on nutrition, herbalism, yoga, and massage, this course reviews the history, theoretical philosophies, and fundamental principles of Ayurveda. This course will provide a foundation for further study and career opportunities using Ayurveda and how it integrates with other health treatment modalities.

Prerequisite: Prerequisite/Corequisite: IHP 201. This course and IHP 201 may be taken at the same time.

IHP 270 - Reflexology Clinical (2)

Offers the clinical practicum required for the Reflexology program.

Prerequisite: Prerequisite/Corequisite: IHP 215 (can enroll same term).

IHP 271 - Aromatherapy Clinical (2)

Offers the clinical practicum required for the Aromatherapy program.

Prerequisite: Prerequisite/Corequisite: IHP 231 (can enroll same term).

IHP 272 - Coaching Clinical (2)

Offers the clinical practicum required for the Health and Wellness Coaching program.

Prerequisite: IHP 258.

IHP 273 - Integrative Health Clinical (1-4)

Continues to build upon the principles that are expected to be understood by students in a specified holistic/integrative health discipline.

IHP 280 - Internship (1-4)

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.

IHP 285 - Independent Study (1-4)

Meets the individual needs of students of enhanced learning of an integrative health modality or practice. Students will engage in an intensive study or research project under the direction of a qualified instructor.

IHP 287 - Cooperative Education (1-4)

Provides a college-to-work based experience that draws on combined efforts of educators and employers to produce outcomes related to student career objectives.

IHP 288 - Practicum (1-4)

Provides students an opportunity to gain practical experience in applying their educational 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 practicum supervisor.

IHP 289 - Integrative Health Capstone (2)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: Prerequisite/Corequisite: IHP 201. This course and IHP 201 may be taken at the same time.

IMA - Industrial Maintenance Technology**IMA 120 - Industrial Rotating Equipment (3)**

Explains the theory, operation, and maintenance of rotating equipment found in industrial environments such as gears, bearings, pumps, and compressors. Mechanical power transmission systems including direct coupling, belt drives, and chain drives are studied. Alignment techniques are practiced and related to the impact on machine vibration and equipment failures. The principals involved in the operation of centrifugal and positive displacement pumps and compressors will be discussed along with the function of connected components.

Prerequisite: Prerequisite/Corequisite: MTE 105.

IND - Interior Architecture & 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.

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.

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.

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: Prerequisite/Corequisite: AEC 121. This course and AEC 121 may be taken at the same time.

IND 120 - Interior Design II (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: Prerequisite/Corequisite: AEC 101. This course and AEC 101 may be taken at the same time.

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.

Prerequisite: AEC 101.

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.

Corequisite: This course and IND 200 may be taken at the same time.

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.

IND 211 - Interior Construction (4)

Introduces the student to interior building systems and assemblies, construction documents and details, and codes applicable to interior architecture. Student will apply this knowledge to various graphic projects and is encouraged to produce projects using the computer and CAD software.

Prerequisite: AEC 101.

IND 213 - IND 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.

Corequisite: This course and IND 265 may be taken at the same time.

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: CAD 224.

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 211.

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.

IND 265 - Interior Design IV - Special Applications (3)

Exposes students to various types of software used by major companies in the practice of interior design (course is divided into three sections to allow for this exposure). A project will be completed for each of the different software programs. Recommended basic skills standards are ENG 060, MAT 060, REA 090, and STS 060.

Prerequisite: IND 120.

IND 278 - Workshop (1)

Provide students with an experiential learning opportunity.

IND 280 - Internship (4)

Provides work experience in a business or industry; 45 fieldwork hours per credit hour.

Prerequisite: IND 200.

IPP - Interpreter Prep Program**IPP 135 - Introduction to Interpreting (3)**

Provides the student with an analysis of interpretation theory and the development of processing skills, which will be applied to consecutive interpretation.

Prerequisite: ASL 123. Corequisite: ASL 221. This course and ASL 221 may be taken at the same time.

IPP 147 - Survey of Deaf Culture (3)

Surveys the factors that contribute to defining Deaf persons as members of a cultural minority. This 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 123. This course and ASL 123 may be taken at the same time.

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.

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.

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.

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.

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.

ITA 211 - Italian Language III: GT-AH4 (3)

Continues Italian Language II in the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the Italian language. This course is conducted predominantly in Italian. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: ITA 112. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

ITA 212 - Italian Language IV: GT-AH4 (3)

Continues Italian Language III in the development of increased functional proficiency at intermediate mid level in speaking, aural comprehension, reading, writing, and cultural competency in the Italian language. This course is conducted predominantly in Italian. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: ITA 211. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

JOU - Journalism**JOU 105 - Intro to Mass Media: GT-SS3 (3)**

Places the mass media in a technological, historical, and cultural perspective, considering the validity, integrity, and influence of the evolving media in a democracy. This course is a Statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

JOU 106 - Media News and Reporting (3)

Introduces newswriting, reporting and interviewing with an emphasis on clarity, accuracy, timeliness and fairness.

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.

JOU 215 - Publications Production and Design (3)

Provides for student participation in the planning, writing, design and production processes of a non-newspaper publication.

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.

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.

JOU 241 - Feature and Magazine Writing (3)

Studies trade, consumer and technical markets; manuscript development with emphasis on nonfiction; submission techniques; and trends affecting the marketing of manuscripts.

Prerequisite: JOU 105 and JOU 106.

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.

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.

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.

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.

JPN 211 - Japanese Language III: GT-AH4 (3)

Continues the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the Japanese language. This course is conducted predominantly in Japanese. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

JPN 212 - Japanese Language IV: GT-AH4 (3)

Continues the development of increased functional proficiency at intermediate mid level in speaking, aural comprehension, reading, writing, and cultural competency in the Japanese language. This course is conducted predominantly in Japanese. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

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.

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.

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.

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.

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.

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.

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.

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.

LEA 140 - Wellness for Law Enforcement (1)

Addresses the unique demands of law enforcement focusing on the distinctive physical demands of firearms proficiency, arrest control, and officer survival. This course teaches overall conditioning that optimizes flexibility, muscular strength and endurance, cardiovascular fitness, and body. This course also covers the emotional/psychological/physical responses to stress, how they interfere with a peace officer's performance and relationships, and provides strategies for long-term health and wellness of officers.

LIT - Literature

LIT 115 - Intro to Literature I: GT-AH2 (3)

Introduces fiction, poetry, and drama. This course emphasizes active and responsive reading. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 201 - World Literature to 1600: GT-AH2 (3)

Examines significant writings in world literature from the ancients to the seventeenth century. It emphasizes active reading and understanding of the works and their cultural backgrounds. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 202 - World Literature After 1600: GT-AH2 (3)

Examines significant writings in world literature from the seventeenth century to the present. It emphasizes active reading and understanding of the works and their cultural backgrounds. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 205 - Ethnic Literature: GT-AH2 (3)

Examines the cultural, historical, and social contexts impacting multiple ethnic American identities through critical reading and analysis. This course focuses on significant works by authors who identify as African American, Native American, Latino/a, Asian American, and other ethnicities. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 211 - American Lit to Civil War: GT-AH2 (3)

Examines American literary works from pre-European arrival on the continent up to the Civil War, including works from diverse people that contributed to American literature. This course also explores historical and social contexts within various genres. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 212 - American Lit After Civil War: GT-AH2 (3)

Examines American literary works from 1865 to the present, distinguishing among literary themes, genres, and schools of thought that illustrate historical and social contexts across a multicultural spectrum. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 221 - British Literature to 1770: GT-AH2 (3)

Examines major works of British literature from the Anglo-Saxon period through the 17th century. Explores the historical, political, and social contexts of the works as well as the major themes which reflect and/or critique the social assumptions and values of the times. Besides fostering an understanding of works essential to western culture, the course will examine how these works are still influential and relevant to contemporary thought and culture. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 222 - British Literature Since 1770: GT-AH2 (3)

Examines major works of British literature from the 18th century to the present. Explores the historical, political, and social contexts of the works and the major themes authors used to reflect and critique the social assumptions of their times. Besides fostering an understanding of works essential to western culture, the course examines how these works are still influential and relevant to contemporary thought and culture. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

LIT 225 - Intro to Shakespeare: GT-AH2 (3)

Explores works by William Shakespeare, focusing on a careful reading of these works as well as an exploration of pertinent contextual and historical information. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

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.

LIT 246 - Literature of Women: GT-AH2 (3)

Examines the techniques and themes in literature of various genres by and about women by considering what it means for women to be in literature, as characters and also as authors. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

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.

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.

LIT 257 - Literature and Film (3)

Examines the relationship between literature and motion pictures, emphasizing the technique and interpretive function of filmmakers.

LIT 259 - Survey African American Lit: GT-AH2 (3)

Examines African American literature from 1750 to the present. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

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.

LIT 268 - Celtic Literature: GT-AH2 (3)

Exposes the student to Celtic literature. The course examines significant writings in Celtic 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. This is a statewide Guaranteed Transfer course in the GT-AH2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH2).

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.

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.

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.

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.

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.

MAC 142 - 3D Modeling Fabrication Lab (1)

Introduces common machining practices including safety procedures, inspection techniques, operation of common machining processes, and other fabrication equipment. The course will utilize an industry standard 3D modeling package to produce a manufactured assembly and is designed for pre-engineering students.

Corequisite: CAD 255.

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.

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.

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.

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.

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.

MAN - Management

MAN 105 - Logistics Management (3)

Introduces the fundamental facets of logistics in supply chain management utilizing a systems approach to: manage activities associated with traffic, logistical support, regulations, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

MAN 116 - Principles of Supervision (3)

Defines supervision, examines the functions of a supervisor, explains the necessary skills for successful supervision, relates supervision with human resources, and discusses supervisory challenges.

MAN 125 - Team Building (1)

Introduces the concept of working as a team member. This course emphasizes the ability to negotiate, collaborate, build consensus, and make quality decisions.

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.

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.

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.

MAN 212 - Negotiation and Conflict Resolution (3)

Presents proper techniques in negotiation and conflict resolution. Explore the important practices that determine successful negotiation in business. Other key elements discussed are: principles of conflict resolution including business policies, accepted business contracts, labor union contracts, pay raises, and starting salaries.

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.

MAN 216 - Small Business Management (3)

Examines the elements necessary for the successful formation of a new small business and to enhance the skills of those already involved in the operation of a small business. This course includes the development of a complete small business plan.

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.

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.

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.

MAN 230 - Corporate Ethics & Social Responsibility (3)

Examines the concept of ethical corporate responsibility and how an organization's resources, including individual employees and work groups of the corporation, identify and respond to social and ethical problems. Included in the course are topics of corporate ethics and social responsibility, how these concepts apply to business and management principles, and the individual corporate citizen's involvement with making ethical decisions.

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.

MAN 241 - Project Management in Organizations (3)

Investigates the concepts and applicability of project management within organizations. It examines the unique nature of the project management structure including its emphasis on integrated decision making throughout a lifecycle of a product from the planning, implementing, monitoring, and controlling phases. Emphasis is on the processes of initiating, planning, executing, controlling, and closing activities of project management.

MAN 243 - Project Management in Action (3)

Introduces major activities and tools in Project Management related to resources, risk and quality. There is a heavy focus to provide how to manage the human element of project management. Specific Project Management tools and methodologies are introduced and used.

MAP - Medical Assisting Professional**MAP 110 - Medical Office Administration (4)**

Introduces the administrative duties specifically used in medical offices.

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.

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.

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.

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.

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: Prerequisite/Corequisite: MAP 110, MAP 120, MAP 138, MAP 140, and MAP 150.

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.

MAR - Marketing**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.

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.

MAR 155 - Social Media for Marketing in Business (3)

Teaches students how to use social media as a business strategy and covers how to match that strategy with the goals of the business. This course addresses current trends, ethics, regulations, legal challenges, strategy, content development, and change management. This course helps students develop a better understanding of how marketing with social media is similar to and different from traditional marketing and how to best use online methods to further business goals.

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.

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.

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.

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.

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 pre-requisite skills needed by the student.

Corequisite: MAT 050.

MAT 025 - Algebraic Literacy Lab (1)

Supports skill development in 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.

Corequisite: MAT 055.

MAT 050 - Quantitative Literacy (4)

Develops number sense and critical thinking strategies, introduces algebraic thinking, and connects mathematics to real world applications. Topics in this course include ratios, proportions, percent, measurement, linear relationships, properties of exponents, and math learning strategies. This

course prepares students for math for liberal arts, statistics, integrated math, and college level career math courses.

Corequisite: Students with certain test scores may be required to take MAT 020 at the same time with MAT 050. Students may waive the Pre/Corequisite with appropriate test scores. Please see an Advisor for more information.

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, systems of linear equations in two variables, related applications, and linear inequalities. This course prepares students for MAT 121 College Algebra and MAT 123 Finite Math.

Corequisite: Students with certain test scores may be required to take MAT 025 at the same time with MAT 055. Students may waive the Pre/Corequisite with appropriate test scores. Please see an Advisor for more information.

MAT 071 - Support for Career Mathematics (2)

Supports students who are currently registered in MAT 107 Career Math. Topics include prerequisite skills, requisite skills, and study skills necessary for success in Career Math.

Corequisite: MAT 107. This course and MAT 107 may be taken at the same time.

MAT 072 - Support for Math/Liberal Arts (2)

Supports students who are registered in MAT 120 Math for Liberal Arts. Topics include prerequisite skills, requisite skills, and study skills necessary for success in Math for Liberal Arts.

Corequisite: MAT 120. This course and MAT 120 may be taken at the same time.

MAT 073 - Support for Intro to Statistics (2)

Supports students who are registered in MAT 135 Introduction to Statistics. Topics include prerequisite skills, requisite skills, and study skills necessary for success in Statistics.

Corequisite: MAT 135. This course and MAT 135 may be taken at the same time.

MAT 091 - Applied Quantitative Lab (1)

Supports skill development for students registered in Math for Clinical Calculations, Career Math, Technical Math, or Financial Math. Topics covered in this course include those defined in these courses and/or any prerequisite skills needed by the student. Students with NGAccuplacer AR scores 255-264 or TradAccuplacer scores of EA30-59 or AR40+, who are advised into MAT103/107/108/112, are required to co-enroll in this course.

Corequisite: MAT 103 or MAT 107 or MAT 108.

MAT 092 - Quantitative Lab (1)

Supports skill development for students registered in Math for Liberal Arts, Introduction to Statistics, or Integrated Math. Topics covered in this course include those defined in these courses and/or any prerequisite skills needed by the student. Students with NGAccuplacer scores QAS 230-239 or TradAccuplacer scores EA 80-84, who are advised into MAT 120, MAT 135, or MAT 155 are required to co-enroll in this course.

Corequisite: MAT 120 or MAT 135 or MAT 155 or MAT 156.

MAT 093 - Algebra Lab (1)

Supports skill development in students registered in MAT 121 College Algebra or MAT 123 Finite Math. Topics covered in this course include those defined in MAT 121/123 and/or any prerequisite skills needed by the student. Students with NGAccuplacer AAF scores 235 to 244 who are advised into MAT 121 or 123 are required to co-enroll in this course.

Corequisite: MAT 121.

MAT 103 - Math for Clinical Calculations (3)

Covers the mathematical calculations needed for enteral and parenteral medication administration. It is designed for students in the health disciplines. Topics include measurements, conversion between various systems of measurements, and methods of solving problems related to drug dosage and medication administration.

Prerequisite: MAT 050. Corequisite: Students with certain test scores may be required to take MAT 091 at the same time with MAT 103. Students may waive the Pre/Corequisite with appropriate test scores. Please see an Advisor for more information.

MAT 107 - Career Mathematics (3)

Covers material designed for career and technical students who need to study particular mathematical topics. Topics include measurement, algebra, geometry, statistics, and graphs. These are presented at an introductory level and the emphasis is on applications.

Prerequisite: MAT 050 or MAT 071. MAT 107 and MAT 071 may be taken at the same time.

MAT 108 - Technical Mathematics (4)

Covers mathematical material designed for career and technical students. Topics include measurement, algebra, geometry, trigonometry, and vectors. These are presented at an introductory level and the emphasis is on applications.

Prerequisite: MAT 050. Corequisite: Students with certain test scores may be required to take MAT 091 at the same time with MAT 108. Students may waive the Pre/Corequisite with appropriate test scores. Please see an Advisor for more information.

MAT 120 - Math for Liberal Arts: GT-MA1 (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 or MAT 072. MAT 120 and MAT 072 may be taken at the same time. Offered: *(GT-MA1).

MAT 121 - College Algebra: GT-MA1 (4)

Focuses on a variety of functions and the exploration of their graphs. Topics include: equations and inequalities, operations on functions, exponential and logarithmic functions, linear and non-linear systems, and an introduction to conic sections. This course provides essential skills for Science, Technology, Engineering, and Math (STEM) pathways.

Prerequisite: MAT 055. Corequisite: Students with certain test scores may be required to take MAT 093 at the same time with MAT 121. Students may waive the Pre/Corequisite with

appropriate test scores. Please see an Advisor for more information. Offered: *(GT-MA1).

MAT 122 - College Trigonometry: GT-MA1 (3)

Explores trigonometric functions, their graphs, inverse functions and identities. Topics include: trigonometric equations, solutions of triangles, trigonometric form of complex numbers, and polar coordinates. This course provides essential skills for Science, Technology, Engineering, and Math (STEM) pathways.

Prerequisite: MAT 121. Students may waive Prerequisite with appropriate test scores. Please see an Advisor for more information. Offered: *(GT-MA1).

MAT 125 - Survey of Calculus: GT-MA1 (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. Students may waive Prerequisite with appropriate test scores. Please see an Advisor for more information. Offered: *(GT-MA1).

MAT 135 - Intro to Statistics: GT-MA1 (3)

Introduces descriptive and inferential statistics, with an emphasis on critical thinking and statistical literacy. Topics include methods of data collection, presentation and summarization, introduction to probability concepts and distributions, and statistical inference of one and two populations. This course uses real world data to illustrate applications of a practical nature.

Prerequisite: MAT 050 or MAT 073. MAT 135 and MAT 073 may be taken at the same time. Offered: *(GT-MA1).

MAT 155 - Integrated Mathematics I (3)

Engages students in the concepts underlying elementary school mathematics. The course emphasizes critical thinking and applications. Topics include the structure of number systems, an analysis of numerical operations, set properties, numerical and geometric patterns, and a variety of problem solving skills.

Prerequisite: MAT 050. Corequisite: Students with certain test scores may be required to take MAT 092 at the same time with MAT 155. Students may waive the Pre/Corequisite with appropriate test scores. Please see an Advisor for more information.

MAT 156 - Integrated Mathematics II (3)

Engages students in the concepts underlying elementary school mathematics. The course emphasizes critical thinking and applications. Topics include probability, statistics, measurement, Euclidean geometry, and algebraic methods.

Prerequisite: MAT 050. Corequisite: Students with certain test scores may be required to take MAT 092 at the same time with MAT 156. Students may waive the Pre/Corequisite with appropriate test scores. Please see an Advisor for more information.

MAT 166 - Pre-Calculus: GT-MA1 (5)

Extends algebraic concepts and explores the subject of trigonometry. Topics include: polynomial, rational, logarithmic, and exponential functions, trigonometric and inverse trigonometric functions and their graphs, trigonometric identities, and applications. This course provides essential skills

for Science, Technology, Engineering, and Math (STEM) pathways.

Prerequisite: MAT 121. Students may waive Prerequisite with appropriate test scores. Please see an Advisor for more information. Offered: *(GT-MA1).

MAT 201 - Calculus I: GT-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 or MAT 166. Students may waive Prerequisite with appropriate test scores. Please see an Advisor for more information. Offered: *(GT-MA1).

MAT 202 - Calculus II: GT-MA1 (5)

Continues the study of single variable calculus which will include techniques of integration, analytic geometry, improper integrals, convergence of infinite numerical series and power series. This is a statewide Guaranteed Transfer course in the GT-MA1 category.

Prerequisite: MAT 201. Offered: *(GT-MA1).

MAT 203 - Calculus III: GT-MA1 (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. Offered: *(GT-MA1).

MAT 204 - Calculus III/Engineer Applications: GT-MA1 (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. Offered: *(GT-MA1).

MAT 255 - Linear Algebra (3)

Introduces linear algebra and emphasizes techniques of problem solving and introductory proofs. This course includes linear systems, matrices, determinants, vector spaces, linear transformations, eigenvalues, and eigenvectors.

Prerequisite: MAT 202.

MAT 266 - Differential Equations with Linear Algebra (4)

Explores ordinary differential equations with an introduction to select topics in linear algebra. Course covers first and second order differential equations, series solutions, Laplace transforms, linear algebra, eigenvalues, first order systems of equations, and numerical techniques for solving differential equations.

Prerequisite: MAT 202.

MET - Meteorology

MET 150 - General Meteorology w/Lab: GT-SC1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SC1).

MGD - Multimedia Graphic Design

MGD 103 - Introduction to 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.

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.

MGD 111 - Adobe Photoshop I (3)

Concentrates on the high-end capabilities of Adobe Photoshop 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. Course competencies and outline follow those set out by the Adobe Certified Associate exam in Visual Communication Using Adobe Photoshop.

MGD 112 - Adobe Illustrator I (3)

Concentrates on the high-end capabilities of Adobe Illustrator as an illustration, design and vector drawing tool. Students learn how to use the tools to create digital artwork that can be used in web design, print media, and digital screen design. Course competencies and outline follow those set by the Adobe certified Associate exam in Visual Communication using Adobe Illustrator.

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.

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.

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.

MGD 119 - Maya I (3)

Introduces students to Maya, a high-end character animation tool. Emphasis is on building models of various types. Students learn setting up and animating scenes for render in movie format.

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.

MGD 141 - Web Design I (3)

Introduces web site planning, design and creation utilizing HTML through industry-standard development tools [may list specific software]. Emphasis is placed on applying stylistic decisions using cascading style sheets. Web-based considerations regarding color, typography, aesthetics, user interface design, and process integration with visual-based design tools will be explored.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

MGD 233 - Graphic Design II (3)

Continues instruction in idea development for advanced graphic design.

Prerequisite: MGD 133.

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.

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. Design focus is on information hierarchy in how it pertains to User Interface (UI) and User Experience (UX) and Search Engine Optimization (SEO). Topics include current content management

systems (CMS) such as WordPress and/or Drupal, identifying web scripting languages, and an overview of open source programming and database integration.

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).

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.

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.

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.

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.

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.

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.

MGD 259 - Management & 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.

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.

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.

MGD 268 - Business for Creatives (3)

Presents a guide to freelance work and a study of business practices and procedures and models unique to creative occupations (graphic design, web design, animation, fine arts). Discussion includes determining charges, business forms, business planning, tax structure, licenses and registration, self-promotion (resume, website, portfolio, business identity package). Course may include visits by professionals in the field and discussion of career opportunities in a quickly changing career field.

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.

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.

MGD 289 - Capstone (1)

Focuses on demonstrated culmination of learning within a given program of study.

MIL - Millwright

MIL 101 - Lifting Devices (1)

Introduces the student to the types of rigging/lifting devices used in industry. Skills include the correct use of slings and common rigging hardware, including safe loading practices and the use of ANSI hand signals.

Prerequisite: Prerequisite/Corequisite: MTE 105.

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.

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.

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.

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.

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.

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. 244), MOT 133 (p. 244) and MOT 135 (p. 244) 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.

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. 244), MOT 133 (p. 244) and MOT 135 (p. 244) 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

MST 111 - Massage Therapy Fundamentals (4)

Describes the fundamental skills and knowledge necessary to perform therapeutic massage that incorporates an understanding of the physiological and psychological effects and overall health benefits of this modality. This course will cover the history of massage therapy, contraindications, hygiene, session documentation, body mechanics, appropriate draping, and the

basic stroke techniques of Swedish massage for seated and table massage. A focus on palpation and increasing comprehension of muscle anatomy will be incorporated throughout this course.

Prerequisite: Prerequisite/Corequisite: IHP 111 and acceptance into the Massage Therapy program.

MST 174 - Clinical/Experiential Learning (2)

Provides an experiential learning opportunity.

MST 178 - Seminar (1-4)

Provides students with an experiential learning opportunity.

Prerequisite: Prerequisite/Corequisite: MST 213. This course and MST 213 may be taken at the same time.

MST 184 - Clinical Massage I (2)

Applies skills in a clinical setting. Focuses on improvement of massage therapy skills, ethics, and communication.

Prerequisite: Prerequisite/Corequisite: This course and MST 111 may be taken at the same time.

MST 208 - Musculoskeletal Anatomy (2)

Provides an advanced and applied study of the musculoskeletal system for massage therapy students, other bodyworkers, and/or movement instructors. This highly kinesthetic course allows for intensive focus on recognizing the bony landmarks; understanding the origins, insertions and actions of the muscles; locations of the major nerve pathways; and locations of other anatomical structures in order to improve and refine palpation skills in those training to become professional bodyworkers.

Prerequisite: IHP 111. Corequisite: MST 111. This course and MST 111 may be taken at the same time.

MST 211 - Therapeutic Massage Techniques (3)

Applies anatomical knowledge and direct application of advanced massage therapy techniques. This course examines causes for commonly occurring conditions that are regularly treated with therapeutic massage. This course will discuss ethical standards, client assessment, and development of treatment plans and proper protocol for documenting sessions. Preparation for successfully passing the national exam as well as professionalism, self-care, and marketing oneself as a Licensed Massage Therapist will also be addressed.

Prerequisite: MST 111. Corequisite: HPR 117. This course and HPR 117 may be taken at the same time.

MST 213 - Therapeutic Massage Techniques (3)

Demonstrate knowledge and application of advanced massage techniques and documentation. Learn causes and treatment for commonly occurring conditions in the field of therapeutic massage. Assess and meet client needs, while conducting oneself as a professional in the field of Massage Therapy.

Corequisite: This course and MST 111 may be taken at the same time.

MST 216 - Pathology for Massage Therapy (3)

Focuses on basic knowledge of disease, injury and health to assist the massage therapist to promote healing, ease pain and discomfort, and avoid complications during massage therapy sessions. 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 as well as addresses the impact of massage on overall health and well-being.

Prerequisite: Prerequisite/Corequisite: MST 211. This course and MST 211 may be taken at the same time.

MST 274 - Clinical/Experiential Learning (2)

Provides an experiential learning opportunity.

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: Prerequisite/Corequisite: MST 213. This course and MST 213 may be taken at the same time.

MST 289 - Capstone (1-4)

Demonstrates the culmination of learning within a given program of study.

MTE - Manufacturing Technology

MTE 105 - Safety Manufacturing Environment (1)

Introduces Occupational Safety and Health Administration (OSHA) federal and state regulations, industrial practices, and accident investigation techniques; including topics such as hazard communication standards, lockout/tagout procedures, eye safety, lifting techniques, electrical safety, stored energy safety, Personal Protective Equipment (PPE), and safety program development and monitoring.

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.

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.

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.

MTE 135 - Lean Six Sigma (4)

Focuses on the statistical modeling approaches to process and product improvement through the reduction of waste (lean) and defects (six sigma) while introducing methodology such as the Define-Measure-Analyze-Improve-Control (DMAIC), common in the manufacturing and service industries.

Prerequisite: MAT 108 or higher.

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.

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.

MTE 289 - Manufacturing Capstone (1)

Provides a demonstrated culmination of learning within a given program of study.

MUS - Music**MUS 100 - Music Theory Fundamentals I (3)**

Focuses on the foundational elements of music theory. The course will cover clef reading, pitch and rhythmic notation, intervals, scales, key signatures, triads and diatonic chords, and an introduction to ear training and sight singing. The course will help beginning music students, including those who have limited background reading music notation and understanding the fundamentals of music theory.

MUS 101 - Music Theory Fundamentals II (3)

Continues to develop fluency with foundational elements of music theory through continued drills and exercises. The course expands on principles of music notation, harmonization, intervals, chord analysis, rhythm, ear training, and sight singing. The course will help non-music major students who wish to further develop fluency in fundamental music theory and music notation.

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.

MUS 110 - Music Theory I (3)

Reviews and builds upon music fundamentals, diatonic harmony, phrase structure, and analysis. The course introduces voice leading and four part harmony in root position and inversions.

Corequisite: MUS 112.

MUS 111 - Music Theory II (3)

Introduces harmony through four-part writing studying principles of harmonic progression, modulation, diatonic seventh chords, secondary dominants, keyboard harmony, and score analysis of binary and ternary form.

Prerequisite: MUS 110 and MUS 112. Corequisite: MUS 113.

MUS 112 - Ear Training/Sight-Singing I Lab (1)

Provides exercises in sight singing, rhythmic reading, and melodic and rhythmic dictation. The course will include performance of melodies and rhythmic reading exercises. Ear

training dictation topics includes rhythm, intervals, diatonic scales, melody, triad types, and scales.

Corequisite: MUS 110.

MUS 113 - Ear Training/Sight-Singing II Lab (1)

Continues to develop sight singing, rhythm reading, and dictation skills. The course includes expanded exercises in sight singing, rhythmic reading, and melodic and rhythmic dictation, as well as performance of melodies and rhythmic reading exercises. This course includes ear training topics.

Prerequisite: MUS 112. Corequisite: MUS 111.

MUS 120 - Music Appreciation: GT-AH1 (3)

Introduces the study of music focusing on intelligent listening skills, the elements of music and their relationships, the musical characteristics of representative works and composers, common musical forms and genres of various Western, and non-Western historical style periods. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

MUS 121 - Music History Medieval - Classical: GT-AH1 (3)

Provides an historical survey of Western art music from the Middle Ages into the Classical period, including styles, genres, composers, works, and significant cultural and historical influences upon the repertoire. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

MUS 122 - Music History Romantic - Present: GT-AH1 (3)

Provides an historical survey of Western art music connecting the classical period to the Romantic period and following to the present. This course includes the study of styles, genres, composers, works, and significant cultural and historical influences upon the repertoire. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

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).

MUS 123 - Survey of World Music: GT-AH1 (3)

Provides an overview of music from around the globe including folk, ethnic, non-Western and popular styles. Develops basic listening skills and builds a historical/cultural context for world music styles to enable an understanding and appreciation of global music. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

MUS 125 - History of Jazz: GT-AH1 (3)

Provides an overview of jazz history covering the basic materials of music and the forms, media, genres, and the historical and cultural framework of each style period. This course emphasizes the building of critical listening tools and the development of a

jazz music vocabulary. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

MUS 126 - History of Rock and Pop (3)

Provides a survey of basic materials of music, musical forms, media, genres, and musical style of American rock and popular music from the late 19th century to the present. Focus of the course will be on studying genres and styles within the context of their role in American society, culture, and political landscape.

MUS 131 - Music Class I (Guitar, Piano or Voice) (2)

Provides group instruction in music, introducing basic techniques, repertoire, and sight-reading.

MUS 132 - Music Class II (Guitar, Piano or Voice) (2)

Provides group instruction in music, continuing to develop basic techniques, repertoire, and sight-reading.

MUS 133 - Music Class III (2)

Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading. First year, third term.

MUS 134 - Music Class IV (2)

Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading. First year, fourth term.

MUS 141 - Private Instruction I (1-2)

Focuses on individual instruction: instrument, voice, conducting, or composition.

MUS 142 - Private Instruction II (1-2)

Continues individual instruction: instrument, voice, conducting, or composition.

Prerequisite: MUS 141.

MUS 143 - Private Instruction III (1-2)

Continues individual instruction: instrument, voice, conducting, or composition.

Prerequisite: MUS 142.

MUS 144 - Private Instruction IV (1-2)

Continues individual instruction: instrument, voice, conducting, or composition.

Prerequisite: MUS 143.

MUS 151 - Ensemble I (1)

Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.

MUS 152 - Ensemble II (1)

Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.

Prerequisite: MUS 151.

MUS 153 - Ensemble III (1)

Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.

Prerequisite: MUS 152.

MUS 154 - Ensemble IV (1)

Provides opportunities for students to perform in ensembles. Ensembles will perform a diverse variety of musical styles and genres. Rehearsal techniques, performance skills, and professionalism are key components of this course.

Prerequisite: MUS 153.

MUS 161 - Computer Music Applications I (3)

Introduces audio signal flow, Digital Audio Workstation (DAW), current computer music software, digital audio practices, Musical Instrument Digital Interface (MIDI) sequencing, and audio for video.

MUS 162 - Computer Music Applications II (3)

Further explores the technical and creative use Digital Audio Workstation (DAW) environment. Sound design using analog and digital synthesis and sampling, digital signal processing, and mastering and audio formats will be among the topics explored.

MUS 163 - Music Audio Production I (3)

Provides music majors and students with a strong interest in music with a basic understanding of the music audio production process. The course covers the fundamentals of audio/music production and signal flow, fundamentals of sound, acoustics, and microphones, digital and analog technology, recording, and mixing.

MUS 164 - Music Audio Production II (3)

Refines techniques and emphasizes critical listening in the acoustic and Digital Audio Workstation environments.

Prerequisite: MUS 163.

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.

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.

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.

MUS 210 - Music Theory III (3)

Continues the study of harmony and four-part writing, chromatic harmony, modulation, score and form analysis.

Prerequisite: MUS 111 and MUS 113. Corequisite: MUS 212.

MUS 211 - Music Theory IV (3)

Continues the study of chromatic harmony and analysis. This course introduces 20th and 21st century compositional techniques, including Impressionism, serialism, non-tertian harmonies, and further study in forms and analysis.

Prerequisite: MUS 210 and MUS 212. Corequisite: MUS 213.

MUS 212 - Ear Training/Sight-Singing Lab III (1)

Covers sight singing and melodic dictation using modulation and chromaticism. It covers harmonic dictation including diatonic and chromatic harmonic progressions. It will emphasize rhythmic reading and dictation including syncopation and asymmetrical meters.

Prerequisite: MUS 111 and MUS 113. Corequisite: MUS 210.

MUS 213 - Ear Training/Sight-Singing Lab IV (1)

Covers sight singing and ear training skills related to musical styles since 1900.

Prerequisite: MUS 210 and MUS 212. Corequisite: MUS 211.

MUS 231 - Music Class I (2)

Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading. Second year, first term.

MUS 232 - Music Class II (2)

Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading. Second year, second term.

MUS 233 - Music Class III (2)

Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading. Second year, third term.

MUS 234 - Music Class IV (2)

Applies the fundamentals of music to the voice or specific musical instruments. The course also introduces basic techniques, repertoire, and sight-reading. Second year, fourth term.

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.

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: MUS 241.

MUS 243 - Private Instruction III (1-2)

1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4 year school. Offers private

instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Second year, third term.

Prerequisite: MUS 242.

MUS 244 - Private Instruction IV (1-2)

1 credit primarily for non-music majors. 2 credits for music majors planning to transfer to 4 year school. Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. Second year, fourth term. May be repeated for credit more than once per individual institution policy.

Prerequisite: MUS 243.

MUS 245 - Private Instruction V (1-2)

Offers private instruction consisting of a thirty or sixty minute lesson per week. Participation in a student performance is required at least once each term for 1 credit. Regular attendance at and participation in student performances is required for 2 credits. *This course can be used for repeatable credit after student has completed previous sequence of private instruction courses.

Prerequisite: MUS 244.

MUS 251 - Ensemble I (1)

Rehearses and performs various types of musical literature. Second year, first term.

MUS 252 - Ensemble II (1)

Rehearses and performs various types of musical literature. Second year, second term.

Prerequisite: MUS 251.

MUS 253 - Ensemble III (1)

Rehearses and performs various types of musical literature. Second year, third term.

Prerequisite: MUS 252.

MUS 254 - Ensemble IV (1)

Rehearses and performs various types of musical literature. Second year, fourth term.

Prerequisite: MUS 253.

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.

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.

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.

MUS 289 - Capstone (2)

Provides a demonstrated culmination of learning within a given program of study.

NRE - Natural Resources

NRE 100 - Foundations of Forestry (3)

Presents the principles of forest science, dendrology, forest fire behavior, and silviculture principles.

NRE 101 - Readiness for Natural Resources (1)

Covers the practical skills needed in order to complete large projects, such as research papers and data analysis, in natural resource coursework. This course also covers the job search and marketing skills needed to find employment. The importance of well-written resumes and cover letters is emphasized.

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.

Prerequisite: Prerequisite/Corequisite: NRE 100.

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.

NRE 121 - Introduction to Hydrology (3)

Introduces the movement of ground and surface water. Basic flow equations and graphs are used.

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.

NRE 204 - Range Management & 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.

NRE 205 - Wildlife & Fisheries Management (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.

NRE 215 - Fire Ecology (3)

Allows students to study the ecological effects of fire. Current information and field experience will be emphasized.

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.

NRE 228 - Forest Harvesting (3)

Covers how to design environmentally, socially, and economically sound forest harvest practices, which are fundamental to sustainable forestry. The course explores good forest management in terms of appropriate planning, implementing, monitoring, and evaluating forest harvest operations. It will cover forest harvesting methods and approaches for meeting sustainable timber utilization objectives while also protecting critical soil, water, and other forest resources.

Prerequisite: NRE 110.

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.

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.

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.

NRE 250 - Forestry Field Techniques II (3)

Covers how to design and implement a forest inventory and how to use inventory findings to make management recommendations. The effectiveness of forestry survey design is included as well as the analysis of relevant data with basic software programs and statistics. The use of mapping and remote sensing technology to design sampling efforts will be covered. This course facilitates the mastery of measurement techniques and effective decision making regarding survey design.

Prerequisite: NRE 110.

NRE 255 - Wildlife Field Techniques (4)

Provides the opportunity to gain practical experience with wildlife management methods and techniques. It focuses on designing projects based upon the ecology and natural history of the species of interest as well as accurate data collection and project implementation. The course will provide opportunity for teamwork and individual work in order to develop wildlife management, improvement, and monitoring projects. It will also provide opportunity to practice trapping and handling techniques for a variety of taxa.

Prerequisite: NRE 114 and NRE 205.

NRE 265 - Wilderness Education (3)

Allows students to study areas of interest not covered in the traditional curriculum. Current information and field experience will be emphasized.

NRE 278 - Seminar (1-3)

Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

NUR 189 - Transition from LPN to ADN (4)

Facilitates transition of the LPN to new roles and responsibilities of the ADN, the nursing process, critical thinking, legal and ethical issues in nursing practice, and the nursing care of childbearing families and pediatric clients. Application of knowledge and skills occurs in the laboratory and maternal/child and pediatric clinical settings.

Prerequisite: Completion of preceding nursing course work with a grade of "C" or better.

NUR 206 - Advanced Concepts of M/S Nursing I (6.5)

NUR 206 builds on NUR 106 (p. 250) 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.

Prerequisite: BIO 216.

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.

Prerequisite: BIO 216.

NUR 212 - Pharmacology II (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.

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.

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.

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.

NUR 301 - Integration into Baccalaureate Nursing Practice (3)

Explores professional nursing practice at the baccalaureate level. Focus is on knowledge and understanding of the professional nursing standards and the nursing role at a baccalaureate level.

NUR 302 - Trends in Nursing Practice (3)

Examines current issues that nurses encounter in the health care environment including their roles and responsibilities within the nursing profession.

Prerequisite: Prerequisite/Corequisite: NUR 301. This course and NUR 301 may be taken at the same time.

NUR 303 - Nursing Research/Evidence Based Practice (3)

Analyzes concepts associated with nursing research, collection, and analysis of data with emphasis on integration of evidenced-based practice within nursing. The course develops the skills for critiquing published research.

Prerequisite: ENG 122 and MAT 135 and NUR 301.

NUR 304 - Informatics/Healthcare Technology (3)

Explores concepts and applications related to the nurse's role in utilizing healthcare informatics involving patient care technology. This course will explore the impact of information

management systems on the delivery of patient care, healthcare teams, and health outcomes.

Prerequisite: NUR 301.

NUR 305 - Emergency Preparedness (3)

Focuses on the nurse's roles and responsibilities in the most common types of disasters and how the nurse can deliver effective care in various emergency situations.

Prerequisite: NUR 301.

NUR 306 - Gerontology Nursing (3)

Focuses on optimizing health for the aging client within the framework of the nursing process. Emphasis is on supporting the unique needs of the aging population.

Prerequisite: NUR 301.

NUR 307 - Behavioral Health (3)

Provides an overview of behavioral health promotion for individuals, families, and populations with behavioral health concerns. The focus of the course will explore the nurse's impact on behavioral health trends.

Prerequisite: NUR 301.

NUR 408 - Legal/Ethical Issues (3)

Emphasizes the ethical and legal obligations of professional nursing practice. The focus is on values clarification, ethical theory, and ethical decision making models. Additionally, legal issues related to healthcare will be explored.

Prerequisite: NUR 301.

NUR 409 - Leadership in the Nursing Profession (3.5)

Focuses on the role of the professional nurse as a leader within healthcare. The course integrates concepts needed to assume leadership and management positions in the healthcare environment.

Prerequisite: NUR 301.

NUR 410 - Community Health Nursing Practicum (6)

Focuses on the role of the professional nurse in community-based practice settings, with an emphasis placed on health promotion, prevention, and optimal wellness of the community.

Prerequisite: NUR 301.

NUR 411 - Senior Seminar (3)

Integrates theory into practice by building on previous concepts and knowledge.

Prerequisite: NUR 301.

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.

OTE - Optics Technology

OTE 100 - Fundamentals of Light & 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.

Prerequisite: Prerequisite/Corequisite: MAT 108 or MAT 122 or MAT 166 or higher.

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.

Prerequisite: Prerequisite/Corequisite: OTE 100.

OTE 102 - Intro to Manufacturing Technology (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.

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.

OTE 104 - Optics: Electronic Instrumentation (3)

Introduces the basic electronic instrumentation skills needed when working in optics and photonics 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.

Prerequisite: Prerequisite/Corequisite: MAT 108 or MAT 122 or MAT 166 or higher.

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: OTE 100.

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: OTE 100.

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.

Prerequisite: OTE 100.

OUT - Outdoor Studies**OUT 109 - Winter Wilderness Survival Skills (2)**

Emphasizes winter survival techniques in the nival environment at or near timberline. Focuses on winter ecology, basic snow science, and avalanche safety and rescue in a backcountry setting. This course includes field days and an overnight in a snowcave.

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.

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.

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.

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.

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.

OUT 151 - Snowshoeing (1)

Emphasizes the basic skills, equipment, clothing and techniques of snowshoeing. It includes the objective dangers involved with winter recreation.

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.

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.

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.

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.

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.

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).

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.

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.

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.

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.

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.

PAR 116 - Torts (3)

Focuses on tort law, including negligence, intentional torts, and strict liability with an emphasis on personal injury litigation.

PAR 117 - Family Law (3)

Emphasizes domestic law, common property, dissolutions, adoptions, legal separation, and other family law issues.

PAR 118 - Contracts (3)

Examines the basic principles of contract law.

PAR 125 - Property Law (3)

Focuses on real estate law, ownership, sale, leasing, financing and government regulation of land.

PAR 126 - Administrative Law (3)

Introduces administrative and regulatory agencies, their jurisdiction, rule-making and decision-making processes.

Prerequisite: PAR 115.

PAR 127 - Legal Ethics (3)

Explores the parameters of professional responsibilities and value systems for paralegals and related occupations.

PAR 201 - Civil Litigation (3)

Focuses on an intensive study of the legal process including the Federal and Colorado Rules of Civil Procedure.

PAR 202 - Evidence (3)

Introduces the student to State and Federal Rules of Evidence and application to the trial process.

Prerequisite: PAR 115.

PAR 205 - Criminal Law (3)

Introduces basic concepts of criminal law and criminal procedure, including Colorado statutes and Rules of Procedure.

Prerequisite: PAR 115.

PAR 206 - Business Organizations (3)

Focuses on the study of the major types of business organizations.

Prerequisite: PAR 115.

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.

PAR 209 - Constitutional Law (3)

Emphasizes the study of the powers of government as they are allocated and defined by the United States Constitution.

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.

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.

PAR 215 - Alternative Dispute Resolution (3)

Introduces the student to negotiating, mediation, arbitration and other forms of dispute resolution.

PAR 216 - Employment Law (3)

Provides an understanding of current legal issues in the area of employer/employee relationships.

Prerequisite: PAR 115.

PAR 217 - Environmental Law (3)

Covers state and federal laws concerning the environment, including chemical safety laws, workplace safety, and hazardous waste.

PAR 218 - Bankruptcy Law (3)

Focuses on the federal and state laws and procedures involving bankruptcy.

Prerequisite: PAR 115.

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.

PAR 227 - Immigration Law (3)

Provides an understanding of the United States Immigration Laws.

PAR 228 - Intellectual Property (3)

Covers the federal and state laws regarding intellectual property.

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.

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.

PAR 289 - Capstone (3)

Emphasizes a synthesis of the information and skills that students learned throughout their paralegal studies.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

PED 144 - Yoga II (1)

Continues to build on the concepts of basic yoga. Increases awareness of yoga including physical and mental benefits.

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.

PED 152 - Stretch 'N Relax (1)

Teaches proper stretching techniques to all parts of the body.

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.

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.

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.

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.

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.

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.

PHI - Philosophy**PHI 111 - Introduction to Philosophy: GT-AH3 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

PHI 112 - Ethics: GT-AH3 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

PHI 113 - Logic: GT-AH3 (3)

Studies effective thinking using language-oriented logic. Provides tools and develops skills for creative and critical thinking and the formal analysis of arguments. Emphasizes the development of decision-making and problem-solving. This is a statewide Guaranteed Transfer course in the GT-AH3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

PHI 114 - Comparative Religions: GT-AH3 (3)

Introduces the major religions of the Eastern and Western world. Covers Hinduism, Buddhism, Confucianism, Daoism, Judaism, Christianity, and Islam. Utilizes methods of religious studies to understand the historical development of each religious tradition as well its worldview and teachings. This is a statewide Guaranteed Transfer course in the GT-AH3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

PHI 115 - World Religions - West: GT-AH3 (3)

Introduces students to religions of the Western World: Judaism, Christianity, and Islam. Utilizes the methods of religious studies 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. This is a statewide Guaranteed Transfer course in the GT-AH3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

PHI 116 - World Religions - East: GT-AH3 (3)

Introduces the major religions of the Eastern World: Hinduism, Buddhism, Confucianism, and Daoism. Utilizes the methods of religious studies 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. This is a statewide Guaranteed Transfer course in the GT-AH3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

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.

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.

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.

PHI 205 - Business Ethics: GT-AH3 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

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.

PHI 214 - Philosophy of Religion: GT-AH3 (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. This is a statewide Guaranteed Transfer course in the GT-AH3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

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.

PHI 218 - Environmental Ethics: GT-AH3 (3)

Analyzes theories of the value of the natural world. Topics may 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; and the connection between moral and political values and economic policies. This is a statewide Guaranteed Transfer course in the GT-AH3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

PHI 220 - Philosophy Death & Dying: GT-AH3 (3)

Explores the major philosophical questions surrounding death and dying, the metaphysical arguments for and against the existence of the soul, life after bodily death, the major ethical theories and their relation to issues of physician-assisted suicide, care for the dying, the grieving process, death as expressed in aesthetics and contemporary society, as well as the existential contributions concerning meaning of life and the meaning of death. This is a statewide Guaranteed Transfer course in the GT-AH3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH3).

PHT - Pharmacy Technician**PHT 112 - Pharmacy Law and Ethics (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.

PHT 115 - Pharmacology I (3)

Presents the fundamentals of pharmacology, the pharmacokinetic phases, and the basic concepts of normal body function. This course examines diseases which impact the various body systems and the drugs used to treat such diseases, emphasizing disease state management and drug therapy.

PHT 116 - Institutional Pharmacy (3)

Explores the role of pharmacy technicians and the practice of pharmacy in the institutional setting. This course covers institutional and pharmacy organization, terminology, medication distribution systems, packaging and preparation of intravenous admixtures. This course includes a hands-on simulation component in preparation for institutional practice.

Prerequisite: PHT 235.

PHT 118 - Pharmacology II (3)

Examines the disease states which impact the various body systems and the drugs used to treat such diseases. This course 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.

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 235.

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 112, PHT 115, PHT 116, PHT 118, PHT 119, and PHT 235.

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 112, PHT 115, PHT 116, PHT 118, PHT 119, and PHT 235.

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.

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.

PHY - Physics**PHY 105 - Conceptual Physics w/Lab: GT-SC1 (4)**

Focuses on mechanics, heat, properties of matter, electricity and magnetism, and light. Incorporates laboratory experience. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

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).

PHY 107 - Energy Science & Tech w/Lab: GT-SC1 (4)

Explores the science of energy and energy technologies with a focus on renewable energy resources and clean technologies. The course provides a background in the physics of energy, energy transfer, and the current state of energy technology. Evaluation of the future utilization of renewable technologies is included. Topics may include conservation of energy; mechanical, electrical, heat, and fluid power systems; energy transfer and loss; energy audits; and testing solar collectors and wind generators. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

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).

PHY 111 - Physics: Algebra-Based I w/Lab: GT-SC1 (5)

Covers the physics of mechanics and requires application of classical physics to both mathematical and conceptual problems. Major topics include kinematics in one and two dimensions, Newton's Laws, circular motion, work and energy, impulse and momentum, and rotational mechanics. This course may also

include topics relating to simple harmonic motion and traveling and standing waves. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

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).

PHY 112 - Physics: Algebra-Based II w/Lab: GT-SC1 (5)

Covers the physics of electricity and magnetism and requires application of classical physics to both mathematical and conceptual problems. DC circuits involving resistors, capacitors, and batteries will be covered. Also covered are electromagnetic waves and geometric optics. This course may also include topics relating to simple harmonic motion, traveling and standing waves, and AC circuits. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

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).

PHY 211 - Physics: Calculus-Based I w/Lab: GT-SC1 (5)

Covers the physics of kinematics, dynamics, and conservation laws and requires application of classical physics to both mathematical and conceptual problems. Specific concepts covered include 1D and 2D kinematics, Newton's Laws, rotational motion, energy and work, momentum and impulse, and simple harmonic motion. This course may also cover thermodynamics and fluid mechanics. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

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).

PHY 212 - Physics: Calculus-Based II w/Lab: GT-SC1 (5)

Covers the physics of electricity and magnetism using conceptual and mathematical reasoning, including calculus. Maxwell's equations, waves, and time-varying circuits will be covered. Optional topics include wave and geometric optics and AC circuits. This is a statewide Guaranteed Transfer course in the GT-SC1 category.

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).

PHY 213 - Physics III: Calculus-Based Modern (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.

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.

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.

PLU 289 - Capstone: Plumbing (2)

Provides a demonstrated culmination of learning within a given program of study.

Prerequisite: CON 110 and PLU 120.

POS - Political Science

POS 105 - Intro to Political Science: GT-SS1 (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. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS1).

POS 111 - American Government: GT-SS1 (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, electoral process, and the structure and functions of the national government. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS1).

POS 125 - American State & Local Govt: GT-SS1 (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. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS1).

POS 205 - International Relations: GT-SS1 (3)

Examines the interactions among various levels of actors in the international system. This course attempts to explain behaviors across state boundaries. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS1).

POS 215 - Current Political Issues: GT-SS1 (3)

Incorporates an in-depth analysis of the background and nature of political issues and themes. This course is statewide Guaranteed Transfer course in the GT-SS1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS1).

POS 225 - Comparative Government: GT-SS1 (3)

Examines domestic political systems, developments, themes, and events across countries and regions while applying the comparative method to identify similarities and differences. This is a statewide Guaranteed Transfer course in the GT-SS1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS1).

PSY - Psychology

PSY 101 - General Psychology I: GT-SS3 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

PSY 102 - General Psychology II: GT-SS3 (3)

Focuses on the scientific study of behavior including cognition, language, intelligence, psychological assessment, personality, abnormal psychology, therapy, life span development, sex, gender, sexuality, and social psychology. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

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.

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.

PSY 205 - Psychology of Gender: GT-SS3 (3)

Examines gender comparisons in work, courtship, family life, and sexual behavior throughout the life span. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

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.

PSY 217 - Human Sexuality: GT-SS3 (3)

Surveys physiological, psychological and psychosocial aspects of human sexuality. Topics include relationships, sexual identity, and sexual health. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

PSY 226 - Social Psychology: GT-SS3 (3)

Focuses on the behavior of humans in a wide variety of social settings and the social influences humans have on each other in those settings. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

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).

PSY 227 - Psychology of Death & Dying: GT-SS3 (3)

Examines the philosophies of life and death emphasizing dying, death, mourning and the consideration of one's own death. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

PSY 235 - Human Growth & Development: GT-SS3 (3)

Examines human development from conception through death emphasizing physical, cognitive, emotional, and psychosocial factors.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

PSY 238 - Child Development: GT-SS3 (3)

Focuses on the growth and development of the individual, from conception through childhood, emphasizing physical, cognitive, emotional, and psychosocial factors. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

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.

PSY 249 - Abnormal Psychology: GT-SS3 (3)

Examines abnormal behavior and its classifications, causes, treatment and prevention.

Prerequisite: PSY 101 or PSY 102. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

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.

PSY 265 - Psychology of Personality: GT-SS3 (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 subfield of psychology. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

REC - Recreation

REC 210 - Principles of Outdoor Recreation (3)

Includes lecture and practical outdoor experience relating to problems and trends in outdoor recreation.

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.

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.

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.

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.

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.

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.

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.

RUS 211 - Russian Language III: GT-AH4 (3)

Continues Russian Language II in the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the Russian language. This course is conducted predominantly in Russian. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: RUS 112. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

RUS 212 - Russian Language IV: GT-AH4 (3)

Continues Russian Language III in the development of increased functional proficiency at intermediate mid level in speaking, aural comprehension, reading, writing, and cultural competency in the Russian language. This course is conducted predominantly in Russian. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: RUS 211. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

SCI - Science

SCI 105 - Science in Society: GT-SC2 (3)

Examines issues relating to the way science interacts with society. A selection of issues from information technology, the environment and earth science, physics and astronomy, biology, medicine, and the interaction of science with politics will be examined, as informed by current events. Emphasis will be on research, inquiry, and critical analysis of science-related issues, including the negative and positive roles of science in society. This is a statewide Guaranteed Transfer course in the GT-SC2 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SC2).

SCI 155 - Integrated Science I w/Lab: GT-SC1 (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: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SC1).

SCI 156 - Integrated Science II w/Lab: GT-SC1 (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. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SC1).

SOC - Sociology

SOC 101 - Intro to Sociology I: GT-SS3 (3)

This course examines the basic concepts, theories, and principles of sociology, including topics of culture, race, class, gender, sexuality, social groups, and deviance through a local and global lens. Analyzes and interprets socio-historic as well as contemporary issues by using critical thinking skills and linking individual experiences to social structures. (GT-SS3)

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 102 - Intro to Sociology II: GT-SS3 (3)

Examines the basic concepts, theories, and principles of sociology, including topics of family, religion, education, politics, the economy, health, demography, the environment and social movements through a local and global lens. Analyzes and interprets socio-historical as well as contemporary issues by using critical thinking skills and linking individual experiences to social structures. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 205 - Sociology of Family Dynamics: GT-SS3 (3)

Offers a critical exploration of marriage, family and kinship. It examines the family as an institution and how social, cultural and personal factors influence family relations locally and globally. Explores the stability and evolution of the family, along with current trends and a range of family forms. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 207 - Environmental Sociology: GT-SS3 (3)

Examines how humans' relationship with the environment is mediated by social stratification. Key topic areas include industrial and economic growth versus sustainability, natural resources development and management, cultural values, social movements, and comparative perspectives on people's relationship to the environment.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 208 - Restorative Justice I (3)

Provides an introduction to the fundamental principles, practices, and goals of restorative justice. Examines various restorative justice models within different institutional and communal settings in the U.S and globally. Addresses the role of key stakeholders, differentiate between retributive and restorative paradigms, and identify restorative justice limitations.

SOC 215 - Contemporary Social Problems: GT-SS3 (3)

Investigates current social issues that result in societal problems. Focuses on numerous areas including, but not limited to, the loss of civil liberties, concentration of media ownership, gender discrimination, hate crimes, poverty, hunger, environmental degradation, racism and prejudice, as well as social change. Addresses ways to ameliorate these social ills.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 216 - Sociology of Gender: GT-SS3 (3)

Examines major trends and theoretical approaches within the field of sociology of gender including the impact of intersecting social markers such as race, class, sexuality and gender identities. Addresses gender performance, stratification and inequalities in micro and macro settings in the U.S. Focuses on social movements relating to identities and institutional inequalities. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 218 - Sociology of Diversity: GT-SS3 (3)

Explores differences based on race, ethnicity, social class, gender, age, ability status, and sexual identity. Critically examines the dynamics of intergroup relations and how social construction of these differences can lead to patterns of prejudice, discrimination, and inequality nationally and globally.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 220 - Sociology of Religion: GT-SS3 (3)

Further explores the study of the sociology of religion. Analyzes the socially constructed definition of religion, the forms religion takes in various societies, the impact religion has on local and global societies and social institutions and the many ways in which people shape, maintain or disassemble religious structures. This course is one of the Statewide Guaranteed Transfer courses.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 231 - Sociology of Deviant Behavior: GT-SS3 (3)

Critically examines various deviant categories and societal reactions to deviance affecting diverse populations. Examines how sociologists study deviance and the theories they use to

explain it. Explains the ways social institutions define deviance and attempt to control, change, or treat those deviant behaviors, attitudes, and conditions.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 237 - Sociology of Death & Dying: GT-SS3 (3)

Explores the socially constructed nature of how individuals and societies interact with death and dying. Examines how individuals experience death and dying based on their social location. Analyzes diversity in grief practices related to death.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

SOC 265 - Violence and Culture (3)

Examines the concepts, relationships, organizations, and research as they relate to violence in multiple cultural settings. Assists in developing an understanding of societal and institutional causes of violence and explores resources for intervention and treatment.

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.

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.

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.

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.

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.

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.

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.

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.

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.

SPA 211 - Spanish Language III: GT-AH4 (3)

Continues Spanish Language II in the development of increased functional proficiency at the intermediate level in speaking, aural comprehension, reading, writing, and cultural competency in the Spanish language. This course is conducted predominantly in Spanish. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: SPA 112 or SPA 114. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

SPA 212 - Spanish Language IV: GT-AH4 (3)

Continues Spanish Language III in the development of increased functional proficiency at intermediate mid level in speaking, aural comprehension, reading, writing, and cultural competency in the Spanish language. This course is conducted predominantly in Spanish. This is a statewide Guaranteed Transfer course in the GT-AH4 category.

Prerequisite: SPA 211. CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH4).

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.

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.

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.

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.

STE - Surgical Technology**STE 100 - Fundamentals of Surgical Technology (6)**

Introduces the fundamental principles and practices of surgical technology, including an orientation to the profession and a review of legal and ethical issues. Topics about patient needs, special patient populations, the physical environment, and safety issues related to the surgical setting and biomedical sciences will also be discussed.

Prerequisite: BIO 201, BIO 204, ENG 121 or ENG 122 or ENG 131, HPR 208, and MAT 107 or higher.

STE 101 - Surgical Technology Skills Lab (4)

Introduces hands-on skills in a mock operating room environment. This training will include the pre-operative, intra-operative and post-operative phases of surgery.

Prerequisite: Prerequisite or Corequisite: STE 100.

STE 105 - Pharmacology of Surgical Technology (2)

This course discusses relevant knowledge as it pertains to surgical pharmacology theory, drugs, and aspects of anesthesia.

Prerequisite: Prerequisite or Corequisite: STE 100.

STE 110 - Surgical Procedures I (3)

Reviews General, Obstetric/Gynecological and Urologic surgical procedures.

Prerequisite: STE 100, STE 101, STE 105. These courses can be taken concurrently.

STE 115 - Surgical Procedures II (3)

Reviews plastic, otorhinolaryngological, ophthalmologic and orthopedic surgical procedures.

Prerequisite: Prerequisite or Corequisite STE 110.

STE 120 - Surgical Procedures III (3)

Reviews cardiac, peripheral vascular, and neurologic surgical procedures. This course includes a review of the instruments, equipment and supplies utilized during the preoperative, intraoperative and postoperative phases of these procedures.

Prerequisite: STE 110 and STE 115.

STE 133 - Surgical Instruments Lab I (1.5)

Introduces the history and materials used in the manufacture of surgical instruments, as well as the methods used to maintain, clean, and sterilize surgical instrumentation and equipment. Introduces supplies, equipment, and the names, category, and use of instrumentation used for general, obstetric, gynecologic, otorhinolaryngologic, oral, maxillofacial, plastic, and ophthalmic surgical specialties.

Prerequisite: STE 100.

STE 134 - Surgical Instruments Lab II (1.5)

Introduces the history and materials used in the manufacture of surgical instruments, as well as the methods used to maintain, clean, and sterilize surgical instrumentation and equipment. Introduces supplies, equipment, and the names, category, and use of instrumentation used for genitourinary, orthopedic, cardiothoracic, peripheral vascular, and neurologic surgical specialties.

Prerequisite: STE 100.

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.

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.

STE 183 - Internship III (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 182.

STE 279 - CST Exam Review Course (1)

Prepares students for the National Certification Exam administered by The National Board for Surgical Technology and Surgical Assisting (NBSTSA) by introducing test taking skills and strategies for success. Students will review major concepts in the surgical technology program in preparation for the CST examination.

Prerequisite: STE 110, STE 115, STE 120. Corequisite: STE 181, STE 182, STE 183.

**TEL-Teaching English as a Second Language-
TESL****TEL 100 - Teaching ESL 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.

TEL 102 - Proc/Techs for ESL 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.

TEL 103 - Career Strat-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.

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.

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.

TEL 289 - Capstone (3)

Incorporates a demonstrated culmination of learning within a given program of study.

Prerequisite: TEL 100, TEL 102, TEL 103, TEL 225 and EDU 134 or TEL 245. These courses may be taken at the same time.

THE - Theatre Arts**THE 105 - Theatre Appreciation: GT-AH1 (3)**

Provides an opportunity to discover, analyze, and evaluate all aspects of the theatre experience: scripts, acting, directing, staging, history, criticism, and theory. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

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.

THE 108 - Theatre Script Analysis: GT-AH1 (3)

Explore methods of reading and analyzing a variety of diverse texts for the stage. Additionally, this course provides an opportunity to interpret theatre scripts through cultural lenses and dramaturgical research methods. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

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.

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.

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.

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.

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.

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.

THE 135 - Stage Makeup I (3)

Explores stage makeup design and application techniques including basic corrective, character, old age, animal, and fantasy applications.

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.

THE 141 - Improvisation I (1)

Helps students learn improvisation skills for performance and character development. Emphasis is placed on "Second City" style of improvisation.

THE 211 - Dev of Theatre Greek-Renaissance: GT-AH1 (3)

Surveys the history and development of theatrical practices from Ancient Greece to the Renaissance as well as non-western forms, emphasizing all aspects of performance from period values to analysis of dramatic literature and culture. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

THE 212 - Dev Theatre Restoration - Modern: GT-AH1 (3)

Surveys the history and development of theatrical practices from Restoration to the present as well as non-Western forms, emphasizing all aspects of performance from period values to analysis of dramatic literature and culture. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

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.

THE 215 - Playwriting: GT-AH1 (3)

Develops playwriting techniques emphasizing elements of dramatic structure, dialogue, styles, creative writing, and theatrical practices. This is a statewide Guaranteed Transfer course in the GT-AH1 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-AH1).

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.

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.

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.

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.

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.

THE 255 - Advanced Playwriting (3)

Continues to explore playwriting techniques developed in THE 215 for theatre and applies concepts of writing for movie, television, radio, and animation scripts, with emphasis on the dramatic process and form.

THE 283 - Internship (1-3)

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.

TRE - Tree Care

TRE 110 - Arborist Skills I (1)

Examines aspects of being an arborist and the trade and occupations related to urban forestry. The course includes an orientation to the trade, and explores the standards related to the tree care industry, safety and personal protective equipment, electrical hazards awareness, ground support for aerial operations, basic tree biology, and the basic pruning cuts used by the trade.

TRE 111 - Arborist Equipment Fundamentals (1)

Introduces students to the care and use of common equipment used by the trade. Chain saws, chippers, vehicle operations, plant health care, and aerial lift operations will be covered. Equipment maintenance is examined. Safety and safe work practices are reinforced.

TRE 120 - Tree & Shrub Identification for Arborists (1)

Examines tree and shrub identification using industry accepted standards. Topics include anatomy and morphology, tree and shrub identification, and tools used by the trade to identify trees and shrubs. An introduction to insects and diseases will provide foundational knowledge for future courses in related instruction.

The first in a three-class series, this class focuses on deciduous and coniferous trees from the arborist apprenticeship must-know list.

TRE 130 - Introduction to Aerial Tree Work for Arborists (1)

Teaches pre-climb inspections, climbing equipment for safety, rope installations, ascending skills, re-positioning skills, maneuvering techniques, and descending skills. It also teaches the skills of selecting knots for various situations and applications. Emergency response procedures for arborist apprentices will be explored, and aerial rescue basic concepts are introduced in this course.

TRE 131 - Applied Aerial Tree Work for Arborists (1)

Covers the skills involved in aerial work performed by arborists including safe work practices, operating chain saws in an aerial situation, performing pruning cuts at heights, rigging loads during aerial work, climbing in spurs and decision-making for aerial pruning cuts and tree care. Aerial rescue training for tree care workers is included in this course.

TRE 210 - Arborist Skills II (1)

Examines the ANSI A-300 (American National Standards Institute) tree care standards and applies them to various tree care situations. Instruction includes how to assess different trees for pruning needs including an evaluation of when and where to make cuts and demonstrations of basic pruning cuts used by the trade. The course compares commercial, municipal, and utility applications for pruning as related to the pruning needs for specific trees.

TRE 211 - Arborist Skills III (1)

Examines light rigging systems and hazards associated with working in trees. Methods for identifying branch failure risks and strategies for assessing and mitigating tree risks will be explored. The course also examines tree support and protection systems and the identification of signs and symptoms of decay, including the application of the CODIT (compartmentalization of decay in trees) model to assessing tree defects.

TRE 220 - Tree Biology & Identification for Arborists (1)

Examines tree biology and relates concepts to the work performed by arborists in an urban forestry setting. Topics covered include understanding tree function and structure, categorizing the impact of diseases and pests, examining the CODIT (compartmentalization of decay in trees) model, and exploring tree risk concepts. The course will examine basic plant health needs, tree sites, and nutrition and soil requirements. The second in a three class series, this course will focus on more coniferous and deciduous trees from the arborist apprenticeship must-know list, and explore associated tree and shrub disorders.

TRE 222 - Plant Health Care & Shrub Identification for Arborists (1)

Explores plant health care (PHC) and integrated pest management (IPM), including the handling of chemicals, operating the spray equipment, and formulating PHC prescriptions. Integrated vegetation management, the use of soil amendments, specific plant disorders, and responding to tree damage from construction are also reviewed. As the third class in a three-class tree and shrub identification series this course also focuses on identifying both evergreen and deciduous woody shrubs in the field.

TRE 230 - Rigging & Tree Removal Fundamentals (1)

Explores concepts and develops skills related to tree removal and rigging. This course focuses on safe climbing skills, safe tree removal skills, basic felling skills, rigging loads, using ropes and rigging systems, and performing ground work associated with tree removal.

TRE 232 - Advanced Rigging & Tree Felling for Arborists (1)

Covers skills related to tree felling and field skills associated with working outside. Topics include specialized knots and equipment used in rigging applications, making aerial pruning cuts in accordance with tree care standards, tree felling and field work associated with the occupation. Key concepts and safety related to wood under tension will be introduced in this course.

TRE 289 - Capstone: Leadership in Tree Care Operations (1)

Prepares the student for key job duties and tasks associated with tree care operations, communications, planning, and leadership. Instruction includes training others, setting up job sites, managing resources, reporting work performed, and applying communication and interpersonal skills to various situations. Activities allow students to build skills interpreting written work orders/plans, and encourage them to apply leadership skills to solve problems.

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.

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 Assistant program.

VET 104 - Assistant Large Animal Nursing (1)

Presents commonly encountered medical and surgical conditions of common large animal species with emphasis on the role of the veterinary assistant. This course focuses on handling and specific skills necessary for the profession.

Prerequisite: VET 103.

VET 106 - Exotic Animal Handling (2)

Designed to provide students knowledge and skills required for veterinary technicians. This course focuses on exotic animal husbandry, handling, restraint, and specific problems encountered with exotic animals.

Prerequisite: VET 116. Admission to the VET program. NOTE: Handling of animals will include exotic pets and laboratory animals.

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.

VET 109 - Applied Companion Animal Behavior (3)

Explores the topics of companion animal behavior and learning theory through critical reviews of behavioral literature and its implications for applied techniques in behavior and training. This course provides an understanding of how animals learn, how we can improve inter-species communication to reduce fear, stress, and anxiety, and how to apply this knowledge to the everyday treatment of animals under veterinary care.

Prerequisite: Admission to the Veterinary Assistant or Veterinary Technology Program, or an approved assistant or credentialed technician.

VET 114 - Vet Asst Lab & Clin 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: VET 103 and VET 120.

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.

VET 116 - Humane Treatment Handling of Animals (3)

Focuses on humane animal handling techniques in a veterinary clinical setting. Restraint, medication administration, and common clinical procedures routinely performed by veterinary technicians will be performed.

Prerequisite: Admission to VET Program. NOTE: Handling of animals will include domestic small and large species.

VET 117 - Veterinary Assistant Surgery & Nursing Care (2)

Introduces surgical assisting of the veterinarian and/or the veterinary technician, including basic knowledge of surgical instruments and surgery room hygiene. It also introduces basic nursing care of animal patients including safety concerns and nursing procedures.

Prerequisite: VET 103. Corequisite: Prerequisite/Corequisite: VET 114 may be taken at the same time as VET 117.

VET 120 - Office Procedures and Relations (2)

Presents common veterinary office procedures including administration, professional etiquette, client relations, career development and job searching skills. Enrichment of computer skills in relationship to current veterinary management software will be emphasized.

Prerequisite: Admission to VET or VET Assistant program.

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 and VET 205. Corequisite: This course and VET 205 may be taken at the same time.

VET 180 - 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: VET 108, VET 115, VET 116, VET 120, VET 134, VET 224 and VET 241.

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.

VET 183 - Internship (2.25)

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: VET 120 and VET 103. Corequisite: VET 114 and VET 117 may be taken at the same time as VET 183.

VET 205 - Veterinary Anatomy & Physiology I (4)

Covers the anatomy and physiology of the following body systems: Integumentary, Skeletal, Muscular, Respiratory, Cardiovascular and Lymphatic. The main species covered will be canine, feline, equine, and bovine.

Prerequisite: Admission to the VET program and BIO 111.

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.

VET 224 - Pharmacology Veterinary Tech (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 and VET 205 and VET 206. Corequisite: This course and VET 206 may be taken at the same time.

VET 225 - Anesthesiology (3)

Covers all stages of an anesthetic event (pre-, peri-, post-op) including patient evaluation, appropriate forms of injectable and gaseous anesthesia for surgical and diagnostic procedures, and a working knowledge of equipment used during the anesthetic event. Other topics include anesthesia monitoring, response to complications, and surgical pain management. Species covered include canine, feline, bovine, equine, and an overview of exotics.

Prerequisite: VET 206 and VET 224.

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.

VET 238 - Small Animal Nursing (2)

Presents 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.

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.

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.

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.

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.

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.

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.

Prerequisite: VET 225, VET 227, VET 238 and VET 239.

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.

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.

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 electrodes. Layout procedures and practices will also be introduced.

Prerequisite: Prerequisite/Corequisite: WEL 100 or MTE 105 may be taken at the same time.

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 electrodes. Layout procedures will be practiced during this course.

Prerequisite: Prerequisite/Corequisite: WEL 103 may be taken at the same time.

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.

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 104.

WEL 124 - Introduction to Gas Tungsten Arc Welding (4)

Covers welding in all positions and on various joint configurations using the GTAW (tig) 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/Corequisite: WEL 100 or MTE 105 may be taken at the same time.

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/Corequisite: WEL 201.

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/Corequisite: WEL 203. This course and WEL 203 may be taken at the same time.

WEL 201 - Gas Metal Arc Welding I (4)

Covers safety inspections, minor repairs, operating parameters, operation of GMAW equipment on plain carbon steel utilizing short circuit and spray transfer, and fundamental metallurgy principles.

Prerequisite: Prerequisite/Corequisite: WEL 100 or MTE 105 may be taken at the same time.

WEL 203 - Flux Cored Arc Welding I (4)

Covers safety inspections, minor repairs, operating parameters, operation of FCAW equipment utilizing self shielded wire, and principles of joint design, preparation, and material selection to welding operations.

Prerequisite: Prerequisite/Corequisite: WEL 201. This course and WEL 201 may be taken at the same time.

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. Student should be familiar with basic metallurgy pertaining to the weldability of metals, structural joints, and safety in the welding industry.

Prerequisite: WEL 124.

WEL 230 - Pipe Welding I (4)

Covers safety inspections, minor repairs, operating parameters, and operation of SMAW, GMAW, and FCAW 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 104.

WEL 231 - Pipe Welding II (4)

Learn to perform safety inspections, make minor repairs, adjust operating parameters, and operate SMAW and GTAW equipment on plain carbon steel pipe joints. The student should also be able to evaluate and solve complex welding and fabrication problems, administer hands on training and supervise other students during assigned fabrication and welding operations.

Prerequisite: WEL 224 and WEL 230.

WEL 250 - Layout and Fabrication (4)

Develops welding and associated skills in the use of drawings and blueprints in planning. This course includes designing and layout projects.

Prerequisite: Prerequisite or Corequisite: WEL 101 and WEL 201.

WEL 251 - Design, Layout & Fabrication (4)

Develops advanced welding and associated skills in the use of drawings and blueprints in planning. This course includes designing and layout projects.

Prerequisite: Prerequisite/Corequisite: WEL 250. This course may be taken at the same time as WEL 250.

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/Corequisite: WEL 201. This course and WEL 201 may be taken at the same time.

WEL 289 - Capstone (1)

Demonstrates culmination of learning within a given program of study.

WST - Women and Gender Studies

WST 200 - Intro to Women's Studies: GT-SS3 (3)

Explores the interdisciplinary field of women's studies. This course is an examination of the following topics: the historical basis of gender inequality; the history of social movements for gender equality and women's studies; women's achievements throughout history in various professional and academic fields; women's social, economic, religious, health and political status in the U.S. and around the globe; gender relations; intersectionality; cultural, media and artistic representations of women. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

WST 225 - Women & Social Action: GT-SS3 (3)

Explores the role of the systems of oppression in society and avenues available to create both individual and collective change through social action. Awareness of agency to enact change and become empowered are highlighted in the course. Informed by intersectional feminist pedagogy, this course explores issues of diversity including, but not limited to race, class gender, age and disability. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

WST 240 - Goddesses & Women in Ancient World: GT-SS3 (3)

Surveys gender socialization through a study of arts, literature, music, politics, religion, philosophy, laws, and social standards. The course introduces the history of ideas that have defined women's place in societies. Course 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. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

WST 249 - Women's Sexuality: GT-SS3 (3)

Explores the development of sexualities throughout history and cross-culturally. 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 culture, and creative visualizations of women's sexuality in literature, visual, music, and performance art. This is a statewide Guaranteed Transfer course in the GT-SS3 category.

Prerequisite: CCR 092 or CCR 093 or CCR 094 or ENG 121 or higher. The CCR course or ENG 121 may be taken with this course at the same time. Offered: *(GT-SS3).

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