RED ROCKS COMMUNITY COLLEGE 2015-2016

CATALOG

RED ROCKS COMMUNITY COLLEGE

LAKEWOOD ARVADA ONLINE

LAKEWOOD
13300 W Sixth Ave
Lakewood, CO 80228
303.914.6600

ARVADA
5420 Miller St
Arvada, CO 80002
303.914.6010

ONLINE
www.rrcc.edu

Red Rocks Community College 2015 - 2016 Catalog

Lakewood Campus
13300 West Sixth Avenue
Lakewood, CO 80228

Arvada Campus
5420 Miller Street
Arvada, CO 80002

Website
www.rrcc.edu

Phone
303.914.6600

This catalog contains comprehensive information about Red Rocks Community College (RRCC), the degrees and certificates it offers, and the requirements you must satisfy before receiving a degree or certificate. This publication describes admission and registration procedures, as well as information on tuition and fees, financial aid, and services offered by the college.

You will graduate under the catalog requirements listed for the semester in which you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) and then return, you must meet the requirements of the catalog in effect at the time you re-enroll. You also may choose to use the catalog that is in effect the semester you graduate. Be sure to keep a copy of your catalog.

The programs, policies, statements, and procedures contained in this publication are subject to change or subject to correction by RRCC without prior notice. RRCC reserves the right to cancel course offerings; revise the academic calendar; or change curriculum graduation procedures, requirements, and policies that apply to you, the student, at any time. Any revisions to the catalog will be published online.

This publication is not intended to be a contract between you and RRCC. However, you are bound by the policies, procedures, standards, and requirements stated herein, so long as they are in effect.

College Accredited by:
The Higher Learning Commission of the North Central Association of Colleges and Schools
30 North LaSalle St., Suite 2400
Chicago, IL 60602-2504
Information: 1.800.621.7440

Programs Approved by:
State Board for Community Colleges and Occupational Education and Colorado Community College System
9101 E. Lowry Blvd.
Denver, CO 80230-6011
Information: 303.620.4000

Non-Discrimination Notice:
Red Rocks Community College is committed to diversity in its people and programs. The College is an equal opportunity educational institution which 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/or 4-120. The College does not discriminate on the basis of race, creed, color, sex/gender, sexual orientation, gender identity or expression, religion, age, national origin or ancestry, pregnancy status, veteran's status, genetic information, physical and/or mental disability or any other category protected by applicable law in its employment practices or education programs. Red Rocks Community College will take appropriate steps to ensure that the lack of English language skills will not be a barrier to admission and/or participation in vocational education programs.

The College has designated Dr. Bill Dial, Executive Director of Human Resources as its Affirmative Action Officer/Title IX Administrator/Equal Opportunity Administrator with the responsibility to coordinate its civil rights compliance activities and grievance procedures. For information, contact: Dr. Bill Dial, Executive Director of Human Resources, Title IX Administrator, Title VII/Equal Opportunity Administrator, ADA/Section 504 Administrator, PO Box 17, 13300 West Sixth Avenue, Lakewood, CO 80228-1255. Telephone: 303.914.6298. Email: bill.dial@rrcc.edu

Gainful Employment Information:
The US Department of Education requires colleges to disclose a variety of information for any financial aid-eligible program that "prepares students for gainful employment in a recognized occupation." The information provided here is the best available to us but represents one year's data only. However, we hope that this information is helpful to our current students and to prospective students as they make their career and educational choices. Information: www.rrcc.edu/gainful-employment.

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Academic Calendar

The following is a condensed Academic Calendar and is subject to change. For a complete Academic Calendar visit, www.rrcc.edu/academic-calendar.

Summer 2015

Registration for Summer 2015 begins	April 6, 2015
No classes after 5:00 p.m.	May 22, 2015
No classes; Memorial Day Holiday (both campuses closed)	May 23 - May 25, 2015
Full Term 8-week and 9-week Sessions begin	June 1, 2015
No classes; Independence Day Holiday (both campuses closed)	July 3 - July 5, 2015
8-week Summer Session ends	July 26, 2015
9-week Summer Session ends	August 2, 2015
Summer Sessions end	August 2, 2015

Fall 2015

Registration for Fall 2015 begins	April 6, 2015
New Student Welcome Night	August 18, 2015
15-week Weekend Classes begin	August 21, 2015
15-week Classes begin (other classes begin throughout the fall)	August 24, 2015
7.5-week Accelerated Session I begins	August 24, 2015
Arvada Campus Welcome Week	August 24 - 28, 2015
No classes after 5:00 p.m.	September 4, 2015
No classes; Labor Day Weekend (both campuses closed)	September 5 - 7, 2015
7.5-week Accelerated Session II begins	October 15, 2015
No classes; All-College Development Day	October 20, 2015
Spring 2016 Registration begins	November 2, 2015
No classes; Fall Break (both campuses open)	November 23 - 29, 2015
Thanksgiving Holiday (both campuses closed)	November 26, 2015
Fall Session ends	December 15, 2015

Spring 2016

Registration for Spring 2016 begins	November 2, 2016
No classes; Martin Luther King Day Holiday	January 18, 2016
15-week Classes begin (other classes begin throughout the spring)	January 19, 2016
Arvada Campus Welcome Week	January 19 - 22, 2016
15-week Weekend Classes begin	January 22, 2016
No classes; Spring Break (both campuses open)	March 21 - 27, 2016
No classes; Easter weekend (both campuses closed)	March 26 - 27, 2016
Summer 2016 Registration begins	April 4, 2016
Fall 2016 Registration begins	April 4, 2016
No classes; All-College Development Day	April 19, 2016
Spring Session ends	May 10, 2016
Graduation Ceremony	May 14, 2016

Welcome from the President

Dr. Haney joined RRCC in 2008, bringing with her nearly 30 years of community college leadership. During her tenure, she has worked to improve technology to expand teaching and learning opportunities, helped streamline the transition of high school students into concurrent enrollment programs, and initiated plans to expand grant funding and workforce development. While at RRCC, Dr. Haney's leadership has increased student retention, graduation, and minority enrollment.

Welcome to Red Rocks Community College, a vibrant institution dedicated to your success!

We are proud to serve our community with flexible, high-quality education at an affordable price. Whether you are earning a degree, brushing up on career skills, or seeking life-long learning, you will enjoy an environment of inspiration and support. It is our goal to create an experience that will enrich your life educationally, professionally, and personally.

Imagine the possibilities at Red Rocks:

Choices

Choose from over 60 areas of study, including those that are guaranteed to transfer to Colorado four-year institutions.

Support

Benefit from the supportive environment that is created by our knowledgeable, dedicated staff and faculty. Learn in small classes, where you receive the personal attention you need to accomplish your goals.

Experience

Our talented instructors bring years of real-world experience and education into the classroom, providing you with the most current and relevant information in their fields.

Convenience

Courses are offered at two campus locations during days, evenings, and weekends. Choose from classroom, online, self-paced, or accelerated course-all designed to fit into your busy lifestyle.

Affordability

Red Rocks is affordable. Financial aid and scholarships are available, and we have an extensive job placement and internship program.

Welcome to our community. The staff and faculty at Red Rocks Community College are here to serve you and deliver what you need to succeed.

Dr. Michele Haney

President, Red Rocks Community College

Red Rocks Community College (RRCC) is proud to serve our community with a flexible, high-quality education at an affordable price. Our goal is to make sure your experience at RRCC is rewarding in every way whether you are earning a degree, interested in taking general education courses to transfer to a four-year college, brushing up on career skills, or seeking life-long learning opportunities.

Lakewood Campus

The Lakewood campus houses everything from state-of-the-art multimedia graphics computer labs to traditional classrooms and health-career practice areas. The full range of services for students includes an assessment center, academic advising, student support services, tutoring, financial aid, a library, a project center, and a student employment center. Our bookstore provides new and used text books, snacks, gifts, and school supplies. Students with disabilities can find support and services, including an Assistive Technology lab in Accessibility Services. In addition to academic support, the campus offers extras including a cafeteria and coffee shop, a student health clinic employing fully licensed medical providers, recreational facilities, and a fitness center. The Children's Center offers full-day care for children from 18 months to kindergarten.

Arvada Campus

The Arvada campus offers innovative scheduling options Mondays through Saturdays in a helpful and friendly atmosphere. You can apply for admission, meet with an advisor, receive career counseling, register for classes, take college placement tests, and receive financial aid assistance.

The Learning Commons is the centerpiece of the campus and houses the computer commons, assessment, online writing support and library services, tutorial services, career resources, and study areas with wireless Internet access. The Arvada campus is home to the Medical Imaging program (Ultrasound and X-Ray Technology), Nurse Aide program, Holistic Health program, and Consortium for HealthCare Education Online (CHEO) hybrid courses. Courses offered range from biology to Yoga Teacher training, including guaranteed transfer general education courses and basic skills courses in English and mathematics. Students are able to earn an AA degree by taking all their classes at Arvada. The range of classes offered at this campus also allows students to meet the requirements of other programs, to take prerequisite courses, and to take classes that enrich their lives.

RRCC Guiding Principles

Vision
We envision Red Rocks as a national and international leader in community college education, recognized for accomplishment of our students' goals, engagement with our community, empowerment in our workplace, and commitment to our values.

Mission
Our mission is to provide students with opportunities for growth and development that set the foundation for self-directed learning, academic achievement, and career accomplishment. We do this through high-quality, innovative educational programs that convey our passion for learning, our commitment to excellence, and our dedication to our students and the communities we serve.

Values
These are the principles that define our values and guide us in our actions and decisions:

- Integrity: Honest, fair, ethical, accountable
- Collaboration: Teamwork, trust, empowerment, respect
- Learning: Professionalism, growth, engagement, achievement
- Inclusiveness: Diversity, respect, community, understanding
- Communication: Dialogue, appreciation, feedback, connection

Information: www.rrcc.edu/about-us/our-mission

Getting Started

1. Apply for Admission, the College Opportunity Fund (COF), and Financial Aid.

a. If you are new to RRCC or have been away from RRCC for a year or more, you need to complete the online application for admission at **www.rrcc.edu/apply**, or stop by the Admissions Office. Upon completion, you will receive a Student ID (example: S12345678). Save this number, as you will need it for registration and all other correspondence with RRCC. There is no deadline or fee to apply. Acceptance letters are sent by email or by regular U.S. mail. Please contact the Admissions office with any questions regarding the acceptance letter. **Information: 303.914.6600**.

b. **Apply for and authorize COF:** If you are a Colorado resident for tuition purposes and did not sign up for COF through your admissions application, you can sign up online. The State of Colorado provides funding for students to attend college through COF. This is the state-paid portion of your tuition, which is a benefit to all Colorado residents. The COF application is free and can save you hundreds of dollars each semester on your tuition. You only have to apply for this benefit once. Please note that if you do not apply for and authorize COF funding, you are responsible for both the student share and the state share of all tuition and fees. When you fill out the college application you may select "yes" to have a COF account automatically created, or you may visit: **www.rrcc.edu/colorado-opportunity-fund** and click on **Sign up here!**

c. Complete the Free Application for Federal Student Aid (FAFSA) online at **www.fafsa.ed.gov** to see if you are eligible for any kind of aid (grants, loans, work study, and scholarships). **The RRCC school code for your application is 009543**. The application process can take 6-8 weeks to complete, so apply early! RRCC has three priority consideration dates during the year:
   - Fall Semester: April 1
   - Spring Semester: September 1
   - Summer Semester: February 1

Your financial aid file is not complete until you receive an award letter.

2. Complete the Red Rocks 101 Orientation Session (required).

The Red Rocks 101 student orientation is offered in an online format. This orientation is MANDATORY for all new students and for all students returning to Red Rocks following a break of a year or more. Red Rocks 101 is designed to help students successfully navigate the college experience. The orientation will cover important topics such as class registration, financial aid, degree and certificate options, and student services. You can access the online orientation at: **www.rrcc.edu/orientation**.

3. Provide transcripts from any previously attended colleges.

If you have taken college coursework prior to starting classes at RRCC, please provide a transcripts from any previous colleges you have attended. This will help an advisor determine if you need to take the placement test.

RRCC also accepts credit for prior learning for students who have completed standardized exams such as College Level Examination Program (CLEP), Advanced Placement (AP), and International Baccalaureate (IB). RRCC will apply credits that meet the content and rigor of RRCC's courses and that apply to your declared degree or certificate program at RRCC. Please visit our Student Records web page for more information at **www.rrcc.edu/student-records**

4. Satisfy Assessment Requirements.

You must provide evidence of college readiness before registering for courses. To determine which courses you should take, you must complete the placement test if you are: 1) a degree- or certificate-seeking student, 2) registering for a course with any prerequisites, or 3) under the age of 20 (regardless of degree/certificate status).

`The placement test, available on both the Lakewood and Arvada campuses, is given on a walk-in basis (no appointment necessary) and is not timed. You must have applied for and received a student identification number prior to taking the placement test and present a government-issued photo ID at least two hours before the Assessment Center closes.

We strongly recommend you review the online study guides available before taking the placement test. The study guides can be found at **www.rrcc.edu/assessment**. Your score is an indication of the level of coursework you are ready to take. You are responsible for completing basic skills courses during your first 30 credit hours of attendance if your placement scores are below college level.

Students enrolling in Fire Science or Emergency Services coursework must consult the Emergency Services Department for their placement requirements.

You may be exempt from taking the placement test if you have satisfied one of the following requirements:

- Taken the ACT or SAT placement test within the past five years. Please check our website to see if your scores exempt you from this requirement. Your Reading and English scores are valid for five years; Math scores are only valid for two years. Submit your score report to the RRCC Assessment Center.
- Earned an Associate of Arts, Associate of Science, or higher degree from an accredited college or university. You must submit your transcripts to the RRCC Student Records Office.

- Completed college-level English composition or college-level math with a grade of C or higher
- Have qualifying AP and IB test scores. You must submit your transcripts and/or official score reports to RRCC to be exempt from taking the corresponding sections of the test.
- Registered for a non-guaranteed transfer course for which placement scores are not required as a prerequisite.
  Information: 303.914.6600 www.rrcc.edu/assessment

Please note that English courses taken outside of the United States do not meet the placement requirements.

5. Meet with an academic advisor.

An advisor will help you select courses, identify course prerequisites, obtain program information, evaluate placement results, assist with transfer planning to a four-year college or university, and prepare you for graduation. They can check your progress in AA, AS, AGS, and AAS degree plans, and develop a course schedule that fits your needs and academic goals. A team of academic advisors, on both the Arvada and Lakewood campuses, is available year-round by appointment or on a walk-in basis. An important step toward succeeding at RRCC is meeting regularly with an academic advisor. **Information: 303.914.6600 or www.rrcc.edu/advising**

6. Register for classes.

You may register for classes in person at the Lakewood or Arvada campus or you may register online. Go to **www.rrcc.edu** and click on "The Rock." Enter your student ID (S number) and password. Click on "**Add or Drop Classes**." Follow directions to register for your classes.

Although we can't register you over the phone or via email, we can guide you through the process. Please contact us should you have any questions. Remember to print your schedule a few days before the semester begins to get current room information.

Information: 303.914.6600 or www.rrcc.edu/admissions

7. Get your RRCC Student ID card. (Student IDs are not issued to students taking *only* online courses.)

You will need a photo ID and a copy of your current schedule, which you can get online or in Admissions. **Information: 303.914.6370**

8. Activate your student email account.

Your college email account is the official method of communication at RRCC, so it is extremely important that you activate your account and check it frequently. To activate your account, log in to "The Rock" and click the "Student Email" link at the top of the page. Activate your account today at **www.rrcc.edu/admissions/student-email.**

9. Activate your refund card.

A little more than a week after you register for classes, your Higher One refund card will arrive in the mail (look for the bright green envelope). This card will be used to apply your financial aid or any other refund, so it is important that you look for the card and activate it when it arrives!

What else should I do?

1. **Purchase books and supplies.**

   The RRCC Bookstore, located on the Lakewood campus, is your source for all of your educational materials, including those for CCCOnline classes. Books can be ordered and delivered to the Arvada campus with adequate notice.

   Information: 303.914.6232 or www.rrcc.bncollege.com
2. **Apply for a Red Rocks Community College Foundation scholarship.**

   Information: 303.914.6426 or www.rrcc.edu/foundation
3. **Check-in with Accessibility Services.**

   If you are a student with a disability, contact Accessibility Services at **303.914.6733** for support or accommodations. **Arvada Campus by appointment only: 303-914-6010.**
4. **Stay current with RRCC.**

   "Like" us on Facebook and sign up with Twitter and you'll never miss free food, events, or guest speakers visiting campus.

Admissions Policy

Students seeking admission to Red Rocks Community College should submit an application for admission online at **www.rrcc.edu/apply**. Staff is available to assist you with completing the application on site in the Admissions office at the Lakewood campus and at the Arvada campus. The College practices an "open door" admissions policy, which means that entry is generally unrestricted; however, the college reserves the right to place students in classes on the basis of academic advising, testing, pre-enrollment interviews, and past educational achievement. Certain college programs have specific admission requirements as well. The following minimum requirements are used as guidelines for admission:

1. All individuals, 17 years of age or older, who have a high school diploma, a General Education Development (GED) certificate, or are not enrolled in high school, are admitted upon completion of the RRCC admissions applications.
2. Students younger than 17 and who are not currently in a high school concurrent enrollment program may be considered for underage admissions by completing a "Request for Waiver of Admissions Requirements for Underage Students" (available at the office of the Vice President for Student Success). Students must complete the placement test, and may be required to submit a monitored writing sample. An admission decision will be based on a student's academic history, determination of ability to benefit from college level instruction, and overall educational goals.
3. All new students must take the placement test or have appropriate ACT or SAT scores from a test taken within the last

five years. State Board Policy requires that colleges assess their students to determine their levels of English, mathematics, and reading, and if needed, that students take developmental courses within their first 30 hours at the college.

All new students must meet assessment requirements, which can be accomplished in one of the following ways:

- Evidence of an Associate of Arts or Associate of Science degree or higher
- Evidence of a C or higher in prior college-level English and math courses. (Please note that English courses taken outside the United States do not meet the Assessment or Transfer guidelines.)
- Qualifying ACT or SAT English scores less than five years old; math scores less than two years old.
- Qualifying approved placement scores that are less than five years old.
- Placement scores will be used to determine placement in both college-level and academic enrichment courses as appropriate. Please see the current class schedule for placement and prerequisite requirements.

All degree- or certificate-seeking students must meet assessment requirements. All students seeking to register for a course with prerequisites must meet assessment requirements (regardless of degree/certificate status). All students under the age of 20 must meet assessment requirements (regardless of degree/certificate status).

Admission to the college does not assure acceptance of a student into a particular course or program. Some students may need to enroll in certain courses to compensate for scholastic deficiencies or to meet established prerequisites. The college reserves the right to review and revoke the enrollment of any person who appears to be unable to profit from further education, as well as of those persons whose enrollment would not be beneficial to them or to the college and in accordance with Board Policy BP 4-10. The policy is online at:
www.cccs.edu/wp-content/uploads/2012/08/BP4-10.pdf.

Students who enroll in an occupational program, who are veterans, who receive financial aid, or who are on F-1 or M-1 student visa status must declare their degree or certificate program at the time of registration. Any changes in the declared degree or certificate must be recorded with the Admissions office and, if the student is a financial aid recipient, with the Financial Aid office.

RRCC does not require physical examinations as a condition for admission. Students who have a disability are encouraged to contact the Office of Accessibility Services at **303.914.6733**. This office provides support and accommodations (at no cost) to students with disabilities. Students who had an Individual Education Plan (IEP) or 504 Plan in high school are encouraged to contact the Office of Accessibility Services after applying for admission to the college.

Student Types

New Students

Your first step for enrolling at Red Rocks Community College is to complete the online application for admission. Please see the Getting Started steps on page 7-8 and the Admissions Policy on page 8 for additional information.

Re-Admit Students

Former students returning to RRCC after an absence of three or more consecutive semesters must complete the online application. Please see the Getting Started steps on page 7-8 and the Admissions Policy on page 8 for additional information.

Transfer Students

Students who have previously attended any college must complete the RRCC application for admission and meet assessment requirements. Transfer students should meet with academic advisors to register for the first semester and are encouraged to keep in contact with academic advisors. To initiate the transfer process, RRCC's Transcript Evaluator will transfer in appropriate courses after students have completed the following:

- Request that all colleges previously attended send official transcripts to:
  RRCC Student Records
  Red Rocks Community College
  13300 West 6th Avenue, Box 8
  Lakewood, Colorado 80228
- Register for at least one course.

Information: student.records@rrcc.edu or
www.rrcc.edu/student-records

High School Students

Participating in the Concurrent Enrollment Program

Concurrent Enrollment is a program that allows RRCC to partner with school districts to offer college classes to high school students. High school students enrolling under the Concurrent Enrollment program need to complete the following steps:

1. Meet with your high school counselor.

2. Complete the RRCC, College Opportunity Fund, and Concurrent Enrollment applications.

3. Complete the RRCC placement test or provide ACT or SAT scores that meet the minimum requirement.

Registration dates and time will be scheduled for students who have completed the Concurrent Enrollment Agreement and are approved by the school district to register for RRCC classes. Check with your school district for information related to tuition and fees.

Concurrent Enrollment students who take classes on the RRCC campus must sign the Student Payment Agreement. Tuition may be paid by school district but student may be responsible for fees. If

the student is under 18, a parent or guardian must also sign the payment agreement.

Not Participating in the Concurrent Enrollment Program

Students need to complete the following steps:

1. Complete a new student application for admission and sign up for the College Opportunity Fund (COF).

2. Complete the RRCC placement test or provide ACT or SAT scores that meet the minimum requirement.

3. Meet with a representative from High School Relations to register for classes.

4. Pay for tuition, student fees, books, and supplies.

Students who take classes not covered by concurrent enrollment with their school district must sign the Student Payment Agreement. If the student is under 18, a parent or guardian must also sign the payment agreement.

Students under the age of 17 are required to submit a Request for Waiver of Admissions Requirements for Underage Students. Call the Office of the Vice President of Student Success at **303.914.6388** to begin the process.

For additional information, call **High School Relations at 303.914.6350.**

International Students

International students are those students admitted into the U.S. on an F1 non-immigrant student visa. If you are an international student, submit the following documents:

1. RRCC "**International Student Admissions Application**," available in the International Student Services Office, or the application may be downloaded from our website at **www.rrcc.edu/international-student-services**. International students must **not** use the electronic application on the college main web page.

2. A statement of financial resources sufficient for tuition and living expenses while in the U.S. (currently $26,000/year based on tuition of $6,000/full time per semester). Tuition and fees are subject to change without notice. After the admissions materials have been reviewed, we will issue the U.S. Immigration Form I-20 to qualified applicants. Applicants outside the U.S. must then present the I-20 and original copies of financial support documents to the nearest U.S. consulate or embassy to obtain the F-1 visa.

Upon arrival in the U.S., you will be enrolled in the mandatory health insurance through the RRCC international student health insurance provider.

Application Deadlines

International students should apply as early as possible in order to allow sufficient time for the college to assess all necessary documents and for the U.S. State Department's visa interview process. The following deadlines are application submission guidelines for new international students only. Transfer students already in the U.S. generally have one additional month to prepare their documents.

Fall Semester: June 1
Spring Semester: November 1
Summer Semester: March 1

New applications are not accepted after classes begin.

Assessment

Prior to registering for classes, you must take a placement test and/or the English language assessment which takes at least 90 minutes and is available on a walk-in basis. Test times are listed in the current schedule and on our website. Depending upon your test results, you will then be placed in the English as a Second Language program or college-level classes as appropriate.

Guaranteed Transfer to Universities

Many RRCC courses will transfer. Please consult with an RRCC academic advisor as well as a transfer counselor at the institution you wish to attend. Credit earned for prior learning, advanced placement, correspondence courses, CLEP, and other credit from "testing out" of a course may not apply. The institution to which you transfer will evaluate these credits according to its own policies. See Transferring from RRCC to Four-Year Colleges and Universities on page 13.

Housing/Family Homestay Assistance

American family homestay opportunities are often available to you, in addition to a variety of local housing arrangements. If you choose the homestay option, you will need to contact the International Student Services Office prior to your arrival in the United States.

Intensive English Program

If you wish to study only English as a Second Language or continue with college-level courses after ESL studies, you may enter our Intensive English Program. The program offers full-time English instruction (20-25 hours per week) at the beginning, intermediate, and advanced skill levels.

Non-Intensive English Program

If you have tested beyond the Intensive English Program, you are eligible to enroll in non-intensive English classes. The program offers three semester-length classes designed to boost your English skills for the reading, writing, and communication demands of college classes. Classes include advanced reading, composition and listening/speaking, conversation, and iBT TOEFL preparation.

Information: 303.914.6416 or www.rrcc.edu/international-student-services

Warren Tech Students

Through a cooperative agreement with Warren Tech (the career and technical high school for Jefferson County Public Schools), RRCC students pursuing certain career and technical college degrees and/or certificates may take courses (on a space-available basis) at Warren Tech (WT), which is adjacent to the RRCC campus. You must have either graduated from high school, received a GED, or

attained the age of 21. You pay RRCC tuition and WT program fees and your coursework is recorded on your RRCC transcript.

Classes follow the WT/Jeffco Public Schools' calendar. Deadlines and class start and end dates differ from those of RRCC. WT classes are conducted on a block schedule. The morning classes run Monday–Friday from 7:30–10:30 a.m. and the afternoon classes run Monday–Thursday from 12:00–3:45 p.m.

Warren Tech Admission Steps:

1. Apply for admission to RRCC at: **www.rrcc.edu/admissions.**
2. Take the placement test at RRCC and pick up a WT application at the RRCC Admissions office. For assessment hours and information, go to **www.rrcc.edu/assessment**. Students may submit ACT scores or college transcripts in place of test scores (see exemptions to admissions requirements in the Admissions Policy section).
3. Attach the placement test results to the completed WT application and submit to the WT Counseling Office for placement on the waitlist.
4. Wait to be notified of acceptance from WT.
5. Upon acceptance to WT, make an appointment with the WT liaison in the RRCC Admissions office at **303.914.6600** to register for courses.
6. Pay RRCC tuition and fees and the additional WT program fee at the RRCC Cashier office. Call **303.982.8600** for current WT program fee information.
7. For financial aid information, visit the RRCC Financial Aid office or **www.rrcc.edu/financial-aid**.

Warren Tech Information Guides are available at WT or RRCC. For more information:

- Visit the counseling website at **www.warrentech.org** or
- Contact the RRCC-WT Liaison at **303.982.0695** or
- Contact the RRCC Admissions Office at **303.914.6600**.

Admissions and registration requirements can be obtained from either office.

The following WT programs are available to RRCC students on a space-available basis:

Auto Collision Repair
Auto Customization
Automotive Technology
Cosmetology:
- Esthetician (esthetics-skin care)
- Hairstyling
- Manicurist (nail technology)

Dental Assisting (only DEA-Dental Assisting courses are available to RRCC students)
Power Equipment and Motorcycle Technology
Precision Machining Technology
Welding

Western Undergraduate Exchange Students (WUE)

WUE is a program of the Western Interstate Commission for Higher Education (WICHE). Students who are residents of WICHE states or the Commonwealth of the Northern Marianas Islands (CNMI) may enroll at participating two- and four-year college programs outside of their home state or territory at a reduced tuition rate. WICHE states include Alaska, Arizona, California, Colorado, Commonwealth of Northern Marianas Islands, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. If you're a resident of a WICHE state or CNMI, you can study at RRCC or any one of the 135+ participating schools in the west and pay reduced tuition. Please see restrictions below:

- WUE/WICHE students are not eligible to participate in the College Opportunity Fund (COF) program.
- A student participating in the WUE/WICHE program may not use the time in Colorado to fulfill the physical presence requirement for in-state tuition.
- The Physician Assistant (PA) program is not available for this program, but PA students may qualify for the Professional Student Exchange Program (PSEP), which enables students to enroll in selected out-of-state professional programs because those fields of study are not available at public institutions in their home states. Please note that residents of California, Oregon, and South Dakota are not eligible to enroll through PSEP. Information is available at **www.wiche.edu/psep.**

Information: 303.914.6600 or http://wiche.edu

Strengthening Your Skills

Prepare for college-level coursework by strengthening your skills.

At Red Rocks Community College we have more than one route for you to achieve success.

Classroom Options:

Take a college preparatory class at RRCC. Your placement test scores will indicate your current level of skills and knowledge and help you know which prep class to take.

- Classes start at 4 credit hours
- Successful completion of "0" level classes will advance you to college level courses.
- RRCC prep classes meet financial aid criteria.

Do you need additional skills in math, reading, or writing? The Learning Collaborative can help you prepare to retake the placement test and succeed in classes at RRCC.

- Receive over 60 hours of classroom instruction at RRCC to improve your skills and retake the placement test.
- Learn how to successfully navigate your college journey.
- Practice study skills that support your personal learning style.

Information: 303.914.6739 or 303.914.6571.

Self-Directed Online Option:

- There are a number of FREE websites that provide online testing preparation. For a list of websites visit: **www.rrcc.edu/assessment/accuplacer-testing**. This option works best for extremely self-motivated students.

Credit for Prior Learning (CPL)

You may receive academic credit for education earned through earlier schooling, work, experiential learning, or other non-traditional means. It must be comparable to courses offered at RRCC and related to your current program. Methods available for obtaining CPL credits are the following:

- College Level Examination Program (CLEP).
- Portfolio (documentation of past learning).
- Institutional Challenge Examination.

Course credit is granted once appropriate documentation, approval, and payments are received.

Information: 303.914.6600 or www.rrcc.edu/assessment/credit-for-prior-learning

Residency

Residency Classification for Tuition Purposes

At the time of application for admission, students are classified for tuition purposes as "in-state residents" or "out-of-state residents," according to provisions of Colorado law. To qualify for in-state tuition, students (or their parents or legal guardians, if they are under 23 years of age and not emancipated) must have been domiciled in Colorado for at least one year prior to the first day of the semester for which they seek residency.

Domicile for tuition purposes is determined by two factors:

1. Ability to show a permanent place of residence in Colorado, and
2. Ability to demonstrate intent to remain in Colorado.

Students prove their intent by providing documents showing 12 months of domicile in Colorado. Examples are:

1. Colorado income tax returns
2. A lease or rental agreement for one year
3. Proof of purchase of a home for one year
4. Evidence of permanent Colorado employment status
5. A Colorado driver's license or vehicle registration
6. Evidence of Colorado voter registration

The Admissions office requires a minimum of **two** proofs of domicile, but depending on circumstances, RRCC may request additional information. If students have been classified as non-resident and feel this is in error because of incorrect information provided on the initial application, a correction form must be submitted by the full-semester drop deadline for the semester. If it is determined that the correction form and any supporting documentation is insufficient to prove residency, the student can petition for in-state tuition. This petition must be submitted to Admissions within 30 days of the start of the semester.

All Veterans who have been honorably discharged can be classified as "In-state" for tuition purposes with a copy of the Veteran's DD-214 and a Colorado ID or Colorado driver's license.

Information: 303.914.6600

Military Science (U.S. Army ROTC)

The Military Science Program at RRCC is offered in conjunction with the University of Colorado at Boulder (CU-Boulder). The Department of Military Science offers programs leading to an officer's commission in the active Army, Army Reserve, or National Guard in conjunction with an undergraduate or graduate degree. Military science courses supplement a regular degree program by offering practical leadership and management experience. Students attend classes at either University of Colorado at Boulder, Colorado School of Mines in Golden, or Metro State University of Denver.

RRCC Information: 303.914.6600

CU-Boulder AROTC Information: 303.492.6495 or www.colorado.edu/arotc

Transcripts

There are several ways to order a transcript: phone, fax, request from your student RRCC account, walk-in, or e-transcripts (coming soon).

- If you took classes before summer 1987, contact the Student Records Office.
- If you took classes after spring semester 1987, you may order your transcript on our website.
- Check the Student Records website for current transcript charges and processes.
- Phone requests are accepted only for transcripts sent to other colleges.
- You may print a transcript request form found on our website and fax the form to Student Records at **303.989.6919**, or mail your request to:

  RRCC Student Records
  Red Rocks Community College
  13300 West 6th Avenue, Box 8
  Lakewood, Colorado 80228

Transcripts will not be released for students who have failed to fulfill their financial obligations to the college.

Information: transcripts@rrcc.edu or **www.rrcc.edu/student-records**

Transfer of Credits

The Colorado Community College System (CCCS) uses a common course numbering system to simplify transfer to other state colleges and universities and to ensure curriculum quality across the system. Information is posted at: **www.cccs.edu.** Once you are on the site, select the "Common Course Numbering System" link.

Your previous college credits will be transferred in according to the following policies:

1. The College will accept transfer credit only from post-secondary institutions accredited by one of the six regional accrediting associations.

2. Credits will be transferred based on the Degree/Certificate you are pursuing.
3. Transcripts for first-time students to RRCC will have their transcript evaluated after the census date of their first semester.
4. RRCC reserves the right to examine all credits to determine obsolescence of content. In the event that coursework is found to be obsolete, you may be required to update the credit.
5. A grade of C or higher is required for transfer. Transfer credit will not be awarded for courses with D, F or U grades.
6. Transferred grades are not calculated into your RRCC grade point average.
7. Credits for remedial non-collegiate level courses are not acceptable in transfer. They may be used to meet a prerequisite requirement for a higher-level class.
8. Credit for Advanced Placement (AP) is evaluated by the Assessment Center at RRCC. AP credit is evaluated upon receipt of an official copy of the score report mailed directly to RRCC from the College Board. Exams for which a score of 3 or higher has been earned will be considered for credit. A maximum of 30 semester hours of CLEP credit may be applied to RRCC associates degree. Transfer credit is not granted for AP if the student has completed an equivalent RRCC course. Transfer credit is not awarded for all AP exams. Please contact the Assessment Center at RRCC for more information or see the College CPL Handbook at **www.rrcc.edu/assessment/credit-for-prior-learning**.
9. Credit for General/Subject Exams of the College Level Examination Program (CLEP) will be considered for credit upon receipt of an official copy of the score report mailed directly to RRCC from the issuing organization. Only scores of 50 and above will be considered. Up to 30 credits of CLEP credit may be applied to RRCC associate degrees. CLEP is not transferred in if a student has completed an equivalent RRCC course. Transfer credit is not given for all CLEP exams. Please contact the Assessment Center at 303.914.6720 for more information or see the College CPL Handbook at **www.rrcc.edu/assessment/credit-for-prior-learning**.
10. All course work is evaluated on the semester-hour basis. Example: one quarter hour equals 2/3 of a semester hour; one semester hour equals one semester hour.
11. For Associate of Applied Science degrees/certificates, students should contact their faculty advisor or department chair for information concerning course substitutions.
12. All received and/or evaluated transcripts become the property of RRCC.
13. An unofficial transcript can be evaluated to override prerequisite requirements. An official copy is then required.

Please allow three weeks for your transcript to be processed.

Information: transcripts@rrcc.edu or **www.rrcc.edu/student-records**

Transferring from RRCC to Four-Year Colleges and Universities

Courses and programs at RRCC may transfer to the following institutions. You should consult with an RRCC advisor early in your program of study to discuss transferring to a four-year college or university as requirements and agreements may change.

Adams State College
American Public University System
Argosy University
Ashford University
Belleview University
Capella University
Colorado Christian University
Colorado School of Mines
Colorado State University:

- Fort Collins
- Pueblo

CSU Global
Colorado Mesa University
Colorado Technical University
DeVry University
Fort Lewis College
Franklin University
Johnson & Wales University
Jones International University
Kaplan University
Metropolitan State University of Denver
Regis University
St. Francis University
Strayer University
University of Colorado:

- Boulder
- Colorado Springs
- Denver
- Anschutz Medical Campus

University of Northern Colorado
University of Phoenix
Western Governors University
Western State Colorado University

These agreements specify how Red Rocks courses transfer and identify their equivalents at these institutions. They are written guarantees of transferability when a prescribed curriculum is satisfactorily completed.

Information: 303.914.6255 or www.rrcc.edu/transfer-guide

Statewide Transfer Policy and Student Bill of Rights

In an effort to enhance the transferability of credit and general education, the Colorado legislature implemented a policy to assure students enrolled in public institutions of higher education are afforded certain basic rights. Known as the Student Bill of Rights, its provisions seek to ensure:

- A quality general education experience that develops competencies in reading, writing, mathematics, technology, and critical thinking through integrated arts and science experience.
- 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 may 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 public two-year and four-year institutions of higher education.
- Students, upon successful completion of core general education courses, should have those courses satisfy the core course requirements of all Colorado public institutions of higher education.
- Students have the right to know if courses from one or more public higher education institutions satisfy the student's graduation requirements.
- Credit for completion of the core requirements and core courses shall not expire for 10 years from the date of initial enrollment and shall be transferable.

Accelerated Courses

An accelerated course takes the content from a traditional 15-week, 3- or 4-credit class and compresses it into a shorter time frame. Accelerated classes are 3 or more credits and meet for less than the traditional 15-week semester. Classroom and online classes are available.

Accelerated classes are designed to meet the needs of busy professionals and students with active lifestyles. Characteristics of successful students include:

- Excellent time management skills
- Self-motivation
- Ability to learn on their own
- Commitment to their education

Hybrid/Blended Courses

Hybrid/Blended courses at RRCC are courses that combine on-campus classroom instruction with online learning components and/or out-of-class activities. Hybrid/Blended learning is for students who wish to combine the flexibility of face-to-face instruction with activities such as online collaborative discussions, group projects, and/or other out-of-class assignments. In a Hybrid/Blended course, traditional face-to-face instruction will be reduced but not entirely eliminated. Internet access is required for the online course activities.

Online Courses

RRCC Online Courses

Courses through RRCC Online are taken anytime, anywhere at your convenience. Most courses follow a traditional semester schedule, and many also have accelerated seven-week online sections. They offer regular communication with faculty and fellow students who may be anywhere in the world. At the same time, you learn to use the Internet, chat rooms, and threaded discussions to enhance your learning experience.

You can register, pay, order books, attend class, and use library services online. If you do not have access to a computer, you may visit the Learning Commons on the RRCC Lakewood or Arvada campus to use computers.

CCCOnline Courses

Colorado Community College Online provides a centralized online program where you can take classes, earn a certificate, or even complete an associate's degree from the community college of your choice. Meet with an RRCC advisor for details.

All courses taken through CCCOnline are associated with the Colorado community college of your choice within the state system. Choose RRCC as your home college, and your transcript will show your CCCOnline courses as RRCC courses.

Information: 888.800.9198 or www.ccconline.org

Self-Paced and Flex Courses

Self-Paced Courses

Working with an instructor, students will design their own schedules. Self-paced courses provide flexibility and the opportunity to study when students have the most time. Most instructors will meet with their students at the beginning of the semester, and then students will send assignments back and forth via traditional mail, drop-in, or email.

Students who are successful in self-paced courses:

- Are self-starters
- Work independently
- Regularly meet deadlines
- Have strong reading and writing skills
- Are not looking for a social learning setting
- Are highly motivated

Flex Courses

Flex classes are designed for students to work independently, finding solutions on their own with minimum assistance. These classes are not designed for online delivery or for communication via email. Regular attendance is not required, but students must meet with their instructors several times throughout the semester to receive and submit assignments, to ask questions, and to receive assistance. Students can enroll in flex classes at any time during the term, but all work must be submitted by the deadline indicated on the syllabus.

Weekend Classes

If you work, have a family, or want something interesting to do on Friday nights, Saturdays, and/or Sundays, Weekend College classes are for you. You can work on a college degree, take classes for fun, or brush up on skills you need for your job. Many weekend classes can be completed in as little time as a day.

RRCC has scholarships and other financial aid options that can help you with your tuition. Please contact the Financial Aid and/or Foundation offices at **303.914.6600 or www.rrcc.edu/financial-aid or www.rrcc.edu/foundation.**

College Opportunity Fund (COF)

The College Opportunity Fund (COF) is a state-funded program that provides a per-credit subsidy for residents attending state-supported and participating private colleges and universities. This money, referred to as the COF stipend, is applied to an in-state student's tuition, provided **the student applies for and authorizes its use**. The college you are attending will receive the money and it will appear as a tuition credit on your bill. COF rates are set annually by the Colorado General Assembly. If you do not apply for and authorize its use, you are responsible for both the student share and the state share of all tuition and fees. Please view your tuition bill each term to ensure the COF stipend has been correctly applied to your account. Apply online during the college application process or by going to **www.rrcc.edu/college-opportunity-fund** and clicking on "Sign up here!" and then "Apply for a Stipend." Be sure to authorize COF when you register for your classes.

Information: COF@rrcc.edu or 303.914.6600

Financial Aid

Approximately one-third of our students receive some type of financial aid each year. Four types are available:

- Scholarships are generally based on academic performance, accomplishments, and need.
- Grants are federal and state programs based on need.
- Loans must be repaid, unlike scholarships and grants.
- Work-study agreements allow you to work for the college while you are enrolled.

The Financial Aid Office can provide details for the following:

- Local and regional scholarships
- Federal Pell Grants, Federal Supplemental Educational Opportunity Grants, Colorado Student Grants, Federal Direct Stafford Student Loans, and Federal Direct Parent Loans (P.L.U.S.)
- Federal and Colorado Work-Study Program

Once you have applied for financial aid, it can take eight to ten weeks to process your request. Although the application for financial aid can be submitted throughout the year, priority dates have been established to assure the availability of funding. For complete financial aid information, see the Red Rocks Community College website.

Information: www.rrcc.edu/financial-aid or 303.914.6600

Priority Dates to Receive Financial Aid

To Receive Aid For:	Apply By:
Fall 2015	April 1, 2015
Spring 2016	September 1, 2015
Summer 2016	February 1, 2016
Fall 2016	April 1, 2016

Financial Obligations of Students

Payment dates for tuition, fees, and materials are published in the current class schedule. You are financially obligated for full tuition and fees for all classes you have not officially dropped by the drop/refund date.

Do not assume you have been dropped from a class for missing payment deadlines or for not attending a class.

Non-Resident Students

For tuition purposes, Colorado law determines whether a student is classified as in-state (resident) or out-of-state (non-resident), based on information provided on the application for admission.

To request a change to resident status, obtain a petition form for in-state status from the Admissions Office or online at **www.rrcc.edu/sites/default/files/tuition-petition.pdf**. The Colorado Higher Education Residency guide can be accessed online at **http://highered.colorado.gov/finance/residency/faq.html**.

Deadlines for submission of the petition are published each semester in the current class schedule. Petitions received after the deadline will not be considered until the following semester.

Changes in classification become effective at the time of your next registration. The final decision regarding tuition status is determined by the Director of Enrollment Services.

Information: 303.914.6600

Tuition Payment

Pay Tuition in Person

You can pay by cash, personal check, MasterCard, Visa, Discover Card, or American Express at the Cashier's Office at the Lakewood campus; the Arvada campus does not accept in-person payments. If you are sponsored by a third party, such as an employer or other agency, bring a check to the Cashier's Office from the sponsor or a letter stating that the sponsor will pay upon receipt of billing and before grades are released.

Pay Tuition Online

Go to **www.rrcc.edu.** Click on the Portal link "The Rock" and log in using your student identification number (S number) and PIN (birth month and date)–for example, May 11 = 0511–unless you have

created your own PIN, then click on the "Student Finance" tab. Only MasterCard and VISA are accepted online.

Pay Tuition by Mail

Mail a check or money order to:

Red Rocks Community College
Cashier's Office, Box 2
13300 W. 6th Ave.
Lakewood, CO 80228-1255

Tuition rates are set annually by the State Board for Community Colleges and Occupational Education. For current tuition rates, please check the website: www.rrcc.edu/tuition.

Resident Tuition Rates (Excluding Fees)

See Student Fees on page 19.

	Tuition Per Credit Hour	*COF Stipend Per Credit Hour	Total Tuition Per Credit Hour
On-Campus Classes	$199.90	- $75.00	$124.90
Online Classes	$295.75	- $75.00	$220.75
Nursing Classes	$257.85	- $75.00	$182.85
Online Nursing Classes	$353.70	- $75.00	$278.70
Physician Assistant Program Classes	$544.80	- $75.00	$469.80

Colorado state law defines the conditions that qualify you for in-state tuition. Your initial classification is based on information you supply on the Application for Admission. You must live in the state of Colorado for 12 consecutive months before you can apply for reclassification to resident status. The Petition for Residency Reclassification is available in the Admissions Office.

*College Opportunity Fund (COF)

COF is a state-funded program that provides a per-credit subsidy for residents attending state-supported and participating private colleges and universities. This money, referred to as the COF stipend, is applied to an in-state student's tuition, provided the student applies for and authorizes its use. The college you are attending will receive the money and it will appear as a tuition credit on your bill. COF rates are set annually by the Colorado General Assembly. If you do not apply for COF funding, you are responsible for both the student share and the state share of all tuition and fees. (You need to apply for COF only once, and you must authorize its use.) Please review your bill each term to ensure your COF stipend has been correctly applied to your account. https://cof.college-assist.org

Non-Resident Tuition Rates (Excluding Fees)

See Student Fees on page 19.

	Tuition Per Credit Hour
On-Campus Classes	$512.35
Online Classes	$336.50
Nursing Classes	$512.35
Online Nursing Classes	$394.45
Western Undergraduate Exchange (WUE/WICHE) On-Campus Classes	$187.35
Western Undergraduate Exchange (WUE/WICHE) Online Classes	$336.50

Note: WUE/WICHE rates are not available for the Physician Assistant Program. http://wiche.edu/wue

Physician Assistant Program Classes	$573.35

Student Fees (Subject to Change)

Registration fee: $12.55 each semester.

Student fees: $9.40 per credit hour include: Student Activity fee $5.59, Parking fee $1.31, Student Center Bond fee $2.50. *Note: Student fees apply to the first 12 credit hours only.*

Instructional Course fee: $6.60 per credit hour for designated courses.

Cisco fees: $18.25 per credit hour for designated courses.

CCCOnline Digital Textbooks: $53.35 - $ 63.60 per course for designated courses.

CCCOnline Lab Kits: $219.00 per course for designated courses.

Student Health Clinic fee: $20.52 (spring and fall semesters), $10.26 (summer semester).

Student Recreation Center Construction Bond fee: $70.00 (spring and fall semesters), $42.00 (summer semester). Note: Fee will begin in spring 2016.

RRCC Foundation

The RRCC Foundation is a 501(c)(3) not-for-profit organization founded in 1991 to provide financial support to the college and its students, and to increase public and business awareness of the college's important role in the community. The Foundation exists because of generous individuals who believe in the value of a college education and believe that college should be accessible to everyone.

The Foundation began with one donor, a board of directors, and the Foundation staff, all of whom aspired to assist students and make a difference in their lives. Now, more than 20 years later, hundreds of donors support the Foundation's mission each year. As a result, the Foundation has been able to raise in excess of $12 million, allowing the Foundation to award more than $4.4 million in scholarships to over 2,700 students, and provide approximately $3.4 million to the college in support of mini-grants for innovative faculty and staff, the Endowed Teaching Chair program that recognizes excellence in the classroom, instructional equipment, and other initiatives that have merit but no source of funding.

Foundation Programs

Each year, more than $600,000 is distributed to support the students, faculty, and staff at the college. Scholarship applications are available at the beginning of spring semester each year. Please check with the Foundation for the exact deadline and application instructions, as they may change from year to year. Applications accepted in the spring are considered for awards for the following fall/spring. Scholarships are competitive and are awarded only once per year on the basis of both need and merit.

Giving to the Foundation

The RRCC Foundation accepts and manages a variety of gifts, including cash, pledges, stock transfers, planned gifts, and bequests. Gifts may be designated for specific purposes or for the area of greatest need, as determined by the Foundation board and college administration.

The Foundation is grateful to its supporters, as it is only with their assistance that the Foundation can continue to support the College and its students. If you are a student needing assistance or a donor wishing to participate, call us at **303.914.6308** or visit our website at **www.rrcc.edu/foundation**

Foundation Board

The Foundation is governed by a board of up to 30 community and business leaders.

Dr. Agneta Albinsson
Kristen M. Anderson
Robert E. Barber
Kevin J. Bervik
John G. Brant
Tim Campbell
Kimberly Carver
Paula Claussen
Shelley Cook
Michael Coughlin
Jim Dascalos
Michelle Fournier Johnson
Dr. Michele Haney
Dan Leach
Thomas W. Lemcke
Tom Menk
Skip Olson
Dr. Melinda O'Rourke
Jim Petrock
Shaw Schulder
Bob Short
Doris Stipech
John Sullivan
Dr. John Trefny

Academic Integrity

Everyone associated with the college's academic community has a responsibility for establishing, maintaining, and fostering understanding and respect for academic integrity. The following principles are associated with academic integrity:

- Cite (give credit for) words and/or ideas in an academic exercise that are not expressly your own.
- Use information, computer programs, another person's work, study aids and/or other materials only when allowed by the instructor.
- Remove materials from the library, labs, and other college facilities only when an official representative of the college grants permission.
- Use copyrighted materials only with permission.
- Refuse to help another commit an act of academic dishonesty.
- Use only the resources specifically allowed when completing a test or other assignment.

Academic dishonesty is the intentional act of fraud when an individual claims credit for the work of another, uses unauthorized materials, or fabricates information in any scholarly exercise. Academic dishonesty also includes, but is not limited to:

- forging educational documents
- damaging or destroying the works of another; or
- assisting others in acts of academic deception.

If you are aware of an incident of academic dishonesty, please report the occurrence to a faculty member, department chair, or administrator. Those committing academic dishonesty will be subject to disciplinary action, such as failing the assignment or course and/or expulsion from the course or college.

Academic Probation

If you have completed nine or more credits with a cumulative GPA of less than 2.0, you will be placed on academic probation. Meet with an advisor at this point. Continued GPA of less than 2.0 after being placed on probation may lead to suspension from enrollment at RRCC. For detailed information, see the current edition of the Student Handbook at **www.rrcc.edu/student-life/handbook.**

Academic Renewal

All course work taken at RRCC is reflected on your permanent transcript; however, you can petition to remove up to 15 credit hours of substandard grades earned from your cumulative grade point average (GPA). Before submitting the required written request, you must have been out of school for two years after the substandard course work was completed and you must have completed a minimum of six credit hours of new course work at RRCC with a cumulative GPA of 2.0 or higher.

Only courses taken prior to your two-year absence (see above) are eligible for this process. You may petition only once to remove grades and credits from your cumulative GPA. Once Student Records has removed these grades and credits from your cumulative GPA, they cannot be reinstated or used for any degree or certificate. The grades and credits will still appear on your permanent academic transcript. Credit hours earned for courses eliminated from your GPA for Academic Renewal will remain deducted from your remaining COF stipend eligible hours.

Attendance

To benefit the most from your instruction, attend each class, come to class prepared, arrive on time, submit assignments when due, and take exams when scheduled. In addition, comply with attendance policies set by individual instructors.

If you do not establish attendance in a course before the drop date you will be reported as a "No Show" by the instructor and dropped from the course. For an online course, you must log in and actively participate before the drop date or you will be reported as a "No Show" by the instructor and dropped from the course.

Course Load

For most students, a typical academic course requires two to three hours of outside preparation for each hour spent in class. For example, a 15-credit load represents a commitment of 45-60 hours per week, consisting of 15 hours in class and 30-45 hours of outside preparation.

The average full-time course load is 15 credits for each fall and spring semester. During the summer semester, the average full-time course load is 12 credits. If you register for fewer than 12 credits, you are classified as part-time. You need written permission from your advisor or the registrar to enroll for more than 18 credits during any semester.

Grades

Final course grades are assigned at the end of each course. If you need an earlier grade report, contact the instructor.

Grading Symbols

A Distinguished achievement for superior work.
B Better than acceptable achievement.
C Acceptable achievement for advancement in the same or related studies.
D Less than acceptable achievement for advancement in the same or related studies (credit may not transfer or count toward some degrees or certificates).
F Failure to achieve or master the learning objectives of the course. A grade of F does not apply toward certificates or degrees.
AU Audit. If you want to take a course without earning credit, you can register to audit that course. You must pay full tuition and

fees, and you will not receive the COF stipend for the course. You must declare your intention to audit no later than the course's tuition refund date. Once you have registered to audit a course, you cannot change your registration from auditing to earning credit for the course. The college will not award credit for any audited course.

AW Administrative Withdrawal. The grade of AW may be given at the discretion of the individual faculty member.

W Withdrawal. Through Admissions, you have officially withdrawn from the course or the college by the approved date and time listed in the current semester's schedule.

I Incomplete. If you are not able to complete the learning objectives before the end of a course because of verifiable extenuating circumstances, the instructor may assign a grade of incomplete at his or her discretion. Before you are eligible to receive an I, you must have completed a minimum of 75% of the course work with a grade of C (or higher). Before the end of the course, you are responsible for making arrangements with the instructor to sign an Incomplete Grade Contract. If you do not complete the course work by the agreed-upon deadline, the instructor will change the I to the letter grade stipulated in the contract. If no grade change is issued, the I will be changed to an F at the end of the next full 15-week semester.

S Satisfactory. Equivalent to a grade of C or higher and is available only for certain predesignated courses.

U Unsatisfactory. Equivalent to a grade of D or F and is available only for certain predesignated courses.

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. The course will count for attempted and 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. The course will count in attempted credits but will not carry earned credits.

SP Satisfactory Progress. Under the college's continuous enrollment policy, certain courses have been designated open-entry. You are eligible to receive an SP only if you are enrolled in an open-entry course. By the end of the semester, you must have completed course work (prorated by your registration date) with a grade of C (or higher) before you can be eligible for an SP. Also, you can request an SP based on verifiable extenuating circumstances. Before the end of the semester, you are responsible for making arrangements with the instructor to sign an SP Grade Contract. If you do not complete the course work by the agreed-upon deadline, the instructor will change the SP to the letter grade stipulated in the contract. If no grade change is issued, the SP will be changed to an F at the end of the next full 15-week semester.

Z Placeholder. Grade not yet reported. If no grade is issued, this placeholder will be changed to an F grade at the end of the next full semester.

Grade Point Average (GPA) Calculation

When computing your cumulative grade point average (GPA), various numerical values are assigned and used. Those that appear on your transcript are:

Attempted Credit Hours (AHRS)

Once you register for a course, you are attempting the credit hours assigned to that course. Attempted hours are not used to calculate your GPA.

Earned Credit Hours (EHRS)

If you earn a final course grade of A, B, C, D, or S, you will receive earned credit hours for that course. Earned hours are not used to calculate your GPA.

Quality Credit Hours (QHRS)

If you earn a final course grade of A, B, C, D, or F, you will receive quality credit hours for that course. Quality hours are used to calculate your GPA.

Quality Points (QPTS)

The main grading symbols are given points: A=4, B=3, C=2, D=1, and F=0. The points assigned to the letter grade multiplied by the quality credit hours received for the course give a numerical value called quality points. These points are used to compute your cumulative GPA.

Grade Point Average (GPA)

Your grade point average is the numerical value found by dividing the total number of quality points (QPTS) by the total number of quality credit hours (QHRS).

The GPA's highest possible numerical value is 4.0.

Calculating your GPA

Prefix	Grade	AHRS	EHRS	QHRS	QPTS
ENG 121	B	3	3	3	3X3 = 9
HIS 101	W	3	0	0	0X0 = 0
MAT 201	A	5	5	5	4X5 = 20
PSY 101	C	3	3	3	2X3 = 6
SOC 101	F	1	0	1	0X1 = 0
Totals		15	11	12	35

GPA = $\frac{\text{Total QPTS} = 35}{\text{Total QHRS} = 12}$ **= 2.917**

Graduation

Catalog Graduation Requirements

You will graduate under the catalog requirements in effect for the semester that you were first enrolled unless you have a one-year break in attendance (excluding summer term). If you interrupt attendance, you must meet the requirements of the catalog in effect at the time you re-enrolled. You can also choose to use the catalog that is in effect the semester you graduate. Be sure to keep a copy of your catalog.

You will not receive a diploma until you have met all financial obligations to the college, including payment of tuition, fees, and library fines.

Graduation Requirements

1. You must earn a cumulative grade point average of 2.0 (C average). Some programs will require at least a B or C in specific courses.
2. The college reserves the right to substitute or delete courses in degree or certificate programs.
3. Not all programs or courses are available each semester.
4. Courses numbered below 100 will not count toward any degree or certificate.
5. You must submit an Application for Graduation during the term in which you intend to graduate according to the deadline published in the class schedule for that semester.

Petitioning for Waivers/Program Substitutions

If you wish to petition for a waiver and/or substitution of program requirements, you must complete a Waiver/Program Substitution Request form. The form is available in the Student Records office or from a faculty advisor. Complete the request, have it approved by your faculty advisor and the appropriate instructional dean, and submit it to Student Records where it will be kept on file.

Phi Theta Kappa

RRCC sponsors a chapter of Phi Theta Kappa, the International Honor Society for two-year colleges. Members plan programs and events that encourage scholarship, service, and leadership. To be eligible for membership, you must be enrolled in college-level classes, have completed at least 12 credits of study (100 level or higher) at RRCC, and have a minimum cumulative GPA of 3.5. Membership opportunities occur twice a year, once in the fall and once in the spring semesters.

Recognition of Achievement

Honors List

The Honors List recognizes those who have achieved an outstanding level of academic success at RRCC. The Honors List designation is recorded on your official academic transcript, and you receive recognition during the college's annual graduation ceremony. The Commencement Program Honors List designation is based on the cumulative GPA for your graduating semester (summer/fall) and at the close of the preceding semester for spring graduates. The diploma and transcript Honors List designation is based on the cumulative GPA achieved after successful completion of all degree/certificate requirements.

To receive this academic honor, you:

- Must be graduating in the current spring semester or have graduated the previous summer or fall semester.
- Must have earned, for all credits, a cumulative grade point average (GPA) of 3.85 or higher by the graduating term to be recognized during the graduation ceremony.
- Must have earned an overall cumulative GPA of 3.85 for all courses taken at RRCC for designation on the transcript and diploma.
- Must have taken at least 15 credits of course work through RRCC.
- Must have completed the requirements for an Associate of Arts, Associate of Science, Associate of General Studies, or Associate of Applied Science degree; or have completed a certificate program containing at least 30 credits.

Repeating Courses

You may retake any course taken at RRCC. Each registration for the course and each grade received will be listed on the transcript. The highest graded course will be used to calculate the GPA, total credit hours earned, graduation, and graduation honors. Removed courses will not be eligible for calculation into the GPA, total credit hours earned, graduation, or graduation honors.

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. There is no limitation on the course grades that are eligible to be repeated. All credits removed will still remain deducted from the COF stipend eligible hours and will remain added to your "Attempted Hours" total.

Repeating courses can have ramifications that affect Financial Aid Satisfactory Academic Progress, and also can affect students' disbursement amounts. Please contact the Financial Aid office for more information.

Information: 303.914.6600 or student.records@rrcc.edu

Veterans Progress

Veterans are certified only for courses that apply to their degree programs. If you are eligible to receive Veterans Administration (VA) benefits, you are required to maintain a cumulative 2.0 grade point average (GPA) for all course work attempted. If your cumulative GPA falls below 2.0, you will be placed on academic probation for the following term. If you do not improve your cumulative GPA to at least a 2.0 for the subsequent semester, your VA certification will be suspended until progress is made toward your GPA. You may be reinstated after meeting with the VA school-certifying official at RRCC.

Because credit is not given for audited courses, they are not eligible for certification. If you stop attending, but do not officially drop or withdraw from the course, you are considered "non-attending." You may be dropped administratively and your benefit certification adjusted accordingly. These actions can result in you owing money to the federal government. Copies of the veteran regulations are available for review in the Veteran Services office on campus.

Information: www.va.gov

A a student, you have specific rights that ensure you are treated equitably and that your privacy is protected.

Affirmative Action/Equal Opportunity

Red Rocks Community College is committed to diversity in its people and programs. The College is an equal opportunity educational institution and does not discriminate on the basis of disability, race, creed, color, gender, sexual orientation, gender expression, religion, age, national origin, or ancestry, or any other category protected by applicable law. The College has designated the Executive Director of Human Resources as its Equal Opportunity Employment Officer and Title IX Administrator, with the responsibility to coordinate its civil rights compliance activities and grievance procedures. Report all concerns or complaints relating to discrimination or harassment to: Dr. Bill Dial, Executive Director of Human Resources/EO Compliance Officer/Title IX Administrator, 13300 West Sixth Avenue, Lakewood, CO 80228 at 303.914.6298.

The State Board for Community Colleges and Occupational Education has approved the RRCC Affirmative Action/Equal Opportunity Program Plan (available for individual, public, and agency review in the Office of Human Resources). The college has designated the Executive Director of Human Resources as its affirmative action officer.

For information contact:
Office of Human Resources
Red Rocks Community College
13300 W. Sixth Avenue, Box 17
Lakewood, CO 80228-1255
303.914.6570

Other inquiries may be made to:

Vice President for Legal Affairs
Colorado Community College System
9101 E. Lowry Boulevard
Denver, CO 80230-6011
720.858.2868

Office for Civil Rights,
Denver Office
U.S. Department of Education
Cesar E. Chavez Memorial Building
1244 Speer Boulevard, Suite 310
Denver, CO 80204-3582
303.844.5695 or **OCR.Denver@ed.gov**
FAX: 303.844.4303

Drug and Alcohol Abuse Information

The Law

RRCC is a state-system community college governed by the State Board for Community Colleges and Occupational Education. Board policy requires RRCC to comply with the Drug Free Schools and Communities Amendments of 1989 (PL 101 226 in Federal law). A copy of this law is on file in the Human Resources Office for your reference. The Drug and Alcohol Abuse Prevention Program includes:

Code of Conduct

Neither students nor employees shall engage in the unauthorized or unlawful manufacture, distribution, possession, use, or abuse of alcohol or illicit drugs on college property or as a part of any college activity. This includes the use, distribution, or possession of "medical marijuana," which remains a violation of Federal law. See the Student Code of Conduct in the Student Handbook for more information. **www.rrcc.edu/student-life/handbook**.

Legal Sanctions

There are legal sanctions for violations of the Code of Conduct. Any student or employee who is convicted of the unlawful manufacture, distribution, possession, use, or abuse of illicit drugs or alcohol is subject to criminal penalties under local, state, and federal law. These penalties range in severity from a fine of $100 up to $8,000,000 and/or life imprisonment. The exact penalty assessed depends upon the nature and severity of the individual offense.

College Penalties

The college will impose penalties against students and employees who violate the Code of Conduct. Violators will be subject to disciplinary action under student and employee disciplinary policies. The sanctions include, but are not limited to, probation, suspension, or expulsion from the college or probation, suspension, or termination of employment, and referral to authorities for prosecution as appropriate.

Illegal Substances

A controlled substances schedule is on file in the Student Life Office and in the Campus Police Department.

Illegally possessing, using, distributing, or manufacturing any narcotic, dangerous drug, or controlled substance as classified by federal, state, and local laws, or appearing on campus while under the influence of any illegally-obtained narcotic, dangerous, or controlled substance is a crime and violation of the Student Code of Conduct. Under federal law, marijuana (including "medical marijuana") is a Schedule I substance. Its possession and/or use on any College property is illegal and subject to prosecution and College sanctions. All students must comply with the RRCC Drug Free Schools and Communities Amendment of 1989 (PL101-226).

Health Risks

Many health risks are associated with drug and alcohol abuse. Risks include, but are not limited to, malnutrition, brain damage, heart disease, pancreatitis, cirrhosis of the liver, mental illness, death, low-birth-weight babies, and babies born with drug addictions. Personal relationships, family dynamics, and the ability to work and study are also at risk. Drug and Alcohol Abuse Prevention Program information and counseling services are available through the Behavioral Health Counseling Office, room 1566, located in the Student Health Clinic.

Community Resources

A packet containing a list of community resources is available through the Connect to Success Office, room 1655, **303.914.6317**. Consult the yellow pages of the local telephone book for a listing of all private and community-based programs. Check listings under "Alcoholism Treatment" and "Drug Abuse Information and Treatment." For 24-hour assistance, call:

- National Alcohol and Substance Abuse Hotline: 1.800.784.6776
- National HOPEline Network: 1.800.273.8255

Firearms on Campus

Firearms of any kind are prohibited on campus, with the exception of those carried by Certified Peace Officers, guards while working, persons who have been issued a valid permit to carry a concealed handgun in accordance with Colorado's Concealed Carry Act, or with prior approval from the Chief of the RRCC Police Department.

Privacy Notification

The Colorado Community College System considers the following to be directory* information:
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)
Participation in officially recognized activities and sports
And if participating in an officially recognized activity or sport, height and weight.

*Directory information is limited to the current academic year only. RRCC staff may disclose this information, without prior consent, to anyone inquiring in person, by phone, or in writing.

Data 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. Directory information restrictions will remain in effect until you cancel the restriction. A release form is available in Admissions or Student Records.

Notification of Rights Under the Family Educational Rights and Privacy Act (FERPA) for Postsecondary Institutions

FERPA affords you certain rights with respect to your education records.

Your rights include:

1. The right to inspect and review your education records within 45 days of the day RRCC receives a request for access. Submit written requests that identify the record(s) you wish to inspect to the Registrar or Coordinator of Student Records. The RRCC official will make arrangements for access and notify you of the time and place where the records may be inspected.
2. The right to request the amendment of education records that you believe are inaccurate or misleading. You may ask RRCC to amend a record that you believe is inaccurate or misleading. Write to the above RRCC official responsible for the record and clearly identify the part of the record you want changed, specifying why it is inaccurate or misleading. If RRCC does not amend the record as you request, RRCC will notify you of the decision and advise you of the right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to you when you are notified of the right to a hearing.
3. The right to provide written consent before RRCC discloses personally identifiable information contained in your education records, except to the extent that FERPA authorizes disclosure without consent. One exception that permits disclosure without consent is disclosure to a school official with legitimate educational interests. A school official is:
   - an employee of the college or the Colorado Community College System in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit, personnel, and health staff);
   - a person or company with whom the college has contracted (such as an attorney, auditor, or collection agent);
   - a member of the State Board for Community Colleges and Occupational Education, the Colorado Department of Higher Education, or the National Student Clearinghouse; the College Opportunity Fund; or to the U.S. Military in compliance with the Solomon Amendment;
   - an individual serving on a college advisory committee; 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.

   A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the college also discloses education records without consent to officials of another school in which a student seeks or intends to enroll.
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by RRCC to comply with the requirements of FERPA. Write to:
   Family Policy Compliance Office
   U.S. Department of Education
   600 Independence Avenue, SW
   Washington, DC 20202-4605

The college may share educational records with 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.

Information: Student Records at 303.914.6600

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 PII from your education records, without your consent, 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.

In accordance with the Fair and Accurate Credit Transactions Act (FACTA) of 2003, RRCC 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 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:
www.ftc.gov/os/statutes/fcradoc.pdf

Red Flag Rules:
www.ftc.gov/bcp/edu/microsites/redflagsrule/index.shtml

Identity Theft Consumer:
www.consumer.ftc.gov/features/feature-0014-identity-theft

Information: Student Records at 303.914.6600

Smoking on College Grounds

Consistent with State of Colorado statute, smoking is not permitted in any RRCC building or facility. Signs designating certain outside areas as "smoke free" are posted and enforced accordingly.

To reduce exposure to secondhand smoke, the City of Lakewood's ordinance (9.38-030) makes the following areas smoke-free:

- The 25-foot perimeter around public entrances to buildings
- Public transit waiting areas, bus stops, shelters, light rail platforms, etc.
- City-owned playgrounds, skate parks, athletic fields, and festival grounds

Please help us protect people and the environment by following the above policies. For questions, please contact the Vice President of Administrative Services at **303.914.6337.**

Statewide Transfer Policy and Student Bill of Rights

In an effort to enhance the transferability of credit and general education, the Colorado legislature implemented a policy to assure students enrolled in public institutions of higher education are afforded certain basic rights. Known as the Student Bill of Rights, its provisions seek to ensure:

- A quality general education experience that develops competencies in reading, writing, mathematics, technology, and critical thinking through integrated arts and science experience.
- 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 may 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 public two-year and four-year institutions of higher education.

- Students, upon successful completion of core general education courses, should have those courses satisfy the core course requirements of all Colorado public institutions of higher education.
- Students have the right to know if courses from one or more public higher education institutions satisfy the student's graduation requirements.
- Credit for completion of the core requirements and core courses shall not expire for 10 years from the date of initial enrollment and shall be transferable.

Student Handbook

Students should pick up the current edition of the Student Handbook, located throughout the campus. It can also be found online: **www.rrcc.edu/student-life/handbook**.

Students with Disabilities

RRCC offers services and accommodations for students and visitors with disabilities. The college complies with and fully supports Section 504 of the Rehabilitation Act of 1973, with amendments of 1974, as well as the Americans with Disabilities Amendments Act of 2008 (ADAAA) regarding non-discrimination based on disability.

Reasonable accommodations are provided upon request for persons with disabilities. If you require an accommodation to access classes, programs, services, or other activities at RRCC, contact Accessibility Services.

Information: 303.914.6733 or www.rrcc.edu/accessibility-services

Accessibility Services

Accessibility Services is committed to the process of removing barriers for students with disabilities to create equal access and opportunities at RRCC. The Accessibility staff makes determinations and provisions regarding access and reasonable accommodations, and provides support for students and visitors with disabilities. Sign language interpreting, books in alternate format, testing accommodations, and assistive technology are some of the accommodations and services provided.

The office is also a resource for college employees regarding disabilities. RRCC has an ADAAA (Americans with Disabilities Act Amendments Act of 2008) Committee that focuses on ensuring the accessibility of the campus, programs and services.

Information: 303.914.6733 or www.rrcc.edu/accessibility-services

Admissions

The Admissions Office at Lakewood and the front desk at the Arvada campus process all applications for admission and are where you can add, drop, and/or withdraw from classes. The Lakewood Admissions office also determines in-state residency and is available to help you through the process of applying for residency.

Information:
Lakewood 303.914.6600 or Arvada 303.914.6010

www.rrcc.edu/admissions

Academic Advising

Academic advisors can help you select courses, identify course prerequisites, obtain program information, evaluate assessment results, check graduation requirements, and assist with transfer planning to a four-year college or university. Advisors are available on a limited walk-in basis and by appointment for more detailed academic goal planning, as well as career planning. All students are strongly encouraged to consult with an advisor before determining a degree or certificate program. Only one degree/certificate modification is allowed per semester.

Information: 303.914.6600 or www.rrcc.edu/advising
Arvada Campus Advising is by appointment only: 303.914.6010.

Assessment Center

The Assessment Center administers a required academic placement test for Colorado as well as instructor-supplied classroom tests for RRCC students. For students who have just applied, please check out the requirements for taking a placement test. The state of Colorado requires this test for a number of students. RRCC also has a number of programs that require parts of this test for every applicant.

We also assist students and faculty in evaluating requests for college Credits for Prior Learning, (CPL) or Portfolio credit. The Assessment Center also hosts the College Board's College Level Examination Program (CLEP); these tests enable students to schedule an examination to earn academic credit to bypass certain college courses.

On the Lakewood campus, we are located in the Admissions area, across from the main entrance.

Information: 303.914.6600 or www.rrcc.edu/assessment

Bookstore

The RRCC Bookstore, located at the Lakewood Campus, is your source for all of your educational materials, including those for CCCOnline classes. We offer digital books and rental books as well as new and used textbooks. Study aids, reference books, and dictionaries are also available. Textbooks can be ordered online. Once you submit your order, you may request delivery to the Arvada Campus. Please give us one business day and call the Arvada Campus at **303.914.6010** to ensure your order is available.

The bookstore also carries school supplies, calculators, printers, headphones, electronics, backpacks, greeting cards, hardcover and paperback best-sellers (discounted 20%), imprinted RRCC gift items and clothing, along with snack food and beverages. Barnes & Noble gift cards may be purchased and redeemed. Bookstore services include special orders for books or merchandise not in stock and textbook buyback.

The bookstore performs computerized textbook buyback EVERY DAY. The best time to sell your textbooks is at the end of each semester. We are very competitive; let us give you a buyback price quote! Textbooks may be ordered online by clicking on "Bookstore" from the RRCC website at **www.rrcc.edu**. Books may be shipped to students' homes, held for in-store pickup, or delivered to the Arvada Campus. We accept all major credit cards, checks (valid driver's license required), PayPal (online orders), and cash. Financial Aid is accepted for payment for textbooks, school supplies, and imprinted merchandise. Make sure you fill out a TIV form in Financial Aid prior to trying to use your financial aid for bookstore purchases. Receipts are ALWAYS required for returns. Please refer to our website and signs in the bookstore for refund policies and time limits.

Like us on Facebook to find out about special events and offers. Bring this article into the bookstore to get 20% off any imprinted gift or clothing item!

Information: 303.914.6232 or sm259@bncollege.com or rrcc.bncollege.com
www.facebook.com/redrocksbookstore

Cafeteria/Food Service

The RRCC Café, located on the Lakewood campus, offers a variety of breakfast, lunch, and snack items. A weekly menu is posted on the student portal (The Rock) for the Hot/Cold line and the Grill. The cafeteria is located on The Bridge between the east and west buildings.

Information: 303.914.6374

Campus Police

The safety of students, faculty, and staff is the priority of the RRCC Campus Police Department. We serve both the Lakewood and Arvada campuses, responding to medical emergencies, investigating criminal acts and traffic accidents, enforcing parking and traffic violations, and opening and securing campus buildings. We provide safety escorts when requested, assist with car battery jumpstarts, and deliver emergency messages by dispatching an officer to that specific location. Campus Police is also the location of lost and found and we are located behind the Information Desk in the main lobby of the Lakewood campus.

Emergencies: 911
Non-emergencies: 303.914.6394

Career Services

RRCC is committed to helping students succeed in their pursuit of a quality education, including assistance in developing a clear career plan. Career Services provides individualized career counseling and coaching, employment resources, career assessments, job search skills, and mock interviewing assistance. Specific services are listed on the Career Services website. The best course of action is a sound course of action; having an idea of your career direction will help you focus on a sound academic plan!

Information: www.rrcc.edu/career-services

Career Assessments

Individual interpretive sessions for the Myers-Briggs Type Indicator, Strong Interest Inventory and StrengthsQuest are $20 each for students and alumni or $30 each for community members.

Information: 303.914.6600

Career Assessment Workshops

The Myers-Briggs Type Indicator and Strong Interest Inventory can be interpreted in a small group setting, offered each fall and spring semester at a reduced group rate.

Career Development Course

Career Development, PSY 110, is offered each fall, spring, and summer semester. PSY 110 covers all areas of the career development process, including formal and informal assessments (personality, interests, skills, values, strengths, and beliefs); personal career exploration; occupational, labor, and job market resources; the changing workplace; goal-setting; decision-making; networking; informational interviewing; résumé writing; and interviewing skills. Upon completion, students will have created their own vision board and career development plan.

Information: 303.914.6016

Child Care

Red Rocks Community College is home to Child Care Innovations, a Child Care Resource and Referral Agency. Parents looking for child care may visit Room 2666 at the Lakewood campus or call **1.877.338.2273** for free referrals of licensed child care facilities, assistance in evaluating options, and helpful consumer education information. To conduct a search online, visit **www.qualistar.org/home.html**.

The Children's Center at the Lakewood campus offers full-service, full-day care for children from 18 months to kindergarten entry. The high-quality program provides secure and nurturing care. The center serves families of students, staff, faculty, and the community. The center does not provide drop-in care.

Information: 303.914.6328

Coffee Shop

The Coffee Shop, located in the Student Center on the Lakewood campus, offers brewed coffee, espresso drinks, smoothies, quick meals, and snacks.

Information: 303.914.6262

Disability Services

See Accessibility Services on page 29.

Emergency Notifications

Emergency Notification Settings for Students and Staff

Students and staff have the option to be included in the Emergency Alert Notification List, for time when emergency conditions or bad weather require either of the RRCC campuses to be closed. The notification settings can be found under the Welcome tab at "The Rock." Please enter the phone number(s) you would like to include in the Emergency Alert Notification List. In the event of a campus closure due to weather or an emergency due to an imminent threat, you will be notified immediately. You may update your phone numbers at any time.

Red Rocks Community College is exempt from the State Inclement Weather Policy and our campuses may remain open while other state government offices close. If either campus is to be closed for an entire day, every effort will be made to reach a decision by 5:30 a.m. If a campus is to close for the evening, every effort will be made to have a decision by 4:00 p.m.

As an expanded way to communicate during emergencies,RRCC provides text messaging notification. Text messaging will only be used to communicate our emergency messages. In order to receive an emergency text message, you must request or opt-in to the program, and you must have elected text messaging as an option from your phone service provider. If you would like to receive text messages from RRCC for emergency messages, check the box. By checking the box, you are agreeing to all charges incurred by your phone service provider.

Employment and Internship Opportunities for Students

Student Employment

Employment On Campus

Part-time employment is available on both the Lakewood and Arvada campuses for eligible students through Work Study and Student Hourly Programs. For more information, visit Human Resources in Room 1025 on the Lakewood campus.

Information: 303.914.6600 or www.rrcc.edu/human-resources/student-employment

Employment Off Campus

A wide range of full-time, part-time, and temporary job listings are available through our online network. While RRCC cannot guarantee employment, we make every effort to maintain contact with businesses and industries to generate employment opportunities. Other resources available to students include on-campus recruiting visits from business and industry; job announcements posted both online and on campus; and assistance with resume preparation, interviewing skills, and general career advising.

Information: 303.914.6600 www.rrcc.edu/career-connect

Internship Services

Internships provide students with an opportunity to work in a position that is directly related to their field of study, applying classroom instruction to practical work experience.

Description

- Most RRCC internships are for credit, from 1 to 6 credits, and subject to current tuition rates.
- Students enrolled in an internship work a minimum of 45 hours for every 1 credit earned. Typical internships are for 3 credits (135 work hours).
- For-credit internships yield a letter grade.
- Internships can be paid or unpaid.
- Students in unpaid internships can apply for an Internship Grant.
- Current RRCC students who find paid internships are not required to register for internship credit.
- Students who plan to do a paid, non-credit internship sign up with the internship office prior to beginning the internship. At the successful completion of the internship, they will receive a Certificate of Completion, verifying the professional nature of the internship.

Qualifications

- All internships are reserved for currently enrolled RRCC students. We also welcome interested RRCC alumni to apply for credit-bearing internships.
- For-credit internships require a fundamental knowledge in a RRCC field of study, usually one or two semesters of successfully completed RRCC course work.
- A cumulative GPA of at least a 2.0 is required.
- The student will provide a signed Instructor Recommendation form, verifying that the student has the professionalism to represent RRCC in the workplace, and the skills to do the job.
- An internship site is needed. Students who want assistance in seeking an internship site are encouraged to contact the internship coordinator for an appointment.

Information: 303.914.6600 or www.rrcc.edu/internships

Service Learning

Service Learning (SL) is a way for you to become involved in the community and to combine experiential learning with classroom learning.

The Service Learning program at RRCC connects community service with academic instruction, focusing on critical, reflective thinking, and personal and civic responsibility. With the support of faculty and fellow students, service learning can add a new dimension to classroom discussions. You have the opportunity to serve your community while applying knowledge gained in the classroom. Community organizations benefit from your involvement while you enhance your own sense of personal outreach in meeting community needs. Students with a final SL class grade of C or higher will receive Service Learning designation on their official transcripts.

Students interested in pursuing Service Learning in any non-designated SL classes can ask their instructors' permission to pursue individual service projects. Transcript designation is available to these students as well.

Information: 303.914.6600

Fitness Center

The RRCC Fitness center is dedicated to providing students and employees with the tools necessary to reach their fitness-related goals. The center hosts a variety of cardio and weight machines, including treadmills, ellipticals, bikes, free weights, and a strength circuit. Use of the center is free for students enrolled in on-campus classes with a current semester ID. RRCC employees and online-only students may access the center for a small fee; please inquire at the front desk.

Information: 303.914.6375 or www.rrcc.edu/fitness-center

Inclusion & Diversity

RRCC is committed to providing access and support to students from a variety of backgrounds. Through cultural programs, mentorship opportunities, and student clubs, there is a place for everyone in the RRCC community. We encourage all students, faculty, and staff to take advantage of the opportunities for learning and personal growth provided through the Office of Inclusion & Diversity.

Information: 303.914.6309 or www.rrcc.edu/diversity

International Student Services

The International Student Services Office provides college preparatory English classes for international and resident students for whom English is not a primary language. It also provides academic and cultural advising for a diverse student population, and specific immigration advising for International students.

Information: 303.914.6416 or www.rrcc.edu/international-student-services

Learning Commons

The Learning Commons houses tutoring, library and Internet resources, and adaptations for students with disabilities. The Learning Commons is a welcoming place where you can study on your own or meet with a tutor, a study group, or an instructor. Centers are located at both the Lakewood and Arvada campuses.

Information: 303.914.6705 or www.rrcc.edu/learning-commons

College Prep Zone (CPZ)

The College Prep Zone offers tutoring for students who are trying to improve their basic skills in reading, writing, and math. Our experienced tutors will help you with your college prep class homework (MAT 050, MAT 055, CCR 092, and CCR 094) and teach you study skills and strategies that will help you succeed in your classes.

Information: 303.914.6736

Communication Lab

Give your best presentation with help from the CommLab:

- Develop presentation outlines
- Enhance oral presentation skills
- Control speech anxiety
- Develop confidence in delivery
- Practice using visual aids
- Create effective speaking notes
- Use video and audio recording technology
- Receive one-on-one and group tutoring

The CommLab is located upstairs in the Library (Room 2261). Free tutoring is available to ALL RRCC Students.

Information: 303.914.6182 or visit our webpage to sign up for an appointment: www.rrcc.edu/communication/comm-lab

Connect to Success Services

Connect to Success is a learning success service that assists students with reaching their academic, career, and personal goals by providing support with study skills, success strategies, career development activities, recommendations for campus services, and information about community resources. Students can stop by the offices in the Learning Commons or visit the website for staff members' contact options.

Information: 303.914.6739 or 303.914.6571 or www.rrcc.edu/connect-to-success.

ESL/Foreign Language Lab

The ESL/Foreign Language Lab offers tutoring in Spanish, French, German, Japanese, American Sign Language (ASL), and English as a Second Language (ESL). Computers bookmarked with useful language sites are also available.

Information: Foreign Language at 303.914.6701 or ESL at 303.914.6416

The Learning Collaborative

Do you need additional skills in math, reading, or writing? The Learning Collaborative can help you prepare to retake the assessment test and succeed in classes at Red Rocks.

Information: 303.914.6739 or 303.914.6571

Tutoring

Tutoring is provided by professional and peer tutors. Walk-in tutoring for math, writing, the sciences, accounting, Microsoft applications, and other subjects is free to RRCC students in the Learning Commons on the Lakewood campus. Math and writing center tutors are also available on the Arvada Campus.

One-to-one tutoring is available for vocational students with a C or below in their classes and for transfer majors whose grades fall below average in selected content areas.

Information: 303.914.6701 or www.rrcc.edu/learning-commons/tutoring

Writing Center and Online Writing Center

The mission of the Writing Center is to help students become better writers. Our tutors are available to work with students in any subject area to improve their writing skills, offering them strategies and resources for succeeding in any kind of writing assignment, including essays, research papers, and multimedia assignments. Tutors will help students generate ideas, organize and develop topics, revise and edit with confidence, and observe conventions of formatting and documentation.

Information: 303.914.6435 or www.rrcc.edu/writing-center

Library

The RRCC library is a buzzing hub of campus activity and learning throughout the semester. The library offers extensive print and electronic resources to support the RRCC curriculum, as well as programming and training to support student learning. Print and materials collections range from popular books, faculty-curated book selections, magazines, newspapers, educational films, and popular movies on DVD. Online services include article databases, ebooks, multimedia assets, and online tutorial libraries, all of which are accessible on and off campus. The library's collections and services are designed to support all students, including those transitioning from high school or the workplace into two- and four-year colleges, via traditional learning methods and complimentary learning styles. The goal of the library is to support a wide range of interests among students, faculty, and staff of the college.

Information: 303.914.6740 or library.rrcc.edu

RRCC Student Government

The Voice of the Students

RRCC Student Government represents the interests of the student body. Members work with the college's administration to set policy and plan various activities. To join Student Government, you must be enrolled at RRCC, complete the application process, and maintain a 2.5 GPA. Participation provides an opportunity to develop leadership skills that will assist you in your educational and professional endeavors.

Information: 303.914.6248 or www.rrcc.edu/student-life/student-government

Student Center

The Lakewood campus Student Center offers various services and activities for students, including:

- Campus events and entertainment
- Leadership opportunities
- Publications and bulletin boards
- Recreational sports
- Student clubs and organizations
- Student ID cards
- Movie tickets
- Study groups
- Computers for academic and leisure use
- Locker rentals
- Student Food Bank
- FAX and copy services

Students who are taking courses at other RRCC locations are encouraged to visit the main campus and take full advantage of the student services and resources available. The Student Center includes pinball, gaming computers, pool tables, foosball, ping pong, vending machines, the fitness center, the coffee shop, The Den, the Student Life Desk, and the Student Project Center.

Information: 303.914.6370

Student Health Clinic

Providing Medical and Behavioral Health Care for all RRCC Students

All RRCC students are eligible to access the Student Health Clinic. The Student Health Clinic is a medical clinic that is staffed by certified and licensed medical providers. We provide nearly all the same general medical services as a Family Practice Clinic. Many of the services are covered by student fees. Students may be seen for physicals, well-woman exams, and sick visits at no charge. The clinic is located on the Lakewood campus near the Student Life desk, Room 1569.

Medical Services Provided:

- Annual physical exams and program physicals for signature
- Multiple sick visits or consultations as needed
- Evaluation and treatment of common illnesses
- STI testing and counseling
- Women's Health, including birth control counseling and pregnancy testing (pregnancy testing $5)
- In-Office Procedures: stitches, toe nail removal, wart removal, etc. ($10)
- Preventative Healthcare: diet/exercise counseling and smoking/tobacco cessation
- Vaccinations and Seasonal Flu Shots (flu shots $10, Hepatitis B vaccine $60, MMR vaccine $60, Tb testing $10, Tetanus $40)
- Lab work (billed directly to the student)
- Prescriptions (at the discretion of the provider)

Prices are subject to change based on cost and demand.

The Medical Clinic is open Monday through Friday. Specific hours are posted at the clinic and are subject to change. For an appointment call **303.914.6655** or stop by the clinic, Room 1569. Walk-ins are welcome and accommodated on a first-come, first-served basis.

Behavioral Health Services

Brief counseling to help with stress, depression, and other life challenges is provided at both the Lakewood and Arvada campuses by a licensed therapist from the Jefferson Center for Mental Health. Students qualify for up to six sessions per semester at no charge, or may be referred to community resources. In order to schedule, call **303.914.6655** or come into the Student Health Clinic, Room 1569.

The therapist will be available from 9:00 a.m. to 5:00 p.m., Monday-Friday. Walk-ins are welcome and accommodated on a first-come, first-served basis. Visit **www.rrcc.edu/behavioral-health-services** for additional information. Veterans may request a visit with a Veterans Services Manager who specializes in the needs of those who have served in the military. Call **303.425.0300** for an appointment or visit **www.jeffersonmentalhealth.org/programs/Veterans/vetmain.cfm**

Student Records

The Student Records office provides a variety of services such as processing your student transcripts, evaluating your transcripts from other accredited schools for possible transfer credit, processing your graduation application, providing information regarding commencement, processing demographic information such as name or social security number corrections, providing College Opportunity Fund (COF) information and advising, providing paperwork for Academic Renewal or Petitions for Repeated Courses, and answering questions regarding FERPA.

Information: 303.914.6600 or www.rrcc.edu/student-records

You may also email us at **student.records@rrcc.edu**

Associate of Arts (AA)

AA Degrees with Designation

The state transfer agreements for the following degrees can be found at the Colorado Department of Higher Education website: **http://highered.colorado.gov/Academics/Transfers/Students.html**.

Anthropology on page 48
Art History on page 49
Business on page 49
Communication on page 50
Criminal Justice on page 50
Economics on page 51
English (Literature Emphasis) on page 51
French on page 51
Geography on page 52
History on page 52
Music on page 53
Philosophy on page 53
Political Science on page 53
Psychology on page 54
Sociology on page 54
Spanish on page 55
Studio Art on page 55
Theatre on page 56

The above degrees have state-wide articulation agreements with all public four-year colleges and universities in the state. Those who complete an AA degree and the prescribed curriculum in the articulation agreement and are admitted (with no academic deficiencies that require additional coursework) to a receiving institution participating in this agreement are guaranteed the following:

- Junior standing with no more than 60 remaining credits to meet the graduation requirements for a baccalaureate degree in the degree program covered by this articulation agreement.
- Completion of the receiving institution's lower division general education requirements as defined by the gtPathways curriculum.
- The same graduation requirements as those who begin and complete this degree program at the receiving institution. found on the degree requirement checklists. Upon completion, your transcript will indicate your designated degree.

AA Degrees

The Associate of Arts degree (60 credits) is for those who intend to transfer to a four-year college or university and want an education with a liberal arts emphasis. To earn the Associate of Arts degree, you must complete the state-designated general education requirements for a total of 38-42 credits. Other suggested courses are found in the individual catalog subject areas.

Areas of Study:

Communication Disorders on page 76
Dance on page 84
Early Childhood Education on page 85
English:
    Creative Writing on page 93
Foreign Languages on page 98
Teacher Education:
    Elementary Education on page 120
    Secondary Education on page 121
Victim Assistance on page 83

Associate of Science (AS)

AS Degrees with Designation

The state transfer agreements for the following degrees can be found at the Colorado Department of Higher Education website: **http://highered.colorado.gov/Academics/Transfers/Students.html**.

Biology on page 56
Chemistry on page 56
Geology on page 57
Mathematics on page 57
Physics on page 58
Psychology on page 58

The above degrees have state-wide articulation agreements with all public four-year colleges and universities in the state. Those who complete an AS degree and the prescribed curriculum in the articulation agreement and are admitted (with no academic deficiencies that require additional coursework) to a receiving institution participating in this agreement are guaranteed the following:

- Junior standing with no more than 60 remaining credits to meet the graduation requirements for a baccalaureate degree in the degree program covered by this articulation agreement.
- Completion of the receiving institution's lower division general education requirements as defined by the gtPathways curriculum.
- The same graduation requirements as those who begin and complete this degree program at the receiving institution. found on the degree requirement checklists. Upon completion, your transcript will indicate your designated degree.

AS Degrees

The Associate of Science degree (60 credits) is for those who intend to transfer to a four-year college or university and want an education with a science-related emphasis. To earn the Associate of Science degree, you must first complete the state-designated general education requirements for a total of 38-42 credits. Other suggested courses are found in the individual catalog subject areas.

Areas of Study:

Biology on page 73
Chemistry on page 76
Computer Science on page 81
Geology on page 98
Pre-Engineering on page 93
Physics on page 112

Associate of General Studies (AGS) – Generalist

Career-Oriented

The Associate of General Studies – Generalist degree (60 credits) is for those who want to complete a combination of college-level general education courses and a variety of vocational courses. Courses are considered for transfer on an individual basis by the receiving four-year college or university.

AGS – Generalist Degree Requirements on page 44

Associate of Applied Science (AAS)

Career-Oriented

The Associate of Applied Science degree (60-75 credits) is for those who are preparing for entry-level employment in a career-oriented program of study or upgrading in a specific occupation. This degree is not intended for transfer; however, courses are considered for transfer on an individual basis by the receiving four-year college or university.

AAS - Degrees on page 60

AAS - Degree Requirements on page 61

Guarantee Transfer Courses (gtPathways)

To help you avoid taking unnecessary courses and thus help you earn your degree in as little time as possible, the Colorado Department of Higher Education, in consultation with Colorado's public colleges and universities, has developed a uniform general education curriculum that forms the core of most bachelor's degrees and is guaranteed to transfer between all public, state-accredited colleges and universities. Colorado has also developed guided degree pathways which consist of specific required credit hours of courses from the following content areas: communication, mathematics, humanities, natural sciences, and social sciences. You should always seek advising from the college or university you plan to attend to ensure you are selecting the appropriate coursework for your degree.

Guarantee transfer courses in which you earn a grade of C or higher will always transfer and the credit will apply to gtPathways requirements in every liberal arts & sciences bachelor's degree at every public Colorado institution. Depending on the intended bachelor's degree, gtPathways course credit may also be applied to major and elective requirements at the receiving institution's discretion.

Please note that the institution to which you transfer may not accept credits you earned through Advanced Placement (AP), College Level Examination Program (CLEP), or similar tests. You should always contact an advisor at the receiving college or university to ensure transferability of your credits.

Below are the gtPathways general categories followed by specific, state-approved courses in each category.

General Categories

Arts & Humanities
GT-AH1: Arts and Expression
GT-AH2: Literature and Humanities
GT-AH3: Ways of Thinking
GT-AH4: Foreign Languages (must be Intermediate/200 level)

Communication
GT-CO1: Introductory Writing Course
GT-CO2: Intermediate Writing Course

History
GT-HI1: History

Mathematics
GT-MA1: Mathematics

Natural & Physical Sciences
GT-SC1: With a required laboratory
GT-SC2: Without a required laboratory

Social & Behavioral Sciences
GT-SS1: Economic or Political Systems
GT-SS2: Geography
GT-SS3: Human Behavior, Culture, or Social Frameworks

The list of courses below is accurate as of February 2015. Please remember to check the following website for the most current updates**:**
http://highered.colorado.gov/Academics/Transfers/gtPathways/curriculum.html.

GT-AH1 (Arts and Expression)
ART 110 Art Appreciation (3)
ART 111 Art History Ancient to Medieval (3)
ART 112 Art History Renaissance to Modern (3)
ART 207 Art History 1900 – Present (3)
DAN 125 History of Dance I (3)
MUS 120 Music Appreciation (3)
MUS 121 Music History Medieval through Classical (3)
MUS 122 Music History Romantic to Present (3)
MUS 123 Survey of World Music (3)
MUS 125 History of Jazz (3)
THE 105 Theatre Appreciation (3)
THE 108 Theatre Script Analysis (3)
THE 211 Development of Theatre: Greek-Renaissance (3)
THE 212 Development of Theatre: Restoration to Modern (3)
THE 215 Playwriting I (3)

GT-AH2 (Literature and Humanities)
HUM 103 Introduction to Film Art (3)
HUM 115 World Mythology (3)
HUM 121 Humanities: Early Civilization (3)
HUM 122 Humanities: Medieval to Modern (3)
HUM 123 Humanities: The Modern World (3)
LIT 115 Introduction to Literature (3)
LIT 201 World Literature to 1600 (3)
LIT 202 World Literature after 1600 (3)
LIT 205 Ethnic Literature (3)
LIT 211 American Literature to Civil War (3)
LIT 212 American Literature after Civil War (3)
LIT 221 British Literature to 1770 (3)
LIT 222 British Literature since 1770 (3)
LIT 225 Introduction to Shakespeare (3)
LIT 246 Literature of Women (3)
LIT 268 Celtic Literature (3)

GT-AH3 (Ways of Thinking)
PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religions (3)
PHI 115 World Religions-West (3)
PHI 116 World Religions-East (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)
PHI 220 Philosophy of Death and Dying (3)

GT-AH4 (Foreign Languages (must be Intermediate/200 level))
FRE 211 French Language III (3)

FRE 212 French Language IV (3)
GER 211 German Language III (3)
GER 212 German language IV (3)
ITA 211 Italian Language III (3)
ITA 212 Italian Language IV (3)
JPN 211 Japanese Language III (3)
JPN 212 Japanese Language IV (3)
RUS 211 Russian Language III (3)
RUS 212 Russian Language IV (3)
SPA 211 Spanish Language III (3)
SPA 212 Spanish Language IV (3)

GT-CO1 (Intro. Writing Course)
ENG 121 English Composition I (3)

GT-CO2 (Intermediate Writing Course)
ENG 122 English Composition II (3)

GT-HI1 (History)
HIS 101 History of Western Civilization I (3)
HIS 102 History of Western Civilization II (3)
HIS 111 World Civilization I (3)
HIS 112 World Civilization II (3)
HIS 121 U.S. History to Reconstruction (3)
HIS 122 U.S. History Since Civil War (3)
HIS 201 (Course number changed to 121)
HIS 202 (Course number changed to 122)
HIS 205 Women in World History (3)
HIS 207 American Environmental History (3)
HIS 208 American Indian History (3)
HIS 215 Women in U.S. History (3)
HIS 225 Colorado History (3)
HIS 235 History of the American West (3)
HIS 236 U.S. History Since 1945 (3)
HIS 243 History of Modern China (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)
HIS 249 History of Islamic Civilizations (3)
HIS 251 The History of Christianity in the World (3)

GT-MA1 (Mathematics)
MAT 120 Mathematics for the Liberal Arts (4)
MAT 121 College Algebra (4)
MAT 122 College Trigonometry (3)
MAT 123 Finite Mathematics (4)
MAT 125 Survey of Calculus (4)
MAT 135 Introduction to Statistics (3)
MAT 201 Calculus I (5)
MAT 202 Calculus II (5)
MAT 204 Calculus III with Engineering Applications (5)
MAT 261 Differential Equations with Engineering Applications (4)

GT-SC1 (Course with Required Laboratory)
ANT 111 Biological Anthropology (4)
AST 101 Astronomy I w/Lab (4)
AST 102 Astronomy II w/Lab (4)
BIO 105 Science of Biology w/Lab (4)
BIO 111 General College Biology I w/Lab (5)
BIO 112 General College Biology II w/Lab (5)
BIO 201 Anatomy & Physiology I w/Lab (4)
BIO 202 Anatomy & Physiology II w/Lab (4)
BIO 204 Microbiology w/Lab (4)
BIO 220 General Zoology w/Lab (5)
BIO 221 Botany w/Lab (5)
CHE 101 Introduction to Chemistry I w/Lab (5)
CHE 111 General College Chemistry I w/Lab (5)
CHE 112 General College Chemistry II w/Lab (5)
ENV 101 Environmental Science w/Lab (4)
GEO 111 Physical Geography: Landforms w/Lab (4)
GEO 112 Physical Geography: Weather and Climate w/Lab (4)
GEY 111 Physical Geology w/Lab (4)
GEY 112 Historical Geology w/Lab (4)
GEY 135 Environmental Geology w/Lab (4)
MET 150 General Meteorology w/Lab (4)
NRE 251 General Oceanography w/Lab (4)
PHY 105 Conceptual Physics w/Lab (4)
PHY 107 Energy Science and Technology w/Lab (4)
PHY 111 Physics: Algebra-Based I w/Lab w/Lab (5)
PHY 112 Physics: Algebra-Based II w/ Lab (5)
PHY 211 Physics: Calculus-Based I w/Lab (5)
PHY 212 Physics: Calculus-Based II w/Lab (5)
SCI 155/SCI 156 Integrated Science I/II w/Lab (4/4) Students MUST successfully pass BOTH SCI 155 & 156 to satisfy the gtPathways science requirement. *Recommended for Teacher Education only.*

GT-SC2 (Course Without Required Laboratory)
AST 150 Astrobiology (3)
AST 155 Astronomy Ancient Cultures (3)
AST 160 Cosmology (3)
BIO 116 Introduction to Human Disease (3)
ENV 110 Natural Disasters (3)
GEY 108 Geology of National Parks (3)
SCI 105 Science in Society (3)

GT-SS1 (Economic or Political Systems)
ECO 101 Economics of Social Issues (3)
ECO 201 Principles of Macroeconomics (3)
ECO 202 Principles of Microeconomics (3)
ECO 245 Issues in Environmental Economics (3)
POS 105 Introduction to Political Science (3)
POS 111 American Government (3)
POS 125 American State and Local Gov. (3)
POS 205 International Relations (3)
POS 215 Current Political Issues (3)
POS 225 Comparative Government (3)

GT-SS2 (Geography)
GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)

GT-SS3 (Human Behavior, Culture, & Social Frameworks)
AGR 260 World Interdependence-Population and Food (3)
ANT 101 Cultural Anthropology (3)
ANT 102 Cultural Anthropology Lab (1)
ANT 103 Archaeology Lab (1)
ANT 104 Physical Anthropology Lab (1)
ANT 107 Introduction to Archaeology (3)

ANT 108 Archaeology of World Rock Art (3)
ANT 111 Biological Anthropology (4)
ANT 201 Introduction to Forensic Anthropology (3)
ANT 215 Indians of North America (3)
ANT 250 Medical Anthropology (3)
COM 220 Intercultural Communication (3)
CRJ 110 Introduction to Criminal Justice (3)
JOU 105 Introduction to Mass Media (3)
PSY 101 General Psychology I (3)
PSY 102 General Psychology II (3)
PSY 205 Psychology of Gender (3)
PSY 217 Human Sexuality (3)
PSY 226 Social Psychology (3)
PSY 227 Psychology of Death and Dying (3)
PSY 235 Human Growth and Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (3)
PSY 265 Psychology of Personality (3)
SOC 101 Introduction to Sociology I (3)
SOC 102 Introduction to Sociology II (3)
SOC 205 Sociology of Family Dynamics (3)
SOC 207 Environmental Sociology (3)
SOC 215 Contemporary Social Problems (3)
SOC 216 Sociology of Gender (3)
SOC 218 Sociology of Diversity (3)
SOC 220 Sociology of Religion (3)
SOC 231 Sociology of Deviant Behavior (3)
SOC 237 Sociology of Death and Dying (3)

AA Degree Requirements

Four-year college transfer guides are available via the CDHE website at:
http://highered.colorado.gov/Academics/Transfers/Guides/default.html

Statewide GT (Guaranteed Transfer) Courses (37-42 credits). Approved electives (18-23 credits). Total Credits (60 required).

Communication 3 courses (9 credits)
ENG 121 English Composition I, GT-CO1 (3)
ENG 122 English Composition II, GT-CO2 (3)
COM 115 Public Speaking (3)
or COM 125 Interpersonal Communication (3)
or COM 220 Intercultural Communication (3)
Note: Communication is a Colorado Community College System requirement and is in addition to the Statewide Guaranteed transfer (GT) courses.

Mathematics - GT-MA1 - 1 course (3-5 credits)
MAT 120 Mathematics for the Liberal Arts (4)
MAT 121 College Algebra (4)
MAT 122 College Trigonometry (3)
MAT 123 Finite Math (4)
MAT 125 Survey of Calculus (4)
MAT 135 Introduction to Statistics (3)
MAT 166 Pre-Calculus (5)
MAT 201 Calculus I (5)
MAT 202 Calculus II (5)
MAT 204 Calculus III with Engineering Applications (5)
MAT 261 Differential Equations with Engineering Applications (4)

Arts & Humanities - 2 courses (6 credits)
Choose two courses (must cover two AH categories).

• Arts and Expression - GT-AH1
ART 110 Art Appreciation (3)
ART 111 Art History: Ancient to Medieval (3)
ART 112 Art History: Renaissance to Modern (3)
ART 207 Art History: 1900 to Present (3)
DAN 125 History of Dance I (3)
MUS 120 Music Appreciation (3)
MUS 121 Music History: Medieval through Classical (3)
MUS 122 Music History: Romantic to Present (3)
MUS 123 Survey of World Music (3)
MUS 125 History of Jazz (3)
THE 105 Theatre Appreciation (3)
THE 108 Theatre Script Analysis (3)
THE 211 Development of Theatre: Greek-Renaissance (3)
THE 212 Development of Theatre: Restoration to Modern (3)
THE 215 Playwriting I (3)

• Literature and Humanities - GT-AH2
HUM 103 Introduction to Film Art (3)
HUM 115 World Mythology (3)
HUM 121 Humanities: Early Civilization (3)
HUM 122 Humanities: Medieval to Modern (3)
HUM 123 Humanities: The Modern World (3)
LIT 115 Introduction to Literature (3)
LIT 201 World Literature to 1600 (3)
LIT 202 World Literature after 1600 (3)
LIT 205 Ethnic Literature (3)
LIT 211 American Literature to Civil War (3)
LIT 212 American Literature after Civil War (3)
LIT 221 British Literature to 1770 (3)
LIT 222 British Literature since 1770 (3)
LIT 225 Introduction to Shakespeare (3)
LIT 246 Literature of Women (3)
LIT 268 Celtic Literature (3)

• Ways of Thinking - GT-AH3
PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religion (3)
PHI 115 World Religions: West (3)
PHI 116 World Religions: East (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)
PHI 220 Philosophy of Death and Dying (3)

• Foreign Languages - GT-AH4
Must be intermediate/200-level.
FRE 211 French Language III (3)
GER 211 German Language III (3)
ITA 211 Italian Language III (3)
JPN 211 Japanese Language III (3)
RUS 211 Russian Language III (3)
SPA 211 Spanish Language III (3)
FRE 212 French Language IV (3)
GER 212 German Language IV (3)
ITA 212 Italian Language IV (3)
JPN 212 Japanese Language IV (3)
RUS 212 Russian Language IV (3)
SPA 212 Spanish Language IV (3)

History - GT-H1 - 1 course (3 credits)
HIS 101 History of Western Civilization I (3)
HIS 102 History of Western Civilization II (3)
HIS 111 World Civilization I (3)
HIS 112 World Civilization II (3)
HIS 121 U.S. History to Reconstruction (3)
HIS 122 U.S. History Since Civil War (3)
HIS 205 Women in World History (3)
HIS 207 American Environmental History (3)
HIS 208 American Indian History (3)
HIS 215 Women in U.S. History (3)
HIS 225 Colorado History (3)
HIS 235 History of the American West (3)
HIS 236 U.S. History Since 1945 (3)
HIS 243 History of Modern China (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)
HIS 249 History of Islamic Civilizations (3)
HIS 251 The History of Christianity in the World (3)

Social & Behavioral Sciences - 2 courses (6 credits)
Choose two courses (must cover two SS categories).

• Economic & Political Systems - GT-SS1
ECO 101 Economics of Social Issues (3)
ECO 201 Principles of Macroeconomics (3)
ECO 202 Principles of Microeconomics (3)
ECO 245 Issues in Environmental Economics (3)
POS 105 Introduction to Political Science (3)
POS 111 American Government (3)
POS 125 American State and Local Gov. (3)
POS 205 International Relations (3)
POS 215 Current Political Issues (3)
POS 225 Comparative Government (3)

• Geography - GT-SS2
GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks - GT-SS3
AGR 260 World Interdependence: Population and Food (3)

ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archaeology (3)
ANT 108 Archaeology of World Rock Art (3)
ANT 201 Introduction to Forensic Anthropology (3)
ANT 215 Indians of North America (3)
ANT 250 Medical Anthropology (3)
COM 220 Intercultural Communication (3)
CRJ 110 Introduction to Criminal Justice (3)
JOU 105 Introduction to Mass Media (3)
PSY 101 General Psychology I (3)
PSY 102 General Psychology II (3)
PSY 205 Psychology of Gender (3)
PSY 217 Human Sexuality (3)
PSY 226 Social Psychology (3)
PSY 227 Psychology of Death and Dying (3)
PSY 235 Human Growth and Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (3)
PSY 265 Psychology of Personality (3)
SOC 101 Introduction to Sociology I (3)
SOC 102 Introduction to Sociology II (3)
SOC 205 Sociology of Family Dynamics (3)
SOC 207 Environmental Sociology (3)
SOC 215 Contemporary Social Problems (3)
SOC 216 Sociology of Gender (3)
SOC 218 Sociology of Diversity (3)
SOC 220 Sociology of Religion (3)
SOC 231 Sociology of Deviant Behavior (3)
SOC 237 Sociology of Death and Dying (3)

Student Choice - 1 course (3 credits)
Select one course from any guaranteed transfer course (listed above) from the Arts & Humanities (AH), History, (H1), or Social & Behavioral Sciences (SS) Category.

Natural & Physical Sciences - 2 courses (7-10 credits)
Choose two courses listed below (one must have a lab).
Courses without Lab GT-SC2:
AST 150 Astrobiology
AST 155 Astronomy of Ancient Cultures (3)
AST 160 Cosmology
BIO 116 Introduction to Human Disease (3)
ENV 110 Natural Disasters (3)
GEY 108 Geology of National Parks (3)
SCI 105 Science in Society (3)
Courses with Lab GT-SC1:
ANT 111 Biological Anthropology (4)
AST 101 Astronomy I w/Lab (4)
AST 102 Astronomy II w/Lab (4)
BIO 105 Science of Biology w/Lab (4)
BIO 111 General College Biology I w/Lab (5)
BIO 112 General College Biology II w/Lab (5)
BIO 201 Anatomy & Physiology I w/Lab (4)
BIO 202 Anatomy & Physiology II w/Lab (4)
BIO 204 Microbiology w/Lab (4)
BIO 220 General Zoology w/Lab (5)
BIO 221 Botany w/Lab (5)
CHE 101 Introduction to Chemistry I w/Lab (5)
CHE 111 General College Chemistry I w/Lab (5)
CHE 112 General College Chemistry II w/Lab (5)
ENV 101 Environmental Science w/Lab (4)
GEO 111 Physical Geography: Landforms w/Lab (4)
GEO 112 Physical Geography: Weather and Climate w/Lab (4)
GEY 111 Physical Geology w/Lab (4)
GEY 112 Historical Geology w/Lab (4)
GEY 135 Environmental Geology w/Lab (4)
MET 150 General Meteorology w/Lab (4)
NRE 251 General Oceanography w/Lab (4)
PHY 105 Conceptual Physics w/Lab (4)
PHY 107 Energy Science and Technology w/Lab (4)
PHY 111 Physics: Algebra-Based I w/Lab (5)
PHY 112 Physics: Algebra-Based II w/Lab (5)
PHY 211 Physics: Calculus-Based I w/Lab (5)
PHY 212 Physics: Calculus-Based II w/Lab (5)
SCI 155/156 Integrated Science I/II (4/4) *(Both must be taken to satisfy science credit. Recommended for Teacher Education only.)*

Approved AA Electives (18-23 credits)

These courses transfer to one or more of the public four-year colleges or universities in Colorado. All courses will count toward the AA degree. However, transferability depends on the four-year institution. Additional courses may be transferable. For specific information, please consult an advisor in the Advising Center.

Accounting	ACC 121 and 122
American Sign Language	ASL 121 and ASL 122
Anthropology	ANT-All courses
Art	ART-All courses
Astronomy	AST-All courses
Biology	BIO-All courses
Business	BUS 115, 216, 217 and 226
Chemistry	CHE-All courses
Communication Disorders	CMD-All courses
Communication	COM-All courses
Computer Information Systems	CIS 118, 240, 243, 268
Computer Science	CSC 119, 160, 161, 165, 225, 236, 237 and 240
Criminal Justice	CRJ 110 and above
Dance	DAN-All courses
(Some Dance courses may transfer as Physical Education courses.)	
Early Childhood Education	ECE 101, 205, 238, 241 and 260
Economics	ECO-All courses
Education	EDU-All courses above 200
English	ENG-All courses above 122
Environmental Science	ENV 101, and ENV 110
Foreign Language	FRE, GER, ITA, JPN, RUS, SPA-All courses except 101 and 102
Geography	GEO-All courses
Geology	GEY-All courses
Health and Wellness	HWE 100
History	HIS-All courses
Humanities	HUM-All courses
Journalism	JOU 105
Literature	LIT-All courses
Management	MAN 226
Marketing	MAR 216
Mathematics	MAT 120 and above
Meteorology	MET 150
Music	MUS-All courses
Natural Resources	NRE 251
Outdoor Education*	OUT-All courses
Philosophy	PHI-All courses
Physical Education*	PED-All courses
Physics	PHY-All courses
Political Science	POS-All courses
Psychology	PSY 101, 102, 110, 205, 215, 217, 226, 227, 235, 238, 240, 245, 249, and 265
Recreation*	REC-All courses
Science	SCI 105, 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

**Maximum 3 credits from OUT, PED, and/or REC may apply toward degree.*

Additional AA Catalog Requirements

The State-Guaranteed Colorado Community College General Education requirements and the Approved Elective Transferable courses have been incorporated into this AA degree. Completion of

the degree with a C or higher in every course guarantees that you can transfer, upon admission, to any Colorado public four-year college or university with the appropriate 60 transferable credits. Grades C or higher are required for all general education coursework. D grades for elective courses will count for degree completion, but will not transfer. In addition, a minimum 2.0 grade point average is required for degree completion. This is an open-ended degree plan, allowing you to tailor your coursework toward a particular transfer institution and/or major. Please refer to other degree offerings for specific articulations and designations.

When choosing general education requirements and electives, it is important to contact an advisor and the college or university where you intend to transfer. You will graduate under the catalog requirements listed for the semester in which you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) or more, and then return, the catalog pertaining to the semester of re-admission is the governing document. You may also choose to use the catalog that is in effect the semester you graduate. Be sure to obtain and keep a copy of the catalog governing your degree.

Other AA Degree Requirements

1. A minimum of 60 credits is required for the Associate of Arts Degree. This must include 37-42 credits in general education transfer courses, which includes COM 115, 125, or 220 (3 credits), and 18-23 credits in the areas specified above in approved electives.
2. You must complete 18-23 semester elective credits. These must be transferable courses and may include no more than 3 credits in Outdoor Education (OUT), Physical Education (PED), and/or Recreation (REC). Please see an advisor in your area of emphasis for specific course suggestions.
3. If you are planning to transfer to a four-year college or university, you should consult an advisor for assistance in planning your program of study. Also consult the Transfer Guide for GPA requirements of the college to which you are planning to transfer.
4. You must complete a minimum of 15 credits through Red Rocks Community College.
5. You must file an Application for Graduation during the term in which you intend to graduate, according to the deadline published in the class schedule for that term (submit to Student Records). You must apply to graduate within one year of completing degree requirements.
6. No more than 6 credits of independent study course work may be applied toward this degree.
7. There is no limit on special-topic courses allowed to count toward an AA degree. In individual cases, the limit will be determined by the program area. If you are taking special-topic courses, you should consult with your advisor regarding how these credits will apply toward a degree.
8. To earn multiple RRCC degrees, you must complete an additional 15 credits of coursework (above and beyond the original 60 credits required for the first degree) for each successive degree. These 15 credits must all apply toward the additional degree and must be completed through RRCC.
9. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AS Degree Requirements

Four-year college transfer guides are available via the CCHE website at:
http://highered.colorado.gov/Academics/Transfers/Guides/default.html

Statewide GT (Guaranteed Transfer) Courses (39-44 credits). Approved Electives (16-21 credits). Total Credits (60 required).

Communication - 3 courses (9 credits)
ENG 121 English Composition I, GT-CO1 (3)
ENG 122 English Composition II, GT-CO2 (3)
COM 115 Public Speaking (3)
or COM 125 Interpersonal Communication (3)
or COM 220 Intercultural Communication (3)
Note: Communication is a Colorado Community College System requirement and is in addition to the Statewide Guaranteed transfer (GT) courses

Mathematics -GT-MA1 - 1 course (3-5 credits)
MAT 121 College Algebra (4)
MAT 122 College Trigonometry (3)
MAT 135 Introduction to Statistics (3)
MAT 166 Pre-Calculus (5)
MAT 201 Calculus I (5)
MAT 202 Calculus II (5)
MAT 204 Calculus III with Engineering Applications (5)
MAT 261 Differential Equations with Engineering Applications (4)

Arts & Humanities - 2 courses (6 credits)
Choose two courses (must cover two AH categories).

• Arts & Expression - GT-AH1
ART 110 Art Appreciation (3)
ART 111 Art History: Ancient to Medieval (3)
ART 112 Art History: Renaissance to Modern (3)
ART 207 Art History: 1900 – Present (3)
DAN 125 History of Dance I (3)
MUS 120 Music Appreciation (3)
MUS 121 Music History: Medieval through Classical (3)
MUS 122 Music History: Romantic to Present (3)
MUS 123 Survey of World Music (3)
MUS 125 History of Jazz (3)
THE 105 Theatre Appreciation (3)
THE 108 Theatre Script Analysis (3)
THE 211 Development of Theatre: Greek-Renaissance (3)
THE 212 Development of Theatre: Restoration to Modern (3)
THE 215 Playwriting I (3)

• Literature & Humanities - GT-AH2
HUM 103 Introduction to Film Art (3)
HUM 115 World Mythology (3)
HUM 121 Humanities: Early Civilization (3)
HUM 122 Humanities: Medieval to Modern (3)
HUM 123 Humanities: The Modern World (3)
LIT 115 Introduction to Literature (3)
LIT 201 World Literature to 1600 (3)
LIT 202 World Literature after 1600 (3)
LIT 205 Ethnic Literature (3)
LIT 211 American Literature to Civil War (3)
LIT 212 American Literature after Civil War (3)
LIT 221 British Literature to 1770 (3)
LIT 222 British Literature since 1770 (3)
LIT 225 Introduction to Shakespeare (3)
LIT 246 Literature of Women (3)

LIT 268 Celtic Literature (3)

• Ways of Thinking - GT-AH3
PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religions (3)
PHI 115 World Religions: West (3)
PHI 116 World Religions: East (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)
PHI 220 Philosophy of Death and Dying (3)

• Foreign Languages - GT-AH4
Must be intermediate/200-level.
FRE 211 French Language III (3)
GER 211 German Language III (3)
ITA 211 Italian Language III (3)
JPN 211 Japanese Language III (3)
RUS 211 Russian Language III (3)
SPA 211 Spanish Language III (3)
FRE 212 French Language IV (3)
GER 212 German Language IV (3)
ITA 212 Italian Language IV (3)
JPN 212 Japanese Language IV (3)
RUS 212Russian Language IV (3)
SPA 212 Spanish Language IV (3)

History -GT-AH1 - 1 course (3 credits)
HIS 101 History of Western Civilization I (3)
HIS 102 History of Western Civilization II (3)
HIS 111 World Civilization I (3)
HIS 112 World Civilization II (3)
HIS 121 U.S. History to Reconstruction (3)
HIS 122 U.S. History Since Civil War (3)
HIS 205 Women in World History (3)
HIS 207 American Environmental History (3)
HIS 208 American Indian History (3)
HIS 215 Women In U.S. History (3)
HIS 225 Colorado History (3)
HIS 235 History of the American West (3)
HIS 236 U.S. History Since 1945 (3)
HIS 243 History of Modern China (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)
HIS 249 History of Islamic Civilizations (3)
HIS 251 The History of Christianity in the World (3)

Social & Behavioral Sciences - 2 courses (6 credits)
Choose two courses (must cover two SS categories).

• Economic & Political Systems - GT-SS1
ECO 101 Economics of Social Issues (3)
ECO 201 Principles of Macroeconomics (3)
ECO 202 Principles of Microeconomics (3)
ECO 245 Issues in Environmental Economics (3)
POS 105 Introduction to Political Science (3)
POS 111 American Government (3)
POS 125 American State and Local Government (3)
POS 205 International Relations (3)
POS 215 Current Political Issues (3)
POS 225 Comparative Government (3)

• Geography - GT-SS2
GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks - GT-SS3
AGR 260 World Interdependence: Population and Food (3)
ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archaeology (3)
ANT 108 Archaeology of World Rock Art (3)
ANT 201 Introduction to Forensic Anthropology (3)
ANT 215 Indians of North America (3)
ANT 250 Medical Anthropology (3)
COM 220 Intercultural Communication (3)
CRJ 110 Introduction to Criminal Justice (3)
JOU 105 Introduction to Mass Media (3)
PSY 101 General Psychology I (3)
PSY 102 General Psychology II (3)
PSY 205 Psychology of Gender (3)
PSY 217 Human Sexuality (3)
PSY 226 Social Psychology (3)
PSY 227 Psychology of Death and Dying (3)
PSY 235 Human Growth and Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (3)
PSY 265 Psychology of Personality (3)
SOC 101 Introduction to Sociology I (3)
SOC 102 Introduction to Sociology II (3)
SOC 205 Sociology of Family Dynamics (3)
SOC 207 Environmental Sociology (3)
SOC 215 Contemporary Problems (3)
SOC 216 Sociology of Gender (3)
SOC 218 Sociology of Diversity (3)
SOC 220 Sociology of Religion (3)
SOC 231 Sociology of Deviant Behavior (3)
SOC 237 Sociology of Death and Dying (3)

Natural & Physical Sciences w/Lab - GT-SC1 - 3 courses (12-15 credits)
Choose three courses (two courses must be in sequence).
AST 101 Astronomy I w/Lab (4)
AST 102 Astronomy II w/Lab (4)
BIO 111 General College Biology I w/Lab (5)
BIO 112 General College Biology II w/Lab (5)
BIO 201 Anatomy & Physiology I w/Lab (4)
BIO 202 Anatomy & Physiology II w/Lab (4)
BIO 204 Microbiology w/Lab (4)
BIO 220 General Zoology w/Lab (5)
BIO 221 Botany w/Lab (5)
CHE 111 General College Chemistry I w/Lab (5)
CHE 112 General College Chemistry II w/Lab (5)
ENV 101 Environmental Science w/Lab (4)
GEO 111 Physical Geography: Landforms w/Lab (4)
GEO 112 Physical Geography: Weather & Climate w/Lab (4)
GEY 111 Physical Geology w/Lab (4)
GEY 112 Historical Geology w/Lab (4)
GEY 135 Environmental Geology w/Lab (4)
MET 150 General Meteorology w/Lab (4)
NRE 251 General Oceanography w/Lab (4)
PHY 111 Physics: Algebra Based I w/Lab (5)
PHY 112 Physics: Algebra Based II w/Lab (5)
PHY 211 Physics: Calculus Based I w/Lab (5)
PHY 212 Physics: Calculus Based II w/Lab (5)

Approved AS Electives (16-21 credits)

These courses transfer to one or more of the public four-year colleges or universities in Colorado. All courses will count toward the AS degree. However, transferability depends on the four-year institution. Additional courses may be transferable. For specific information, please consult an advisor in the Advising Center.

In addition to general education courses, you must complete an additional 16-21 credits of approved electives, **14 credits of which are to be taken from any of the science or math courses listed below. These include AST, BIO, CHE, CSC, ENV, GEO 111 & GEO 112, GEY, MAT, MET, NRE, and PHY.** Please see an advisor in your program of study for specific course suggestions. Credits earned above the minimum to satisfy a requirement may be applied to a different area.

Approved Science and Math electives - a minimum of 14 credits are required

Astronomy	AST-All courses
Biology	BIO-All courses except 105, 106, and 116
Chemistry	CHE-All courses
Computer Science	CSC 119, 160, 161, 165, 225, 236, 237 and 240
Engineering Graphics Technology	EGT 140: IDEA *(transfers to Colorado School of Mines for EPICS I.)*
Environmental Science	ENV 101 and ENV 110
Geography	GEO 111 and GEO 112
Geology	GEY 111 and above
Mathematics	MAT 121 and above except 123, 125, 155, and 156. *Note: MAT 135 is only recommended for students in health career programs.*
Meteorology	MET 150
Natural Resources	NRE 251
Physics	PHY-All courses except 105 and 107

Additional approved electives may be taken in addition to the 14 credits from Science and Math

American Sign Language	ASL 121 and ASL 122
Anthropology	ANT-All courses
Communication	COM-All courses
Communication Disorders	CMD-All courses

(CMD courses may not apply to some four-year degree programs.)

Computer Information Systems	CIS 118, 240, 243, 268
Economics	ECO-All courses
English	ENG-All courses above 122
Foreign Language	FRE, GER, ITA, JPN, RUS, SPA-All courses except 101 and 102
Geography	GEO-All courses except 111 and 112
Health and Wellness	HWE 100
Psychology	PSY 235

Additional AS Catalog Requirements

The State-Guaranteed Colorado Community College General Education requirements and the Approved Elective Transferable courses have been incorporated into this AS degree. Completion of the degree with a C or higher in every course guarantees that you can transfer, upon admission, to any Colorado public four-year college or university with 60 transferable credits. Grades C or higher are required for all general education coursework. D grades for elective courses will count for degree completion but will not transfer. In addition, a minimum 2.0 grade point average is required for degree completion. This is an open-ended degree plan, allowing you to tailor your coursework toward a particular transfer institution and/or major. Please refer to other degree offerings for specific articulations and designations.

When choosing general education requirements and electives, it is important to contact an advisor and the college or university where you intend to transfer. You will graduate under the catalog requirements listed for the semester in which you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) or more, and then return, the catalog pertaining to the semester of re-admission is the governing document. Also you may choose to use the catalog that is in effect the semester you graduate. Be sure to obtain and keep a copy of the catalog governing your degree.

Other AS Degree Requirements

1. A minimum of 60 credits is required for the Associate of Science Degree. This must include 39-44 credits in general education transfer courses, which includes COM 115, COM 125, or COM 220 (3 credits), and 16-21 credits in the areas specified above in approved electives.
2. If you are planning to transfer to a four-year college or university, consult an advisor for assistance in planning your program of study. Also consult the Transfer Guide for GPA requirements of the college to which you are planning to transfer.
3. You must complete a minimum of 15 credits through Red Rocks Community College.
4. You must file an Application for Graduation during the term in which you intend to graduate, according to the deadline published in the class schedule for that term (submit to Student Records). You must apply to graduate within one year of completing degree requirements.
5. No more than 6 credits of independent study course work may be applied toward an associate degree program.
6. There is no limit on special-topic courses allowed to count toward an AS degree. In individual cases, the limit will be determined by the program area. If you are taking special-topic courses, consult with your advisor regarding how these credits will apply toward a degree.
7. To earn multiple RRCC degrees, you must complete an additional 15 credits of coursework (above and beyond the original 60 credits required for the first degree) for each successive degree. These 15 credits must all apply toward the additional degree and must be completed through RRCC.
8. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AGS – Generalist Degree Requirements

General Education Requirements (15 credits). Transferable electives (15 credits). General electives (30 credits). Select any courses numbered 100 or higher. Total Credits (60 required).

The AGS generalist degree is available if you would like to complete a broad program of both college transfer and/or career courses without the constraints of specialization. The AGS general education course requirements transfer to all public baccalaureate colleges and universities in Colorado. Career courses within this degree may be accepted in a four-year baccalaureate program; however, each course will be considered on an individual basis.

Communication (3 credits)
ENG 121 English Composition I (3)
ENG 122 English Composition II (3)
COM 115 Public Speaking (3)
COM 125 Interpersonal Communication (3)
COM 220 Intercultural Communication (3)

Mathematics (3 credits minimum)
MAT 120 Mathematics for the Liberal Arts (4)

MAT 121 College Algebra (4)
MAT 122 College Trigonometry (3)
MAT 123 Finite Math (4)
MAT 125 Survey of Calculus (4)
MAT 135 Introduction to Statistics (3)
MAT 166 Pre-Calculus (5)
MAT 201 Calculus I (5)
MAT 202 Calculus II (5)
MAT 204 Calculus III with Engineering Applications (5)
MAT 261 Differential Equations with Engineering Applications (4)

Arts & Humanities (3 credits)
ART 110 Art Appreciation (3)
ART 111 Art History: Ancient to Medieval (3)
ART 112 Art History: Renaissance to Modern (3)
ART 207 Art History: 1900 – Present (3)
DAN 125 History of Dance I (3)
FL 211 and FL 212
HUM 103 Introduction to Film Art (3)
HUM 115 World Mythology (3)
HUM 121 Humanities: Early Civilization (3)
HUM 122 Humanities: Medieval to Modern (3)
HUM 123 Humanities: The Modern World (3)
LIT 115 Introduction to Literature (3)
LIT 201 World Literature to 1600 (3)
LIT 202 World Literature after 1600 (3)
LIT 205 Ethnic Literature (3)
LIT 211 American Literature to Civil War (3)
LIT 212 American Literature after Civil War (3)
LIT 221 British Literature to 1770 (3)
LIT 222 British Literature since 1770 (3))
LIT 225 Introduction to Shakespeare (3)
LIT 246 Literature of Women (3)
LIT 268 Celtic Literature (3)
MUS 120 Music Appreciation (3)
MUS 121 Music History: Medieval through Classical (3)
MUS 122 Music History: Romantic to Present (3)
MUS 123 Survey of World Music (3)
MUS 125 History of Jazz (3)
PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religions (3)
PHI 115 World Religions: West (3)
PHI 116 World Religions: East (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)
PHI 220 Philosophy of Death and Dying (3)
THE 105 Theatre Appreciation (3)
THE 108 Theatre Script Analysis (3)
THE 211 Development of Theatre: Greek-Renaissance (3)
THE 212 Development of Theatre: Restoration to Modern (3)
THE 215 Playwriting I (3)

Social & Behavioral Sciences (3 credits)
AGR 260 World Interdependence: Population and Food (3)
ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archaeology (3)
ANT 108 Archaeology of World Rock Art (3)
ANT 201 Introduction to Forensic Anthropology (3)
ANT 215 Indians of North America (3)
ANT 250 Medical Anthropology (3)
COM 220 Intercultural Communication (3)
CRJ 110 Introduction to Criminal Justice (3)
ECO 101 Economics of Social Issues (3)
ECO 201 Principles of Macroeconomics (3)
ECO 202 Principles of Microeconomics (3)
ECO 245 Issues in Environmental Economics (3)
GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)
HIS 101 History of Western Civilization I (3)
HIS 102 History of Western Civilization II (3)
HIS 111 World Civilization I (3)
HIS 112 World Civilization II (3)
HIS 121 U.S. History to Reconstruction (3)
HIS 122 U.S. History Since Civil War (3)
HIS 205 Women in World History (3)
HIS 207 American Environmental History (3)
HIS 208 American Indian History (3)
HIS 215 Women In U.S. History (3)
HIS 225 Colorado History (3)
HIS 235 History of the American West (3)
HIS 236 U.S. History Since 1945 (3)
HIS 243 History of Modern China (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)
HIS 249 History of Islamic Civilizations (3)
HIS 251 The History of Christianity in the World (3)
JOU 105 Introduction to Mass Media (3)
POS 105 Introduction to Political Science (3)
POS 111 American Government (3)
POS 125 American State and Local Government (3)
POS 205 International Relations (3)
POS 215 Current Political Issues (3)
POS 225 Comparative Government (3)
PSY 101 General Psychology I (3)
PSY 102 General Psychology II (3)
PSY 205 Psychology of Gender (3)
PSY 217 Human Sexuality (3)
PSY 226 Social Psychology (3)
PSY 227 Psychology of Death and Dying (3)
PSY 235 Human Growth and Development (3)
PSY 238 Child Development (3)
PSY 249 Abnormal Psychology (3)
PSY 265 Psychology of Personality (3)
SOC 101 Introduction to Sociology I (3)
SOC 102 Introduction to Sociology II (3)
SOC 205 Sociology of Family Dynamics (3)
SOC 207 Environmental Sociology (3)
SOC 215 Contemporary Problems (3)
SOC 216 Sociology of Gender (3)
SOC 218 Sociology of Diversity (3)
SOC 220 Sociology of Religion (3)
SOC 231 Sociology of Deviant Behavior (3)
SOC 237 Sociology of Death and Dying (3)

Natural & Physical Sciences (3 credits minimum)
Courses without Lab:
AST 150 Astrobiology (3)
AST 155 Astronomy of Ancient Cultures (3)
AST 160 Cosmology (3)
BIO 116 Introduction to Human Disease (3)
ENV 110 Natural Disasters (3)
GEY 108 Geology of National Parks (3)
SCI 105 Science in Society (3)
Courses with Lab:
ANT 111 Biological Anthropology (4)
AST 101 Astronomy I w/Lab (4)
AST 102 Astronomy II w/Lab (4)
BIO 105 Science of Biology w/Lab (4)
BIO 111 General College Biology I w/Lab (5)
BIO 112 General College Biology II w/Lab (5)
BIO 201 Anatomy & Physiology I w/Lab (4)
BIO 202 Anatomy & Physiology II w/Lab (4)
BIO 204 Microbiology w/Lab (4)
BIO 220 General Zoology w/Lab (5)
BIO 221 Botany w/Lab (5)
CHE 101 Introduction to Chemistry I w/Lab (5)
CHE 111 General College Chemistry I w/Lab (5)
CHE 112 General College Chemistry II w/Lab (5)
ENV 101 Environmental Science w/Lab (4)
GEO 111 Physical Geography: Landforms w/Lab (4)
GEO 112 Physical Geography: Weather and Climate w/Lab (4)
GEY 111 Physical Geology w/Lab (4)

GEY 112 Historical Geology w/Lab (4)
GEY 135 Environmental Geology w/Lab (4)
MET 150 General Meteorology w/Lab (4)
NRE 251 General Oceanography w/Lab (4)
PHY 105 Conceptual Physics w/Lab (4)
PHY 107 Energy Science and Technology w/Lab (4)
PHY 111 Physics: Algebra Based I w/Lab (5)
PHY 112 Physics: Algebra Based II w/Lab (5)
PHY 211 Physics: Calculus Based I w/Lab (5)
PHY 212 Physics: Calculus Based II w/Lab (5)
SCI 155 Integrated Science I (4)
SCI 156 Integrated Science II (4)

Additional AGS – Generalist Catalog Requirements

Grades C or higher are required for all general education coursework. D grades for elective courses will count for degree completion, but will not transfer. In addition, a minimum 2.0 grade point average is required for degree completion. This excludes designations and articulations in Business, Economics, Early Childhood Education, Elementary Education, Engineering, Mathematics, Psychology, and Spanish because special articulation agreements or designations exist for these fields of study.

When choosing general education requirements and electives, it is important to contact an advisor and the college or university where you intend to transfer. You will graduate under the catalog requirements listed for the semester in which you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) or more, and then return, the catalog pertaining to the semester of re-admission is the governing document. You may also choose to use the catalog that is in effect the semester you graduate. Be sure to obtain and keep a copy of the catalog governing your degree. Courses numbered below 100 will not apply toward this degree.

Approved AGS – Generalist Degree Electives

These courses transfer to one or more of the public four-year colleges or universities in Colorado. All courses will count toward the AGS degree. However, transferability depends on the four-year institution. Additional courses may be transferable. For specific information, please consult an advisor in the Advising Center.

Note: Courses numbered below 100 will not apply to any degree.

Accounting	ACC 121 and 122
American Sign Language	ASL-All courses except 101 and 102
Anthropology	ANT-All courses
Art	ART-All courses
Astronomy	AST-All courses
Biology	BIO-All courses
Business	BUS 115, 216, 217 and 226
Chemistry	CHE-All courses
Communication Disorders	CMD-All courses
Communication	COM-All courses
Computer Info. Systems	CIS 118, 240, 243, 268
Computer Science	CSC 119, 160, 161, 165, 225, 236, 237 and 240
Criminal Justice	CRJ 110 and above
Dance	DAN-All courses
(Some Dance courses may transfer as Physical Education courses)	
Early Childhood Education	ECE 101, 205, 238, 241 and 260
Economics	ECO-All courses
Education	EDU-All courses above 200
English	ENG-All courses above 122
Environmental Science	ENV 101, and ENV 110
Foreign Language	FRE, GER, ITA,JPN, RUS, SPA-All courses except 101 and 102
Geography	GEO-All courses
Geology	GEY-All courses
Health and Wellness	HWE 100
History	HIS-All courses
Humanities	HUM-All courses
Journalism	JOU 105
Literature	LIT-All courses
Management	MAN 226
Marketing	MAR 216
Mathematics	MAT 120 and above
Meteorology	MET 150
Music	MUS-All courses
Outdoor Education *	OUT-All courses
Philosophy	PHI-All courses
Physical Education *	PED-All courses
Recreation *	REC-All courses
Physics	PHY-All courses
Political Science	POS-All courses
Psychology	PSY 101, 102, 110, 205, 215, 217, 226, 227, 235, 238, 240, 245, 249, and 265
Science	SCI 105, SCI 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

**Maximum 3 credits from OUT, PED, and/or REC may apply toward degree.*

Many four-year college transfer guides are available via the CCHE website at:
http://highered.colorado.gov/Academics/Transfers/Guides/default.html

Other AGS – Generalist Degree Requirements

1. A minimum of 60 credits is required for the Associate of General Studies Generalist Degree.
2. You must complete 14 transferable elective credits which may include 3 credits in Outdoor Education (OUT), Physical Education (PED), and/or Recreation (REC). Please see an advisor in your area of emphasis for specific course suggestions.
3. If you are planning to transfer to a four-year college or university, you should consult an advisor for assistance in planning your program of study. Also consult the Transfer Guide for GPA requirements of the college to which you are planning to transfer.
4. You must complete a minimum of 15 credits through Red Rocks Community College.
5. To graduate, file an Application for Graduation during the term in which you intend to graduate, according to the deadline published in the class schedule for that term. You must apply to graduate within one year of completing degree requirements.
6. No more than 6 credits of independent study course work may be applied toward this degree.
7. There is no limit on special-topic courses allowed to count toward an AGS degree. In individual cases, the limit will be determined by the program area. If you are taking special-topic courses, you should consult with your advisor regarding how these credits will apply toward a degree.
8. To earn multiple RRCC degrees, you must complete an additional 15 credits of coursework (above and beyond the original 60 credits required for the first degree) for each

successive degree. These 15 credits must all apply toward the additional degree and must be completed through RRCC.

9. With the approval of a faculty advisor and an instructional vice president, up to 3 credits of internship may apply toward this degree.

Statewide Transfer Articulation Agreements/Degrees With Designation (DWD)

A Statewide Transfer Articulation Agreement is an agreement among Colorado community colleges and universities. These agreements allow you to graduate from a community college with a 60-credit Associate of Arts (AA) or Associate of Science (AS) degree with designation, such as an Associate of Arts in Business; enroll with junior status at a university; and complete the bachelor's degree in no more than an additional 60 credits (for a total of 120 credits). If you attend full-time (15 credits per semester) and follow the structured schedule, you can complete your bachelor's degree in four years.

Catalog DWD Program Requirements

The State-Guaranteed Colorado Community College General Education requirements and the Approved Elective Transferable courses have been incorporated into the AA and AS Designated degrees. Completion of the degree with a grade of C or higher in every course guarantees that you can transfer, upon admission, to specific Colorado public four-year colleges or universities with the appropriate 60 transferable credits. A minimum 2.0 cumulative grade point average (GPA) is required for degree completion.

You will graduate under the catalog requirements listed for the semester in which you were first enrolled. If you interrupt attendance for two consecutive semesters or more (excluding summer term) and then return, the catalog pertaining to the semester of re-admission is the governing document. You may also choose to use the catalog that is in effect the semester you graduate. Be sure to keep a copy of the appropriate catalog for your degree.

All AA and AS Designated Degree requirements:

- If you are planning to transfer to a four-year college or university, you should consult an advisor for assistance in planning your program of study. Also consult the transfer guide for GPA requirements of the college to which you are planning to transfer.
- You must complete a minimum of 15 credits through Red Rocks Community College.
- You must file an Application for Graduation during the term in which you intend to graduate, according to the deadline published in the class schedule for that term. You must apply to graduate within one year of completing degree requirements.
- No more than 6 credits of independent study course work may be applied toward this degree.
- There is no limit on special-topic courses allowed to count toward an AA degree. In individual cases, the limit will be determined by the program area. If you are taking special-topic courses, you should consult with your advisor regarding how these credits will apply toward a degree.
- To earn multiple RRCC degrees, you must complete an additional 15 credits of coursework (above and beyond the original 60 credits required for the first degree) for each successive degree. These 15 credits must all apply toward the additional degree and must be completed through RRCC.
- With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.
- All coursework must be completed within ten years of the date of graduation from Red Rocks Community College.

All Statewide Articulation Agreements can be found on the Colorado Department of Higher Education website: **http://highered.colorado.gov/Academics/Transfers/Students.html.**

AA Degrees With Designation

Anthropology on page 48
Art History on page 49
Business on page 49
Communication on page 50
Criminal Justice on page 50
Economics on page 51
English (Literature Emphasis) on page 51
French on page 51
Geography on page 52
History on page 52
Music on page 53
Philosophy on page 53
Political Science on page 53
Psychology on page 54
Sociology on page 54
Spanish on page 55
Studio Art on page 55
Theatre on page 56

AS Degrees With Designation

Biology on page 56
Chemistry on page 56
Geology on page 57
Mathematics on page 57
Physics on page 58
Psychology on page 58

AA - Anthropology Designated Degree Requirements

Courses that Fulfill General Education Requirements (33 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (4 credits)
MAT 121 College Algebra (GT-MA1)

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1)

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1) See GT Courses on page 37

Additional Required Courses (21 credits)

- COM 115 Public Speaking
  or COM 125 Interpersonal Communication
  or COM 220 Intercultural Communication
- One gtPathways Arts & Humanities course (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37
- ANT 101 Cultural Anthropology (GT-SS3)
- ANT 107 Introduction to Archaeology (GT-SS3)
- ANT 111 Biological Anthropology (GT-SS3) *Note: Some receiving institutions require a lab (ANT 104) to be taken with this course; please consult with the receiving institution.*
- One gtPathways ANT course in Social & Behavioral Sciences (GT-SS3) See GT Courses on page 37
- One gtPathways Social & Behavioral Sciences course (must be GT-SS2 or GT-SS3) See GT Courses on page 37

Electives (6 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

Please note: Additional ANT courses beyond the four courses (12 credit hours) identified above may not count toward the Anthropology major at the receiving four-year institution.

AA - Art History Designated Degree Requirements

Courses that Fulfill General Education Requirements (31-33 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3-4 credits)
One 3 credit or 4 credit gtPathways Mathematics course (GT-MA1) See GT Courses on page 37

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37. Except the courses listed in the Additional Required Courses section below.

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7-8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2) See GT Courses on page 37. One of these courses must have the required laboratory (GT-SC1)

Additional Required Courses (18 credits)

- ART 111 Art History: Ancient to Medieval (GT-AH1)
- ART 112 Art History: Renaissance to Modern (GT-AH1)
- ART 121 Drawing I
- ART 131 Visual Concepts: 2-D Design
- ART 132 Visual Concept: 3-D Design
- ART 207 Art History: 1900 to Present (GT-AH1)

Electives (9-11 credits)

Students planning to transfer to CSU-Ft. Collins will be required to complete a 200-level foreign language for completion of the BA in Art–Art History. Students will be expected to be prepared upon completion of the associate's degree to take an intermediate foreign language or be able to pass the CSU-Ft. Collins 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. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Business Designated Degree Requirements

Courses that Fulfill General Education Requirements (37 credits).

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (8 credits)
MAT 121 College Algebra (GT-MA1)
  or MAT 123 Finite Mathematics (GT-MA1)
MAT 125 Survey of Calculus (GT-MA1)
  or a higher level Calculus course

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
ECO 201 Principles of Macroeconomics (GT-SS1)
ECO 202 Principles of Microeconomics (GT-SS1)

Natural & Physical Sciences (8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2) See GT Courses on page 37

Additional Required Courses (23 credits)

- ACC 121 Accounting Principles I (4)
- ACC 122 Accounting Principles II (4)
- BUS 115 Introduction to Business (3)
- BUS 216 Legal Environment of Business (3)
- BUS 217 Business Communication and Report Writing (3)

• BUS 226 Business Statistics (3)
• COM 115 Public Speaking (3)

Total Credits (60)

AA - Communication Designated Degree Requirements

Courses that Fulfill General Education Requirements (31 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
One gtPathways Mathematics course (GT-MA1) See GT Courses on page 37

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
COM 220 Intercultural Communication (GT-SS3)
and
One gtPathways Social & Behavioral Sciences course (GT-SS1, GT-SS2, or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2) See GT Courses on page 37. One course must be with required laboratory.

Additional Required Courses (18 credits)

Please note: If these credits are not required for the major at a receiving four-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.

• COM 115 Public Speaking
• COM 125 Interpersonal Communication
• COM 217 Group Communication
• Choose two (2) gtPathways courses (total of 6 credits) from either:
  History (GT-HH1) See GT Courses on page 37
  or
  Social & Behavioral Sciences (GT-SS1, GT-SS2. or GT-SS3) See GT Courses on page 37
• Choose one (1) three-credit course with a COM prefix (See COM courses)

Electives (11 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

Please note: Additional COM courses beyond the four courses (12 credit hours) identified above in the Additional Required Courses section may not count toward the Communication major at the receiving four-year institution.

AA - Criminal Justice Designated Degree Requirements

Courses that Fulfill General Education Requirements (33 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (4 credits)
MAT 121 College Algebra (GT-MA1)

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses from two (2) different categories (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
SOC 101 Introduction to Sociology (GT-SS3) See GT Courses on page 37
and
One gtPathways Social & Behavioral Sciences course (GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One (1) course must be lab-based (GT-SC1) See GT Courses on page 37

Additional Required Courses (27 credits)

• COM 115 Public Speaking
  or COM 125 Interpersonal Communication
• CRJ 110 Introduction to Criminal Justice System
• CRJ 125 Policing Systems
• CRJ 145 Correctional Process
• Choose two (2) courses from the following:
  CRJ 127 Crime Scene Investigation
  CRJ 135 Judicial Functions
  CRJ 205 Principles of Criminal Law
  CRJ 209 Criminal Investigations
  CRJ 230 Criminology
  CRJ 231 Introduction to Forensic Science and Criminalistics
  CRJ 235 Delinquent Behavior
  CRJ 236 Criminal Justice Research Methods
  CRJ 257 Victimology
  CRJ 268 Criminal Profiling
• Choose three (3) courses from the following*:
  ANT 201 Introduction to Forensic Anthropology
  CNG 258 Computer Forensics
  COM 217 Group Communication
  COM 225 Organizational Communications
  POS 111 American Government
  POS 125 American State and Local Government
  PSY 207 Introduction to Forensic Psychology
  PSY 217 Human Sexuality
  PSY 226 Social Psychology
  PSY 249 Abnormal Psychology
  SOC 231 Sociology of Deviant Behavior

**If these courses are applied to this second section of the Prescribed Curriculum (Additional Required Courses) for credit, they may not be applied to the first section of the Prescribed Curriculum (General Education Requirements) for credit.*

Electives (0 credits)

Total Credits (60)

AA - Economics Designated Degree Requirements

Courses that Fulfill General Education Requirements (37 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (5 credits)
MAT 201 Calculus I (GT-MA1))

Arts & Humanities (9 credits)
Three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
ECO 201 Principles of Macroeconomics (GT-SS1)
ECO 202 Principles of Microeconomics (GT-SS1)

Natural & Physical Sciences (8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2) See GT Courses on page 37

Additional Required Courses (3 credits)
MAT 135 Introduction to Statistics

Electives (20 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - English (Literature Emphasis) Designated Degree

Courses that Fulfill General Education Requirements (34 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
MAT 120 or higher. One gtPathways Mathematics course (GT-MA1), but not MAT 155 or MAT 156. MAT 120 is recommended.

Arts & Humanities (9 credits)
Three gtPathways Arts & Humanities courses. (NOTE: These courses may only come from GT-AH1, GT-AH2, GT-AH3, GT-AH4 categories.) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses, one must be with laboratory (GT-SC1) See GT Courses on page 37

Additional Required Courses (18 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- COM 115 Public Speaking
  or COM 125 Interpersonal Communication
  or COM 225 Organizational Communication
- Five gtPathways Arts & Humanities LITERATURE (LIT) courses within the GT-AH2 category. See GT Courses on page 37
  NOTE: Students are required to take a total of 5 (five) LIT courses (15 credits), 4 (four) of which must be at the 200-level. Please consult with your receiving institution regarding best choices for literature courses.

Electives (8 credits)

Recommended elective: ENG 221 Creative Writing. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - French Designated Degree Requirements

Courses that Fulfill General Education Requirements (31 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3-4 credits)
One gtPathways Mathematics course (GT-MA1), but not MAT 155 or MAT 156. See GT Courses on page 37

Arts & Humanities (9 credits)
FRE 211 French Language III (GT-AH4)
FRE 212 French Language IV (GT-AH4)
One gtPathways Arts & Humanities course (GT-AH1, GT-AH2, GT-AH3) See GT Courses on page 37

History (3 credits)
One gtPathways non-U.S. History course (GT-AH1). *Note: CSU-Ft. Collins requires two non-U.S. History courses.*

Social & Behavioral Sciences (3 credits)
One gtPathways Social & Behavioral Sciences course (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2) See GT Courses on page 37

Additional Required Courses (10 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- FRE 111 French Language I

• FRE 112 French Language II
Note: FRE 111 and/or FRE 112 may be waived, based on a student's proficiency level.

Electives (19 credits)

Please note: It is recommended, but not required, that a student take either COM 115 Public Speaking or COM 125 Interpersonal Communications. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Geography Designated Degree Requirements

Courses that Fulfill General Education Requirements (32-33 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3-4 credits)
MAT 135 Introduction to Statistics (GT-MA1)
or MAT 121 College Algebra (GT-MA1)
Please note: For Adams State, students must take MAT 121 College Algebra.

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1 or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1 only) See GT Courses on page 37. *Please note:* No *GEO prefix science courses. GEY 111 Physical Geology* not *recommended. For Adams State, students* must *take BIO 111 General College Biology I, GT-SC1 and CHE 101 Introduction to Chemistry I, GT-SC1).*

Additional Required Courses (14 credits)

Please note: If these credits are not required for the major at a receiving four-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.
• GEO 111 Physical Geography: Landforms (GT-SC1)
• GEO 112 Physical Geography: Weather and Climate (GT-SC1)
• GEO 105 World Regional Geography (GT-SS2)
• GEO 106 Human Geography (GT-SS2)

Electives (13-14 credits)

Maximum of six (6) credits may be in GEO or GIS prefix. Number of elective credits may vary according to receiving institution. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - History Designated Degree Requirements

Courses that Fulfill General Education Requirements (34 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3-5 credits)
One gtPathways Mathematics course (GT-MA1), but not MAT 155 or 156. See GT Courses on page 37

Arts & Humanities (9 credits)
Three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
HIS 101 Western Civilization: Antiquity-1650 (GT-HI1)
or HIS 111 The World: Antiquity-1500 (GT-HI1).
Students planning to transfer to University of Colorado-Boulder must take either HIS 101 or HIS 102 to fulfill this requirement.

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2) See GT Courses on page 37. *One course must be with required lab.*

Additional Required Courses (15 credits)

Please note: If these credits are not required for the major at a receiving four-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 course will be applied.
• HIS 102 Western Civilization: 1650-Present (GT-HI1))
or HIS 112 The World: 1500-present (GT-HI1)
• HIS 121 U.S. History to Reconstruction (GT-HI1)
• HIS 122 U.S. History Since Civil War (GT-HI1)
• One additional gtPathways HIS course (GT-HI1) See GT Courses on page 37
• COM 115 Public Speaking
or COM 125 Interpersonal Communication

Electives (11 credits)

Students planning to transfer to CSU-Ft. Collins are advised to complete at least two semesters of one college-level foreign language. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Music Designated Degree Requirements

Courses that Fulfill General Education Requirements (31 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
One gtPathways Mathematics course (GT-MA1) but not MAT 155 or MAT 156. See GT Courses on page 37

Arts & Humanities (6 credits)
MUS 121 Music History: Medieval through Classical (GT-AH1)
MUS 122 Music History: Early Romantic Period to Present (GT-AH1)

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3). CSU-Ft. Collins requires that one of these courses be PSY 101 General Psychology I. See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1) See GT Courses on page 37

Additional Required Courses (26 credits)

- MUS 110 Music Theory I (3)
- MUS 111 Music Theory II (3)
- MUS 210 Music Theory III (3)
- MUS 211 Music Theory IV (3)
- MUS 112 Ear Training/Sight Singing I Lab (1)
- MUS 113 Ear Training/Sight Singing II Lab (1)
- MUS 212 Advanced Ear Training/Sight Singing I Lab (1)
- MUS 213 Advanced Ear Training/Sight Singing II Lab (1)
- MUS 151 Ensemble I (1)
- MUS 152 Ensemble II (1)
- MUS 251 Ensemble I (1)
- MUS 252 Ensemble II (1)
- MUS 141 Private Instruction (1)
- MUS 142 Private Instruction (1)
- MUS 241 Private Instruction (1)
- MUS 242 Private Instruction (1)
- MUS 131 Music Class I: Piano (2)

Electives (3 credits)

Any MUSIC electives. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Philosophy Designated Degree Requirements

Courses that Fulfill General Education Requirements (31 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
One gtPathways Mathematics course (GT-MA1) See GT Courses on page 37

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1) See GT Courses on page 37

Additional Required Courses (15 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- PHI 111 Introduction to Philosophy (GT-AH3)
- PHI 112 Ethics (GT-AH3)
- PHI 113 Logic (GT-AH3)
- Choose two (2) courses from the following:
  PHI 214 Philosophy of Religion (GT-AH3)
  PHI 218 Environmental Ethics (GT-AH3)
  PHI 220 Philosophy of Death and Dying (GT-AH3)

Electives (14 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Political Science Designated Degree Requirements

Courses that Fulfill General Education Requirements (32 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
One gtPathways Mathematics course (GT-MA1), but not MAT 155 or 156. See GT Courses on page 37

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
ECO 201 Principles of Macroeconomics (GT-SS1)
ECO 202 Principles of Microeconomics (GT-SS1)

Natural & Physical Sciences (8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1) See GT Courses on page 37

Additional Required Courses (12 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- POS 105 Introduction to Political Science (GT-SS1)
- POS 111 American Government (GT-SS1)
- POS 205 International Relations (GT-SS1)
- POS 225 Comparative Government (GT-SS1)

Please note: Additional POS courses taken beyond the four courses (12 credit hours) identified above may not count toward the Political Science major at the receiving four-year institution.

Electives (16 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Psychology Designated Degree Requirements

Courses that Fulfill General Education Requirements (34-36 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3-4 credits)
MAT 121 College Algebra (GT-MA1)

Arts & Humanities (9 credits)
Three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4). No more than two (2) courses from any one category. See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Science courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7-8 credits)
Two gtPathways Biology course (GT-SC1). Must be a course with lab. See GT Courses on page 37
One gtPathways GT-SC1 course of the student's choosing See GT Courses on page 37.

Additional Required Courses (18 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- PSY 101 General Psychology I (GT-SS3)
- PSY 102 General Psychology II (GT-SS3)
- Three gtPathways Psychology courses (GT-SS3) See GT Courses on page 37
- COM 115 Public Speaking
  or COM 125 Interpersonal Communication

Electives (6-8 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Sociology Designated Degree Requirements

Courses that Fulfill General Education Requirements (35-36 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3-4 credits)
MAT 121 College Algebra (GT-MA1)
  or MAT 135 Statistics (GT-MA1)

Arts & Humanities (9 credits)
Three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (8 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1) See GT Courses on page 37

Additional Required Courses (18 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- COM 115 Public Speaking
  or COM 125 Interpersonal Communication
- SOC 101 Introduction to Sociology I (GT-SS3)
- SOC 102 Introduction to Sociology II (GT-SS3)
- Three gtPathways SOC courses in Social and Behavioral Sciences (GT-SS3) See GT Courses on page 37

Electives (6-7 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

Please note: Additional SOC courses beyond the five courses (15 credit hours) identified above may not count toward the Sociology major at the receiving four-year institution.

AA - Spanish Designated Degree Requirements

Courses that Fulfill General Education Requirements (34 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
One gtPathways Mathematics course (GT-MA1), but not MAT 155 or 156. See GT Courses on page 37

Arts & Humanities (9 credits)
SPA 211 Spanish Language III
SPA 212 Spanish Language IV
One gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37
Please note: Those students who have a higher proficiency level than is required for SPA 211 or SPA 212 should substitute other Arts & Humanities courses.

History (3 credits)
HIS 244 History of Latin America (GT-HI1)
or another gtPathways History course (GT-HI1) focusing on the Spanish speaking world (non-U.S.) or another gtPathways non-U.S. History course. See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1). See GT Courses on page 37

Additional Required Courses (13 credits)

Please note: if these credits are not required for the major at a receiving four-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.

- SPA 111 Spanish Language I (5)
- SPA 112 Spanish Language II (5)

Please note: SPA 111 and/or SPA 112 may be waived based on a student's proficiency level. Students should consult a departmental advisor at the four-year institution.

- COM 115 Public Speaking (recommended)
  or COM 125 Interpersonal Communication

Electives (13 credits)

Suggested courses: 200-level Spanish courses; courses outside the Spanish department with content related to the Spanish-speaking world. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Studio Art Designated Degree Requirements

Courses that Fulfill General Education Requirements (31 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
One gtPathways Mathematics course (GT-MA1) See GT Courses on page 37

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH2, GT-AH3, GT-AH4). *No GT-AH1 courses.* See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1). See GT Courses on page 37

Additional Required Courses (21 credits)

- ART 111 Art History: Ancient to Medieval (GT-AH1)
- ART 112 Art History: Renaissance to Modern (GT-AH1)
- ART 121 Drawing I
- ART 131 Visual Concepts 2-D Design
- ART 132 Visual Concept 3-D Design
- ART 221 Drawing II
  or ART 128 Figure Drawing I
- Any 3-credit Studio Art course

Electives (8 credits)

Students planning to transfer to CSU-Ft. Collins for completion of the BA in Studio Art must complete two semesters of one foreign language for their electives OR be able to pass the CSU-Ft. Collins Foreign Language placement exam at the sophomore level. It may not be possible to complete the BA in Studio Art in two years without this prior foreign language competency. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AA - Theatre Designated Degree Requirements

Courses that Fulfill General Education Requirements (31 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (3 credits)
One gtPathways Mathematics course (GT-MA1) but not MAT 155 or MAT 156. See GT Courses on page 37

Arts & Humanities (6 credits)
THE 105 Theatre Appreciation (GT-AH1). Students planning to attend University of Colorado Boulder in Theater should consult UCB Theater advisors regarding THE 105 Theatre Appreciation.
THE 211 Development of Theatre 1: Greek to Renaissance (GT-AH1)

History (3 credits)
Any one gtPathways Arts & Expression course–in History (GT-AH1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, or GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (7 credits)
Two gtPathways Natural & Physical Sciences courses (GT-SC1, GT-SC2). One of these courses must have the required laboratory (GT-SC1). See GT Courses on page 37

Additional Required Courses (18 credits)

- THE 116 Technical Theatre
- THE 111 Acting I
- THE 108 Theatre Script Analysis (GT-AH1)
- THE 212 Development of Theatre II: Restoration to Modern (GT-AH1)
- THE 215 Playwriting (GT-AH1)
- Choose one (1) course from the following:
  THE 131 Theatre Production I
  THE 132 Theatre Production II
  THE 231 Theatre Production III
  THE 232 Theatre Production IV

Electives (11 credits)

Students interested in attending Metro State University of Denver or Colorado State University-Fort Collins are advised to take COM 115 Public Speaking. Students who plan to transfer to University of Colorado-Boulder or University of Colorado-Colorado Springs may not take elective courses with a THE prefix. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AA Electives in AA Degree Requirements on page 40.

Total Credits (60)

AS - Biology Designated Degree Requirements

Courses that Fulfill General Education Requirements (36 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (5 credits)
MAT 201 Calculus I (GT-MA1)

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (10 credits)
BIO 111 General College Biology I (GT-SC1)
CHE 111 General College Chemistry I (GT-SC1)

Additional Required Courses (20 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- BIO 112 General College Biology II (GT-SC1)
- CHE 112 General College Chemistry II (GT-SC1)
- PHY 111 Physics Algebra-based I/Lab (GT-SC1)
- PHY 112 Physics Algebra-based II/Lab (GT-SC1)

Electives (4 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AS Electives in AS Degree Requirements on page 42.

Total Credits (60)

Students are strongly encouraged to seek academic advising prior to registration regarding the acceptability of online science courses if they anticipate transferring to a four-year institution or completing graduate work in the sciences or health professions. It should be noted that per Colorado Revised Statute, §23-1-125(1)(e), general education courses taken online are guaranteed to satisfy core course (gtPathways) requirements at all Colorado public institutions of higher education.

AS - Chemistry Designated Degree Requirements

Courses that Fulfill General Education Requirements - Notes 1, 2, 3, 4 (30 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (5 credits)
MAT 201 Calculus I (GT-MA1)

Arts & Humanities (3 credits)
One gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37.
(Please see Notes 1, 2, 3)

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page

37

Social & Behavioral Sciences (3 credits)
One gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37.
(Please see Notes 1, 2, 3)

Natural & Physical Sciences (10 credits)
CHE 111 General College Chemistry I w/Lab (GT-SC1)
CHE 112 General College Chemistry II w/Lab (GT-SC1)

Additional Required Courses (29 credits)

- MAT 202 Calculus II (GT-MA1)
- MAT 203 Calculus III
- PHY 211 Physics: Calculus-Based I/Lab (GT-SC1)
- PHY 212 Physics: Calculus-Based II/Lab (GT-SC1)
- CHE 211 Organic Chemistry I
- CHE 212 Organic Chemistry II

(Please see Note 4)

Electives (1 credit)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AS Electives in AS Degree Requirements on page 42.

Total Credits (60)

Notes:

1. This statewide transfer articulation agreement in Chemistry does not fulfill requirements for the gtPathways general education curriculum or the Associate of Science degree prior to transfer; however, this agreement does guarantee a student, if admitted, junior standing and completion of the baccalaureate degree within an additional 60 semester hours at the receiving institution.

2. Completion of the receiving institution's lower division general education requirements is fulfilled only under the condition that one gtPathways-approved course in Arts & Humanities (AH1, AH2, AH3, or AH4) and one gtPathways-approved course in Social & Behavioral Sciences (SS1, SS2, or SS3) are successfully completed at the receiving institution within the first 30 hours or 12 calendar months.

3. Students transferring to a four-year college/university under this Chemistry agreement are encouraged to 'reverse' transfer the one gtPathways course in Arts & Humanities and the one gtPathways course in Social & Behavioral Sciences (Note #2 above) back to their community college in order to complete the gtPathways general education program and to earn their Associate of Science degree with a Chemistry designation.

4. Lecture and laboratory portions of Organic Chemistry, CHE 211 and 212, must not be taken in an online delivery format.

AS - Geology Designated Degree Requirements

Courses that Fulfill General Education Requirements (36 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (5 credits)
MAT 201 Calculus I (GT-MA1)

Arts & Humanities (6 credits)
Two gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (10 credits)
CHE 111 General College Chemistry I (GT-SC1)
CHE 112 General College Chemistry II (GT-SC1)

Additional Required Courses (23 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- GEY 111 Physical Geology (GT-SC1)
- GEY 112 Historical Geology (GT-SC1)
- MAT 202 Calculus II (GT-MA1)
- PHY 211 Physics: Calculus Based I (GT-SC1)
- PHY 212 Physics: Calculus Based II (GT-SC1)

Electives (1 credit)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AS Electives in AS Degree Requirements on page 42.

Total Credits (60)

Please note: In addition to meeting the requirements listed here, contact the department at the school to which you want to transfer for program-specific information.

AS - Mathematics Designated Degree Requirements

Courses that Fulfill General Education Requirements (39 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (5 credits)
MAT 201 Calculus I (GT-MA1)

Arts & Humanities (9 credits)
Three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (10 credits)
PHY 211 Physics: Calculus Based I (GT-SC1)
PHY 212 Physics: Calculus Based II (GT-SC1)

Additional Required Courses (16-17 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- COM 115 Public Speaking
  or COM 125 Interpersonal Communication
- MAT 202 Calculus II (GT-MA1)
- MAT 203 Calculus III (GT-MA1)
  or MAT 204 Calculus III with Engineering Applications (GT-MA1)
- CSC 160 Computer Science I. *Please note: Colorado State University (CSU)-Ft. Collins requires a different computer science course than the community college course. Students should seek advising at CSU-Ft. Collins for information on the appropriate computer science course to take.*

Electives (4-5 credits)

For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AS Electives in AS Degree Requirements on page 42.

Total Credits (60)

AS - Physics Designated Degree Requirements

Courses that Fulfill General Education Requirements (36 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (5 credits)
MAT 201 Calculus I (GT-MA1)

Arts & Humanities (9 credits)
Three gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (3 credits)
One gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (10 credits)
PHY 211 Physics: Calculus Based I (GT-SC1)
PHY 212 Physics: Calculus Based II (GT-SC1)

Additional Required Courses (24 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- PHY 213 Physics III: Calculus-based (3)
- MAT 202 Calculus II (GT-MA1) (5)
- MAT 203 Calculus III (GT-MA1) (4)
  or MAT 204 Calculus III with Engineering Applications (GT-MA1) (5). *Please note: If you choose to take one of these courses, 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.*
- MAT 265 Differential Equations (GT-MA1) (3)
  or MAT 261 Differential Equations with Engineering Applications (GT-MA1) (4)
  or MAT 266 Differential Equations with Linear Algebra (4)
- CHE 111 General College Chemistry I (GT-SC1) (5)
- CSC 160 Computer Science I (Language) (4)
  or CHE 112 General College Chemistry II (GT-SC1) (5). *Students planning to transfer to CU-Boulder must take CHE 112 (not CSC 160) to fulfill this requirement. Students planning to transfer to University of Northern Colorado must take CSC 160 (not CHE 112) to fulfill this requirement. Students planning to transfer to Fort Lewis College or CU-Colorado Springs must take both CSC 160 and CHE 112. Students planning to transfer to a receiving institution not listed here may choose either one of these courses.*

Electives (0 credits)

Total Credits (60)

Please note: In addition to meeting the requirements listed here, contact the department at the school to which you want to transfer for program-specific information.

AS - Psychology Designated Degree Requirements

Courses that Fulfill General Education Requirements (38 credits)

Communication (6 credits)
ENG 121 English Composition I (GT-CO1)
ENG 122 English Composition II (GT-CO2)

Mathematics (4 credits)
MAT 121 College Algebra (GT-MA1)

Arts & Humanities (9 credits)
PHI 111 Introduction to Philosophy (GT-AH3)
  or PHI 112 Ethics (GT-AH3)
Six (6) additional credits from at least two different categories of gtPathways Arts & Humanities courses (GT-AH1, GT-AH2, GT-AH3, GT-AH4) See GT Courses on page 37

History (3 credits)
One gtPathways History course (GT-HI1) See GT Courses on page 37

Social & Behavioral Sciences (6 credits)
Two gtPathways Social & Behavioral Sciences courses (GT-SS1, GT-SS2, GT-SS3) See GT Courses on page 37

Natural & Physical Sciences (10 credits)
BIO 111 General College Biology I w/Lab (GT-SC1)
CHE 111 General College Chemistry I w/Lab (GT-SC1)

Additional Required Courses (9 credits)

Please note: If these credits are not required for the major at a receiving four-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.

- PSY 101 General Psychology I (GT-SS3)

- PSY 102 General Psychology II (GT-SS3)
- COM 115 Public Speaking
  or COM 125 Interpersonal Communication

Electives (13 credits)

Students planning to transfer to University of Colorado-Denver 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. For specific information, please consult an advisor in the Advising Center. Transferability depends on the receiving four-year institution. Additional courses may be transferable. See approved AS Electives in AS Degree Requirements on page 42.

Total Credits (60)

Degree emphases are available in the following career areas. Red Rocks Community College reserves the right to substitute or delete courses in a degree program.

Accounting
Accounting Paraprofessional on page 65
Accounting Technician on page 65

Air Conditioning, Heating, and Refrigeration
Air Conditioning on page 66
Air Conditioning, Heating, and Refrigeration on page 66
Heating on page 67
Hydronic Heating on page 67
Refrigeration on page 67

Applied Technology
Applied Technology on page 68

Auto Collision Repair
(In cooperation with and taught at Warren Tech)
Auto Collision Technology on page 69

Automotive Customization
(In cooperation with and taught at Warren Tech)
Automotive Customization on page 70

Automotive Service Technology
(In cooperation with and taught at Warren Tech)
Automotive Parts Management on page 72
Automotive Service Technology on page 72

Business
Interdisciplinary on page 74
Management and Supervision on page 74
Real Estate on page 74

Computer Information Systems
Computer Support Technician on page 77
Cyber Security Specialist on page 77
Game Development on page 78
Microsoft Technology Associate (MTA) on page 78
Network Specialist on page 78
PC Applications Specialist on page 78
Programming Specialist on page 79
Web Development on page 79

Cosmetology
(In cooperation with and taught at Warren Tech)
Cosmetology on page 82

Culinary Arts
Culinary Arts on page 84

Early Childhood Education
Early Childhood Education on page 85

Electricity Commercial/Industrial/Residential
Construction Electrician on page 87
Construction Electrician/IBEW/NECA on page 88
Fire Protection Technology on page 87
Industrial Control & Instrumentation Technology on page 88
Maintenance Electrician on page 87
Power Technology on page 88

Emergency Management and Planning
Emergency Management and Planning on page 90

Emergency Medical Services
Paramedicine on page 91

Engineering Graphics Technology
Engineering Graphics Architectural on page 92
Engineering Graphics Mechanical on page 92

Fine Woodworking
Fine Woodworking on page 94

Fire Science Technology
Fire and Emergency Services on page 97
Fire Science Technology on page 96
Fire Service Management on page 97

Holistic Health
Holistic Health on page 99

Law Enforcement
Law Enforcement on page 100

Mechanical Trades
Mechanical Trades on page 101

Medical Office Technology
Medical Assisting on page 102
Medical Office on page 102

Multimedia Graphic Design
Digital Media Journalism on page 105
Graphic Design & Print Production on page 104
Professional Photography on page 105
Video Production on page 104

Outdoor Education
Outdoor Education on page 107

Power Equipment and Sports Vehicle Technology
(In cooperation with and taught at Warren Tech)
Power Equipment and Sports Vehicle Technology on page 113

Precision Machining Technology
(In cooperation with and taught at Warren Tech)
Precision Machining on page 114

Radiologic Technology
Radiologic Technology on page 115

Renewable Energy Technology
Solar Photovoltaic Business Owner Specialty on page 117
Solar Photovoltaic Specialty on page 117
Solar Thermal Business Owner Specialty on page 117
Solar Thermal Specialty on page 116

Sonography
Diagnostic Cardiac Sonography on page 120
Diagnostic Medical Sonography on page 119

Theatre Arts
Theatre Technology on page 121

Water Quality Management
Water Quality Management on page 123

Welding
(In cooperation with and taught at Warren Tech)
Welding on page 124

AAS Degree Requirements

Specific program requirements (45-60 credits). General education courses (15 credits).

The Associate of Applied Science degree is for those who are preparing for entry-level employment in a career-oriented program of study or who are upgrading skills in a specific occupation. This degree is not intended for transfer; however, courses are considered for transfer on an individual basis by the receiving college or university.

Individual departments may specify particular courses for general education. Meet with an advisor for a degree worksheet.

Note: Courses numbered below 100 will not apply to any degree.

Communication (3 Credits)
ENG or COM

Mathematics (3 credits)
MAT 107 and above

Credit from any two of the following three areas (6 credits):

Arts & Humanities (3 credits)
ARA, ART, ASL, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE

Natural & Physical Sciences (3 credits)
AST, BIO, CHE, ENV, GEY, MET, NRE, PHY, SCI

Social & Behavioral Sciences (3 credits)
AGR, ANT, ECO, GEO, GIS, HIS, POS, PSY, SOC

Electives from any of the below subjects (3 credits)
CIS 118
ENG, COM (100 and above)
MAT (100 and above)
AGR, ARA, ART, ASL, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE (100 and above)
AST, BIO, CHE, ENV, GEY, PHY, SCI (100 and above)
ANT, ECO, GEO, GIS, HIS, POS, PSY, SOC (100 and above)

Other AAS degree requirements

1. A minimum of 60 credits is required for the Associate of Applied Science degree. Some degrees require more than 60 credits. These must include 45 credits in specific program courses and 15 credits in general education courses.
2. If you are planning to transfer to a four-year college or university, meet with an appropriate faculty advisor and consult the Transfer Guide.
3. You must complete a minimum of 15 credits in your program area at RRCC. No more than 6 credits of independent study course work may be applied toward an associate degree program.
4. No more than six credits of independent study course work may be applied toward an Associate Degree program.
5. You must earn a cumulative grade point average of 2.0 (C average) in order to graduate. You must file an application for graduation during the term in which you intend to graduate according to the deadline published in the class schedule for that semester. You must apply to graduate within one year of completing degree requirements.
6. There is no limit on special-topics courses that count toward an AAS degree. In individual cases, the limit will be determined by the program area. If you are taking special-topics courses, consult with a faculty advisor regarding how these credits will apply toward a degree.
7. To earn multiple RRCC degrees, you must complete an additional 15 credits of coursework (above and beyond the original 60 credits required for the first degree) for each successive degree. These 15 credits must all apply toward the additional degree and must be completed through Red Rocks Community College.
8. With the approval of a faculty advisor, no more than five credits of internship may count toward a degree. Some AAS degrees will require internship credits.

Certificates can require as few as two courses or 5 credits and also may count toward another certificate, an AAS degree, and may transfer to a four-year degree.

1. You must earn a cumulative grade point average of 2.0. Most programs may require at least a C in specified courses.
2. You must complete at least 50 percent of your coursework at Red Rocks Community College to receive a certificate.
3. The college reserves the right to substitute or delete courses in a degree or certificate program.

Accounting
- Accounting Clerk
- Accounting Fundamentals
- Bookkeeping Clerk

Air Conditioning, Heating, and Refrigeration
- Air Conditioning
- Energy and HVAC
- Forced-Air Heating
- HVAC Fundamentals
- HVAC Controls Technician
- HVAC Energy Efficiency
- Hydronic Heating
- Level I Refrigeration
- Level II Refrigeration
- Refrigeration

Auto Collision Technology
- *(In cooperation with and taught at Warren Tech)*
- Automotive Collision Industry Introduction
- Beginning Auto Collision Non-Structure Repair and Refinish
- Intermediate Auto Collision Non-Structure Repair and Refinish
- Advanced Auto Collision Structure Repair and Refinish
- Industry Prepared Structural, Repair and Refinish

Automotive Customization
- *(In cooperation with and taught at Warren Tech)*
- Advanced Auto Customization and Performance
- Auto Customization and Performance
- Automotive Customizing Industry Introduction
- Introduction to Custom Painting
- Introduction to High Performance Vehicles

Automotive Service Technology
- *(In cooperation with and taught at Warren Tech)*
- Auto Service Technician
- Automotive Parts
- Automotive Parts Management
- Maintenance Light Repair
- Master Auto Service Technician

Business
- Business Foundations
- Leadership
- Management and Supervision
- Real Estate
- Small Business Startup
- Workplace Readiness

Carpentry
- Advanced Remodeling
- Home Energy Efficiency
- Residential Remodeling

Computer Information Systems
- CISCO Network Associate
- Computer Support Technician
- Cyber Security Specialist
- Game Development
- Microsoft SQL Server Administrator
- Microsoft Technology Associate (MTA)
- Microsoft Windows Server
- Network Specialist
- PC Applications Specialist
- Programming Specialist
- Web Development

Cosmetology
- *(In cooperation with and taught at Warren Tech)*
- Cosmetologist
- Esthetician (skin)
- Hairstylist
- Manicurist

Culinary Arts
- Culinary Arts
- Introduction to Culinary Arts

Early Childhood Education
- Director, Early Childhood Education
- Early Childhood Entry
- Infant/Toddler Early Childhood Teacher
- Preschool Early Childhood Teacher

Electricity Commercial/Industrial/Residential
- Advanced Construction Electrician
- Advanced Instrumentation and Controls Technician
- Advanced Maintenance Electrician
- Construction Electrician
- Electrical Codes and Standards
- Electrical Installation
- Fire Alarm and Detection Technician
- Fire Alarm Code
- Introduction to Fire Alarm Technician
- Introduction to Instrumentation and Controls Technician
- Maintenance Electrician
- National Electrical Code
- Post-Degree Specialization for Advanced Construction Electrician
- Post-Degree Specialization for Advanced Maintenance Electrician
- Residential Construction Electrician

Emergency Management and Planning
- Emergency Management and Planning
- Fundamentals of Emergency Management

Emergency Medical Services
- Advanced Emergency Medical Technician
- Emergency Medical Technician
- Paramedic

Engineering Graphics Technology
- Engineering Graphics Architectural
- Engineering Graphics Civil
- Intro to AutoCAD
- Engineering Graphics Mechanical
- Revit
- SolidWorks

Fine Woodworking
- Advanced Wood Turner
- Artisan
- Cabinetmaker

Contemporary Furniture Craftsman
Contemporary Furniture Fundamentals
Craftsman
Fine Furniture Craftsman
Joiner
Luthier Craftsman
Luthier Fundamentals
Luthier Technician
Post-Degree Advanced Craftsman
Woodturner
Woodworking Fundamentals

Fire Science Technology
Fire Fighter I
Fire Inspector
Fire Instructor
Fire Officer I
Fire Officer II
Fire Officer III

Holistic Health
Holistic Health Practitioner
Massage Therapy
Reflexology
Yoga Teacher

Law Enforcement
Basic Law Enforcement Academy (P.O.S.T. Certification)

Mechanical Trades
Advanced Mechanical Skills
Basic Mechanical Skills
Heating Specialties

Medical Office Technology
Fundamentals of Medical Office Technology
Medical Assisting
Medical Billing/Coding
Medical Office

Multimedia Graphic Design
Advanced Web Design
Digital Media Journalism
Fundamentals of Video Production
Graphic Design and Print Production
Photographer's Assistant
Photography Studio Management
Professional Photography
Video Production
Web Design

Nurse Aide
Home Health Aide
Hospice Care Aide
Nurse Aide

Outdoor Education
Facilitation/Education Specialist
Introduction to Outdoor Education
Outdoor Business/Management
The Outdoor Professional
Wilderness Therapy Specialist

Park Ranger Technology
Introduction to Park Ranger Technology
Law Enforcement
Outdoor Recreation Management
Resource Interpretation

Phlebotomy
Phlebotomy

Physician Assistant
Physician Assistant

Plumbing
Plumbing Service

Power Equipment and Sports Vehicle Technology
Power Equipment Maintenance Technician
Sports Vehicle Maintenance Technician

Precision Machining Technology
(In cooperation with and taught at Warren Tech)
CNC Lathe Operator
CNC Mill Operator
Lathe Operator
Machine Shop Fundamentals
Manufacturing Quality Control Level I
Mill Operator

Radiologic Technology
Bone Densitometry
Computed Tomography (CT)
Magnetic Resonance Imaging (MRI)
Mammography

Renewable Energy Technology
Advanced Photovoltaic Installation
Energy Auditing
Fundamentals of Renewable Energy
Photovoltaic Entry Level
Post EIC Degree Solar Photovoltaic
Post HVA Degree Solar Thermal
Solar Photovoltaic Designer
Solar Thermal Designer
Solar Thermal Entry Level
Solar Thermal Installer

RN Refresher Program

Sonography:
Vascular Technology

Theatre Arts
Costume and Fashion
Costume Basics
Costume Applications
Stagecraft
Stagehand Basics
Stagehand Applications

Water Quality Management
Advanced Wastewater Treatment Certification
Advanced Water Treatment Certification
Distribution and Collection Systems
Education and Experience
Introduction to Wastewater Treatment
Introduction to Water Treatment
Laboratory Analysis
Mathematics in Water Quality

Welding
(In cooperation with and taught at Warren Tech)
FCAW Certificate
GMAW Certificate
GTAW Certificate
OFW and OFC Certificate
SMAW Certificate

Rocky Mountain Education Center (RMEC)

Work Force Training Solutions

As the continuing education division of Red Rocks Community College, and the OSHA Region VIII Training Institute, RMEC is dedicated to workplace health, safety, and environmental training. Our instructor pool includes professionals with a wide range of technical backgrounds with expertise in change management required in today's highly complex industries. RMEC can customize training programs with proven impact to the bottom line.

Contact us to learn more: 800.933.8394 or www.rmecosha.com

The college reserves the right to substitute or delete courses in a degree or certificate program. Consult with a faculty advisor before beginning any program or area of study.

Accounting

www.rrcc.edu/business

If you plan to transfer to a four-year college or university to complete a major in Accounting, you should consider the AA degree with a business emphasis. Consult with an Accounting faculty advisor early in your college career to explore all your educational options. You must earn a C or higher in all accounting courses to graduate with a degree or certificate in accounting.

Degrees: Associate of Applied Science

Accounting Paraprofessional
Accounting Technician

Certificates:

Accounting Fundamentals
Bookkeeping Clerk
Accounting Clerk

Accounting Degrees

Accounting Paraprofessional AAS Degree

This program prepares you to work as an accounting paraprofessional or accounting assistant.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
ACC 132	Tax Help Colorado OR faculty advisor-approved business elective	2
ACC 133	Tax Help Colorado Practicum OR faculty advisor-approved business elective	1
ACC 135	Spreadsheet Applications for Accounting or CIS 155 PC Spreadsheet Concepts: MS Excel	3
ACC 138	Payroll and Sales Tax	3
ACC 211	Intermediate Accounting I	4
ACC 212	Intermediate Accounting II	4
ACC 245	Computerized Accounting with a Professional Package	3
BUS 115	Introduction to Business	3
BUS 116	Personal Finance or faculty advisor-approved elective	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication & Report Writing	3
CIS 145	Complete PC Database: Access	3
Faculty advisor-approved business electives (Recommended: ACC, BUS, MAN, MAR, REE, SBM)		**2**
Required General Education Courses:		
ENG 121	English Composition I	3
MAT 107	Career Math/Business or any higher MAT course	3
Credit from two of the following areas: Social & Behavioral Sciences, Arts & Humanities, Natural & Physical Sciences		**9**
Total Credits		**60**

Accounting Technician AAS Degree

This program prepares you to perform bookkeeping and accounting.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
ACC 132	Tax Help Colorado OR faculty advisor-approved business elective	2
ACC 133	Tax Help Colorado Practicum OR faculty advisor-approved business elective	1
ACC 135	Spreadsheet Applications for Accounting or CIS 155 PC Spreadsheet Concepts: MS Excel	3
ACC 138	Payroll and Sales Tax	3
ACC 245	Computerized Accounting with a Professional Package	3
ACC 267	AIPB Certification Review OR Faculty advisor-approved business electives	1
BUS 115	Introduction to Business	3
BUS 116	Personal Finance or faculty advisor-approved elective	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication & Report Writing	3
CIS 118	Introduction to PC Applications	3
CIS 135	Complete PC Word Processing: Word	3
CIS 145	Complete PC Database: Access	3
Faculty advisor-approved business electives (Recommended: ACC, BUS, MAN, MAR, REE, SBM)		**3**
General Education Courses Required:		
ENG 121	English Composition I	3
MAT 107	Career Math/Business or any higher MAT course	3
Credit from two of the following areas: Social & Behavioral Sciences, Arts & Humanities, Natural & Physical Sciences		**9**
Total Credits		**60**

Accounting Certificates

Accounting Fundamentals Certificate

This certificate provides you with the basic accounting concepts of business. The certificate can be used as a stand-alone, to gain general knowledge, or as a stepping-stone to another Accounting or Business certificate or degree.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
Total Credits		**8**

Bookkeeping Clerk Certificate

Completing this program prepares you to perform entry-level bookkeeping and accounting tasks.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 138	Payroll and Sales Tax	3
BUS 115	Introduction to Business	3
CIS 118	Introduction to PC Applications	3
Faculty advisor-approved business electives (Recommended: ACC, BUS, MAN, MAR, REE, SBM)		**3**
Total Credits		**16**

Accounting Clerk Certificate

Completing this program prepares you to perform a variety of functions in an accounting system. Examples include bookkeeper, inventory clerk, payroll clerk, accounts payable clerk, accounts receivable clerk, and fixed-assets clerk.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
ACC 135	Spreadsheet Applications for Accounting or CIS 155 PC Spreadsheet Concepts: MS Excel	3
ACC 138	Payroll and Sales Tax	3
ACC 245	Computerized Accounting with a Professional Package	3
ACC 267	AIPB Certification Review (1) or Faculty advisor-approved business elective or ACC 132 Tax Help Colorado (2) or Faculty advisor-approved business elective	1-2
BUS 115	Introduction to Business	3
BUS 116	Personal Finance or faculty advisor-approved elective	3
CIS 118	Introduction to PC Applications	3
Total Credits		**27-28**

Air Conditioning, Heating, and Refrigeration

www.rrcc.edu/hvac www.rrcc.edu/hvac

Beginning in the summer of 2014, there is a change in pre/corequisite classes. ***If you began your course of study in the summer of 2014, you will have HVA 107 as a pre/corequisite class. Students taking HVA 107 can substitute this class for the HWE 113 and OSH 127 requirements since OSH 127 is not currently being offered. If you began your course of study before summer of 2014, you will graduate under the catalog requirements listed for the semester that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) and then return, you must meet the requirements of the catalog in effect at the time you re-enroll.

These certificates are part of the State of Colorado program approval for Building and Apartment Maintenance. Please see Plumbing and Carpentry for additional degrees and certificates under this category.

This program provides the knowledge and skills for entry into the air conditioning, heating, and refrigeration industry in the areas of installation and maintenance, as well as upgrading and refresher courses for those already employed in the field. All heating, air conditioning, and refrigeration classes will be updated to reflect today's changing energy efficiency requirements. LEED requirements will be incorporated into all curriculum and additional classes will be offered to support the new energy efficiency needs. New students should contact **Advising at 303.914.6255**. Current students may call **303.914.6306** for more information.

Related course work may be found under:
Carpentry, Electricity, Mechanical Trades, Plumbing, and Renewable Energy Technology.

Degrees: Associate of Applied Science

- **Air Conditioning, Heating, and Refrigeration**
- **Air Conditioning**
- **Refrigeration**
- **Heating**
- **Hydronic Heating**

Certificates:

- **Air Conditioning**
- **Level I Refrigeration**
- **Level II Refrigeration**
- **Refrigeration**
- **HVAC Fundamentals**
- **HVAC Controls Technician**
- **Forced-Air Heating**
- **Hydronic Heating**
- **HVAC Energy Efficiency**
- **Energy and HVAC (Advanced)**

Air Conditioning, Heating, and Refrigeration Degrees

Air Conditioning, Heating, and Refrigeration AAS Degree

Required Courses		Credits
Level I Refrigeration Certificate		10.5
HVA 110	Fundamentals of Gas Heating	4
HVA 111	Piping Skills	4
HVA 132	Air Conditioning and Refrigeration Controls	4
HVA 134	Air Conditioning Systems	4
HVA 162	Heating Controls	4
HVA 206	Mechanical Codes	4
HVA 240	Servicing Forced Air Systems	4
HVA 247	Hot Water Heating Systems	4
Core Requirements		**4**
Choose a minimum of 4 credits from the following course prefixes: ENT, ENY, AEC, HVA, EIC, CAR, CON, or OSH		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**61.5**

Air Conditioning AAS Degree

Required Courses		Credits
Air Conditioning Certificate		34.5
HVA 263	Chillers	4
Core Requirements		**8**
Choose a minimum of 8 credits from the following course prefixes: ENT, ENY, AEC, HVA, EIC, CAR, CON, or OSH		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**61.5**

Refrigeration AAS Degree

Required Courses		Credits
Refrigeration Certificate		30.5
HVA 231	Pneumatic Controls	4
HVA Electives		4
Core Requirements		**8**
Choose a minimum of 8 credits from the following course prefixes: ENT, ENY, AEC, HVA, EIC, CAR, CON, or OSH		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**61.5**

Heating AAS Degree

Required Courses		Credits
HVA 111	Piping Skills	4
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
HVA 140	Basic Sheet Metal	4
HVA 162	Heating Controls	4
HVA 206	Mechanical Codes	4
PLU 208	International Fuel Gas Code	4
HVA 240	Servicing Forced Air Systems	4
HVA 247	Hot Water Heating Systems	4
HVA 257	Low Pressure Steam Heating	4
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Core Requirements		**4**
Choose a minimum of 4 credits from the following course prefixes: ENT, ENY, AEC, HVA, EIC, CAR, CON, or OSH		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**60.5**
***** See Program Description**		

Hydronic Heating AAS Degree

Required Courses		Credits
Hydronic Heating Certificate		37.5
Core Requirements		**10**
Choose a minimum of 10 credits from the following course prefixes: ENT, ENY, AEC, HVA, EIC, CAR, CON, or OSH		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**62.5**

Air Conditioning, Heating, and Refrigeration Certificates

Air Conditioning Certificate

Required Courses		Credits
Level 1 Refrigeration Certificate		10.5
HVA 111	Piping Skills	4
HVA 132	Air Conditioning and Refrigeration Controls	4
HVA 134	Air Conditioning Systems	4
HVA 140	Basic Sheet Metal	4
HVA 206	Mechanical Codes	4
HVA 261	Air Conditioning Systems Service and Repair	4
Total Credits		**34.5**

Level I Refrigeration Certificate

Required Courses		Credits
HVA 102	Basic Refrigeration	4
HVA 105	Electricity for HVAC/R	4
HVA 113	Refrigerant Recovery Training	1
HWE 113	First Aid and Adult CPR***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**10.5**

*** See Program Description

Level II Refrigeration Certificate

Required Courses		Credits
Level I Refrigeration Certificate		10.5
HVA 111	Piping Skills	4
HVA 132	Air Conditioning and Refrigeration Controls	4
HVA 233	Advanced Refrigeration or HVA 261 A/C Systems Service and Repair	4
Total Credits		**22.5**

Refrigeration Certificate

Required Courses		Credits
Level I Refrigeration Certificate		10.5
HVA 111	Piping Skills	4
HVA 233	Advanced Refrigeration	4
HVA 132	Air Conditioning and Refrigeration Controls	4
HVA 206	Mechanical Codes	4
HVA Electives		4
Total Credits		**30.5**

HVAC Fundamentals Certificate

Required Courses		Credits
HVA 102	Basic Refrigeration	4
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
HVA 113	Refrigerant Recovery Training	1
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**14.5**

***See Program Description

HVAC Controls Technician Certificate

Required Courses		Credits
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
HVA 132	Air Conditioning and Refrigeration Controls	4
HVA 162	Heating Controls	4
HVA 231	Pneumatic Controls	4
HWE 113	First Aid and Adult CPR***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**21.5**

***See Program Description

Forced-Air Heating Certificate

Required Courses		Credits
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
HVA 111	Piping Skills	4

HVA 140	Basic Sheet Metal	4
HVA 162	Heating Controls	4
HVA 206	Mechanical Codes	4
PLU 208	Fuel Gas Code	4
HVA 240	Servicing Forced Air Systems	4
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**33.5**

***See Program Description

Hydronic Heating Certificate

Required Courses		**Credits**
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
HVA 111	Piping Skills	4
HVA 162	Heating Controls	4
HVA 206	Mechanical Codes	4
HVA 247	Hot Water Heating Systems	4
HVA 257	Low Pressure Steam Heating	4
HVA 267	Radiant Heating Systems	4
PLU 208	Fuel Gas Code	4
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Services ***	1
Total Credits		**37.5**

***See Program Description

HVAC Energy Efficiency Certificate

Required Courses		**Credits**
HVA 102	Basic Refrigeration	4
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
HVA 113	Refrigerant Recovery Training	1
HVA 261	Air Conditioning Systems Service and Repair	4
ENY 102	Building Energy Audit Techniques	3
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**21.5**

***See Program Description

Energy and HVAC (Advanced) Certificate

Required Courses		**Credits**
HVA 102	Basic Refrigeration	4
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
HVA 113	Refrigerant Recovery Training	1
HVA 261	Air Conditioning Systems Service and Repair	4
ENY 101	Introduction to Energy Technologies	3
ENY 102	Building Energy Audit Techniques	3
ENY 130	Solar Photovoltaics Grid-Tie	2
ENY 131	Advanced Solar PV	2
ENY 132	NABCEP Entry-Level Prep Class	1
ENY 120	Solar Thermal System Install	4
EIC 211	IECC Energy Conservation Code	4
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**37.5**

***See Program Description

Anthropology

www.rrcc.edu/anthropology

Degree: Associate of Arts

The completion of the following courses is appropriate for students who plan to transfer to a state four-year college or university to complete a major in Anthropology. This program provides preparation in the three main fields of anthropology if you are interested in teaching, research, museums, or applied positions. Consult with a faculty advisor if planning this program of study.

Anthropology AA Degree

See AA - Anthropology Designated Degree Requirements on page 48

Applied Technology

Degree: Associate of Applied Science

This program is the approval for a statewide articulation agreement that allows Area Technical Colleges (AVS) graduates to transfer up to 45 credits to the community college toward the completion of an AAS degree in Applied Technology. Program requires the completion of an additional 15-18 general education courses at the community college.

Students desiring to complete the AAS degree in Applied Technology may complete the technical coursework contained in a state-approved certificate career and technical education program at one of the four area vocational technical schools (AVTS). The four AVTS are Delta-Montrose Area Vocational Technical Center, Emily Griffith Opportunity School, San Juan Basin Technical College, and Pickens Tech Center.

Applied Technology AAS Degree

Required General Education Courses	**Credits**
Communication ENG 121 or higher	**3**
Mathematics MAT 107 or higher	**3**
Choose from TWO of the following areas for a total of 6 credits: **Arts & Humanities** ARA, ART, ASL, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE (100 and above) **Natural & Physical Sciences** AST, BIO, CHE, ENV, GEY, MET, NRE, PHY, SCI (100 and above) **Social & Behavioral Sciences** ARG, ANT, ECO, GEO, GIS, HIS, POS, PSY, SOC (100 and above)	**6**
Choose an additional 3 credits from any of the above prefixes	**3**
Elective Courses Transfer of up to 45 credits from Area Technical College coursework completed with a C or higher grade. If student has earned less than minimum 45 CTE credits, elective courses at the community college will be required to reach the necessary credits for completion of the degree	**45**

Total Credits	**60**

Art

www.rrcc.edu/visual-arts

Degrees: Associate of Arts

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Art. Consult with a faculty advisor before beginning this area of study. These courses provide the basic preparation leading to art-related careers.

Art History AA Degree

The completion of the AA - Art History Designated Degree is appropriate for students who plan to transfer to a state four-year college or university to complete a major in Art History. Consult with a faculty advisor if planning this program of study.

See AA - Art History Designated Degree Requirements on page 49

Studio Art AA Degree

The completion of the AA - Studio Art Designated Degree is appropriate for students who plan to transfer to a state four-year college or university to complete a major in Studio Art. Consult with a faculty advisor if planning this program of study.

See AA - Studio Art Designated Degree Requirements on page 55

Auto Collision Repair

www.rrcc.edu/warrentech/auto-service-collision-customization

Through a cooperative agreement with Warren Tech (the career and technical high school for Jefferson County Public Schools), RRCC students pursuing certain career and technical college degrees/certificates may take courses (on a space-available basis) at Warren Tech (WT), which is adjacent to the RRCC campus. You must have either graduated from high school, received a GED, or attained the age of 21. You pay RRCC tuition and WT program fees and your coursework is recorded on your RRCC transcript.

Classes follow the WT/Jeffco Public Schools' calendar. Deadlines and class start and end dates differ from those of RRCC. WT classes are conducted on a block schedule. The morning classes run Monday–Friday from 7:30–10:30 a.m. and the afternoon classes run Monday–Thursday from 12:00–3:45 p.m. **For more information, see Warren Tech Students on page 10.**

This is a Nationally Certified Auto Collision Repair program that uses the I-CAR live curriculum with the primary purpose of preparing you for careers in the auto collision repair industry. You can also achieve the necessary credits to obtain an associate degree. A minimum of 45 ACT credits and 15 general education credits are required for the AAS degree. Some courses may transfer to a bachelor's degree in automotive management. Students must comply with personal and environmental safety practices in accordance with local, state, and federal safety and environmental regulations. Each certificate is a full one-semester program. An optional Advanced Semester is available.

Degree: Associate of Applied Science

Auto Collision Technology

Certificates:

Automotive Collision Industry Introduction

Beginning Auto Collision Non-Structure Repair and Refinish

Intermediate Auto Collision Non-Structure Repair and Refinish

Advanced Auto Collision Structure Repair and Refinish

Industry Prepared Structura, Repair and Refinish

Auto Collision Repair Degrees

Auto Collision Technology AAS Degree

Required Courses		**Credits**
A minimum of 45 credits from the following courses:		**45**
ACT 101	Introduction to Automotive Collision Tech (4)	
ACT 110	Safety in Collision Repair (2)	
ACT 111	Metal Welding and Cutting I (3)	
ACT 121	Non-Structural Repair Preparation (3)	
ACT 122	Panel Repair and Replacement (3)	
ACT 123	Metal Finishing and Body Filling (3)	
ACT 124	Exterior Panel Replacement (Weld-on) (3)	
ACT 131	Structural Damage Diagnosis(3)	
ACT 132	Structural Damage Repair (3)	
ACT 141	Refinishing Safety (1)	
ACT 142	Surface Preparation I (2)	
ACT 143	Spray Equipment Operation (2)	
ACT 144	Refinishing I (2)	
ACT 151	Plastics & Adhesives I (1)	
ACT 170	Auto Collision Technology Lab Experiences I (3)	
ACT 171	Auto Collision Technology Lab Experiences II (3)	
ACT 172	Auto Collision Technology Lab Experiences III (3)	
ACT 180	Auto Collision Repair Internship Level I (2)	
ACT 205	Estimating and Shop Management (3)	
ACT 211	Metal Welding and Cutting II (2)	
ACT 220	Structural Repair II (4)	
ACT 226	Production (4)	
ACT 231	Advanced Structural Damage Diagnosis and Repair (3)	
ACT 232	Fixed Glass Repair (2)	
ACT 241	Paint Defects (3)	
ACT 242	Surface Preparation II (2)	
ACT 243	Refinishing II (2)	
ACT 244	Final Detail (2)	
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**60**

Auto Collision Repair Certificates

Automotive Collision Industry Introduction Certificate

Required Courses		Credits
ACT 101	Introduction to Automotive Collision Tech	4
ACT 110	Safety in Collision Repair	2
ACT 121	Non-Structural Repair Preparation	3
ACT 141	Refinishing Safety	1
ACT 142	Surface Preparation I	2
Total Credits		**12**

Beginning Auto Collision Non-Structure Repair and Refinish Certificate

Required Courses		Credits
ACT 111	Metal Welding and Cutting I	3
ACT 122	Panel Repair and Replacement	3
ACT 123	Metal Finishing and Body Filling	3
ACT 143	Spray Equipment Operation	2
ACT 144	Refinishing I	2
ACT 244	Final Detail	2
Total Credits		**15**

Intermediate Auto Collision Non-Structure Repair and Refinish Certificate

Required Courses		Credits
ACT 124	Exterior Panel Replacement	3
ACT 170	Auto Collision Technology Lab Experiences I	3
ACT 205	Estimating and Shop Management	3
ACT 241	Paint Defects	3
ACT 242	Surface Preparation II	2
ACT 243	Refinishing II	2
Total Credits		**16**

Advanced Auto Collision Structure Repair and Refinish Certificate

Required Courses		Credits
ACT 131	Structural Damage Diagnosis	3
ACT 132	Structural Damage Repair	3
ACT 151	Plastics & Adhesives I	1
ACT 171	Auto Collision Technology Lab Experiences II	3
ACT 211	Metal Welding and Cutting II	2
Total Credits		**12**

Industry Prepared Structural Repair and Refinish Certificate

Required Courses		Credits
ACT 172	Auto Collision Technology Lab Experiences III	3
ACT 180	Auto Collision Repair Internship Level I	2
ACT 220	Structural Repair II	4
ACT 226	Production	4
ACT 231	Advanced Structural Damage Diagnosis & Repair	3
ACT 232	Fixed Glass Repair	2
Total Credits		**18**

Automotive Customization

www.rrcc.edu/warrentech/auto-service-collision-customization

Through a cooperative agreement with Warren Tech (the career and technical high school for Jefferson County Public Schools), RRCC students pursuing certain career and technical college degrees/certificates may take courses (on a space-available basis) at Warren Tech (WT), which is adjacent to the RRCC campus. You must have either graduated from high school, received a GED, or attained the age of 21. You pay RRCC tuition and WT program fees and your coursework is recorded on your RRCC transcript.

Classes follow the WT/Jeffco Public Schools' calendar. Deadlines and class start and end dates differ from those of RRCC. WT classes are conducted on a block schedule. The morning classes run Monday–Friday from 7:30–10:30 a.m. and the afternoon classes run Monday–Thursday from 12:00–3:45 p.m. **For more information, see Warren Tech Students on page 10.**

This program is designed to give you basic and advanced skill training needed for successful entry into the automotive customizing and refinishing industry through theory and lab experiences. Each certificate is a full one-semester program.

Degree: Associate of Applied Science

Automotive Customization

Certificates:

Automotive Customizing Industry Introduction
Introduction to High-Performance Vehicles
Introduction to Custom Painting
Auto Customization and Performance
Advanced Auto Customization and Performance

Automotive Customization Degrees

Automotive Customization AAS Degree

Required Courses		Credits
A minimum of 45 credits must be taken from the following courses:		**45**
ACT 101	Intro to Auto Collision Tech (4)	
ACT 110	Safety in Collision Repair (2)	
ACT 111	Metal Welding and Cutting (3)	
ACT 122	Panel Repair and Replacement (3)	
ACT 123	Metal Finishing and Body Filling (3)	
ACT 141	Refinishing Safety (1)	
ACT 142	Surface Prep I (2)	
ACT 143	Spray Equipment Operation (2)	
ACT 144	Refinishing I (2)	
ACT 160	Custom Paint (3)	
ACT 161	Automotive Graphics and Design (3)	
ACT 162	Automotive Air Brushing and Murals (3)	
ACT 163	Automotive Special Effects and Refinishing (3)	
ACT 165	Automotive Body Customizing I (3)	
ACT 166	Automotive Body Customizing II (3)	
ACT 167	Auto Customizing II (3)	

ACT 170	Auto Collision Technical Lab Experiences I (3)	
ACT 171	Auto Collision Technical Lab Experiences II (1)	
ACT 172	Auto Collision Technical Lab Experiences III (3)	
ACT 205	Estimating and Shop Management (3)	
ACT 211	Metal Welding And Cutting II (2)	
ACT 243	Refinishing II (2)	
AUT 109	High-Performance Suspension & Chassis Design (2)	
AUT 110	High-Performance Suspension & Chassis Setup (4)	
AUT 116	High-Performance Brake Systems (2)	
AUT 125	Engines I (4)	
AUT 136	Introduction to Racecar Body Fabrication (2)	
AUT 137	Introduction to Racecar Chassis Fabrication (2)	
ASE 102	Introduction to the Automotive Shop (2)	
ASE 120	Basic Auto Electricity (2)	
ASE 130	General Engine Diagnosis (2)	
General Education Courses		
(See AAS Degree Requirements on page 61)		**15**
Total Credits		**60**

Automotive Customization Certificates

Automotive Customizing Industry Introduction Certificate

Required Courses		**Credits**
ACT 101	Into to Auto Collision Tech	4
ACT 110	Safety in Collision Repair	2
ACT 141	Refinishing Safety	1
ACT 142	Surface Prep I	2
ACT 165	Automotive Body Customizing I	3
Total Credits		**12**

Introduction to High-Performance Vehicles Certificate

Required Courses		**Credits**
ACT 160	Custom Painting	3
ACT 170	Automotive Collision Technology Lab Exp. I	3
ACT 205	Estimating and Shop Management	3
ASE 102	Introduction to the Automotive Shop	2
AUT 109	High-Performance Brake Systems	2
AUT 116	High-Performance Brake Systems	2
Total Credits		**15**

Introduction to Custom Painting Certificate

Required Courses		**Credits**
ACT 111	Metal Welding and Cutting I	3
ACT 122	Panel Repair and Replacements	3
ACT 123	Metal Finishing and Body Filling	3
ACT 143	Spray Equipment Operation	2
ACT 144	Refinishing I	2
ACT 166	Automotive Body Customizing II	3
Total Credits		**16**

Auto Customization and Performance Certificate

Required Courses		**Credits**
ACT 167	Auto Customizing II	3
ACT 171	Automotive Collision Technology Lab Experiences II	1
ACT 211	Metal Welding and Cutting II	2
ACT 243	Refinishing II	2
ASE 120	Basic Auto Electricity	2
ASE 130	General Engine Diagnosis	2
AUT 136	Introduction to Racecar Body Fabrication	2
Total Credits		**14**

Advanced Auto Customization and Performance Certificate

Required Courses		**Credits**
ACT 161	Automotive Graphics and Designs	3
ACT 162	Automotive Air Brushing and Murals	3
ACT 163	Automotive Special Effects & Refinishing	3
ACT 172	Automotive Collision Technology Lab Experiences III	3
AUT 110	High-Perf. Suspension and Chassis Set-Up	4
AUT 125	Engines I	4
AUT 137	Introduction to Racecar Chassis Fabrication	2
Total Credits		**22**

Automotive Service Technology

www.rrcc.edu/warrentech/auto-service-collision-customization

Through a cooperative agreement with Warren Tech (the career and technical high school for Jefferson County Public Schools), RRCC students pursuing certain career and technical college degrees/certificates may take courses (on a space-available basis) at Warren Tech (WT) which is adjacent to the RRCC campus. You must have either graduated from high school, received a GED, or attained the age of 21. You pay RRCC tuition and WT program fees and your coursework is recorded on your RRCC transcript.

Classes follow the WT/Jeffco Public Schools' calendar. Deadlines and class start and end dates differ from those of RRCC. WT classes are conducted on a block schedule. The morning classes run Monday–Friday from 7:30–10:30 a.m. and the afternoon classes run Monday–Thursday from 12:00–3:45 p.m.. **For more information, see Warren Tech Students on page 10.**

This program is a nationally certified automotive repair program (NATEF) which provides you with entry-level skills in the automotive industry or upgrading for those currently in the field. Demonstrated mastery of skills is required and all tasks must be completed to satisfy industry standards. All automotive (ASE) courses are held at the Warren Tech automotive classroom/lab. Each certificate is a full one-year program with an optional third year advanced certificate. The instructors are ASE Certified Master Technicians. Consult with an automotive service technology advisor before beginning your program of study.

Degrees: Associate of Applied Science

Automotive Service Technology

Automotive Parts Management

Certificates:

Maintenance Light Repair

Auto Service Technician

Master Auto Service Technician

Automotive Parts

Automotive Parts Management

Automotive Technology Degrees

Automotive Service Technology AAS Degree

Required Courses		Credits
A minimum of 60 credits must be taken from the following courses		
ASE 101	Auto Shop Orientation (2)	
ASE 102	Introduction to the Auto Shop (2)	
ASE 110	Brakes I (2)	
ASE 111	Automotive Brake Service II (2)	
ASE 210	Automotive Power and ABS Brake Systems (2)	
ASE 140	Suspension and Steering I (2)	
ASE 141	Suspension and Steering II (2)	
ASE 240	Suspension and Steering III (2)	
ASE 264	Introduction to Automotive Heating & AC (1)	
ASE 265	Heating and A/C (5)	
ASE 150	Manual Drive Train and Axle Maintenance (2)	
ASE 151	Automotive Manual Transmission/Transaxles & Clutches (2)	
ASE 152	Manual Transmission, Transaxles and Clutches II (2)	
ASE 153	Automotive Drive Axle Overhaul (1)	
ASE 154	Manual Trans/Axle Diagnosis and Repair (1)	
ASE 250	Auto Trans/Transaxle Service (1)	
ASE 251	Auto Trans/Transaxle Diagnosis (3)	
ASE 252	Advanced Automatic Trans/Transaxles (2)	
ASE 130	General Engine Diagnosis (2)	
ASE 134	Automotive Fuel and Emissions Systems I (2)	
ASE 231	Computers &Ignition Systems (2)	
ASE 233	Fuel Injection/Exhaust (4)	
ASE 235	Drivability and Diagnosis (2)	
ASE 120	Basic Automotive Electricity (2)	
ASE 122	Automotive Electrical Safety Systems (1)	
ASE 123	Starting and Charging System (2)	
ASE 221	Auto Body Electrical (4)	
ASE 160	Engine Removal and Install (2)	
ASE 162	Automotive Engine Service (2)	
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**75**

Automotive Parts Management AAS Degree

Students must take both the Automotive Parts Certificate and the Auto Parts Management Certificate as well as the required general education courses to complete the Automotive Parts Management AAS degree.

Required Courses		Credits
ASE 101	Auto Shop Orientation	2
ASE 102	Introduction to the Auto Shop	2
ASE 110	Brakes I	2
ASE 111	Automotive Brake Service II	2
ASE 120	Basic Automotive Electricity	2
ASE 122	Automotive Electrical Safety Systems	1
ASE 123	Starting and Charging System	2
ASE 130	General Engine Diagnosis	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 151	Automotive Manual Transmission/Transaxles & Clutches	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2
ASE 160	Automotive Engine Repair	2
ASE 171	Laboratory Experience II	1
ASE 201	Automotive Parts Management I	1
ASE 203	Automotive Parts Management II	1
ASE 221	Auto Body Electrical	4
ASE 233	Fuel Injection/Exhaust	4
ASE 250	Automatic Transmission/Transaxle Service	1
Total Automotive Credits		**39**
General Education Courses		
(See AAS Degree Requirements on page 61)		
COM 115	Public Speaking	3
ENG 121	English Composition I	3
ENG 122	English Composition II	3
HUM	Statewide General Ed Core (2 courses)	6
HIS	History	3
ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
MAT 135	Introduction to Statistics	3
SCI	Natural/Physical Science w/Labs. Statewide Articulation General Ed Core (2 Courses)	4
Total General Education Credits		**31**
Total Credits		**70**

Automotive Technology NATEF Specialty Area Certificates

Auto Service Technician Certificate

Required Courses		Credits
ASE 111	Automotive Brake Service II	2
ASE 122	Automotive Electrical Safety Systems	1
ASE 123	Starting and Charging System	2
ASE 141	Suspension and Steering II	2
ASE 151	Automotive Manual Transmission/Transaxles & Clutches	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2
ASE 221	Auto Body Electrical	4
ASE 231	Automotive Computers	2
ASE 233	Fuel Injection/Exhaust	4
Total Credits		**21**

Maintenance Light Repair Certificate

Required Courses		Credits
ASE 101	Auto Shop Orientation	2
ASE 102	Introduction to the Auto Shop	2
ASE 110	Brakes I	2
ASE 120	Basic Automotive Electricity	2
ASE 130	General Engine Diagnosis	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 140	Suspension and Steering I	2
ASE 150	Manual Drive Train and Axle Maintenance	2
ASE 250	Automatic Transmission/Transaxle Service	1
ASE 264	Introduction to Automotive Heating & AC	1
Total Credits		**18**

Master Auto Service Technician Certificate

Required Courses		Credits
ASE 153	Automotive Drive Axle Overhaul	1
ASE 154	Manual Trans/Axle Diagnosis and Repair	1
ASE 160	Engine Removal and Install	2
ASE 162	Automotive Engine Service	2
ASE 210	Automotive Power and ABS Brake Systems	2
ASE 235	Drivability and Diagnosis	2
ASE 240	Suspension and Steering III	2
ASE 251	Auto Trans/Transaxle Diagnosis	3
ASE 252	Advanced Automatic Trans/Transaxles	2
ASE 265	Heating and A/C	4
Total Credits		**21**

Automotive Parts Management Certificate

Required Courses		Credits
ASE 101	Auto Shop Orientation	2
ASE 102	Introduction to the Auto Shop	2
ASE 110	Brakes I	2
ASE 111	Automotive Brake Service II	2
ASE 120	Basic Automotive Electricity	2
ASE 122	Automotive Electrical Safety Systems	1
ASE 123	Starting and Charging System	2
ASE 130	General Engine Diagnosis	2
ASE 134	Automotive Fuel and Emissions Systems I	2
ASE 140	Suspension and Steering I	2
ASE 141	Suspension and Steering II	2
ASE 151	Automotive Manual Transmission/Transaxles & Clutches	2
ASE 152	Manual Transmission, Transaxles and Clutches II	2
ASE 160	Automotive Engine Repair	2
ASE 221	Auto Body Electrical	4
ASE 233	Fuel Injection/Exhaust	4
ASE 250	Automatic Transmission/Transaxle Service	1
Total Credits		**36**

Automotive Parts Certificate

Required Courses		Credits
ASE 171	Auto Parts Laboratory Experience II	2
ASE 201	Automotive Parts Management I	1
ASE 203	Automotive Parts Management II	2
Total Credits		**5**

Biology

www.rrcc.edu/biology

Degree: Associate of Science

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Biology. Consult with a faculty advisor before beginning this area of study. These courses provide the basic preparation leading to biology-related careers. Some courses might not be offered each semester.

Biology Area of Study

Suggested Courses for Transfer		Credits
BIO 111	General College Biology I*	5
BIO 112	General College Biology II*	5
MAT 121	College Algebra*	4
BIO 201	Human Anatomy and Physiology I	4
BIO 202	Human Anatomy and Physiology II	4
BIO 204	Microbiology	4
*Fulfills General Education requirements		
General Education Courses		**27**
(See AS Degree Requirements on page 42)		

Biology AS Degree

The completion of the AS - Biology Designated Degree is appropriate for students who plan to transfer to a state four-year college or university to complete a major in Biology. Consult with a faculty advisor if planning this program of study.

See AS - Biology Designated Degree Requirements on page 56

Business

www.rrcc.edu/business

A Business Degree or certificate creates a practical approach to industry with the versatility to span many career interests and options. RRCC offers areas of study that are in high demand in the current economy. Students can specialize in management & supervision, leadership, real estate, or small business. Credits may transfer to a four-year college or university and apply toward a major in a business-related field.

Degree: Associate of Arts

Business

Degrees: Associate of Applied Science

Business - Management and Supervision

Business - Interdisciplinary

Business - Real Estate

Certificates:

Business Foundations

Leadership

Management and Supervision

Real Estate

Small Business Startup

Workplace Readiness

Business Degrees

Business AA Degree

See AA - Business Designated Degree Requirements on page 49

If you plan to transfer to a four-year college or university to complete a major in Business or a closely related field, you should complete the AA Business Designated Degree. This degree reflects the business transfer agreement with the public four-year colleges and universities in Colorado. Consult with a faculty or academic advisor before beginning this program of study.

Business – Management and Supervision AAS Degree

The Business - Management and Supervision Degree allows you to translate skills into practical careers whether working in, managing, or owning a business.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
BUS 115	Introduction to Business	3
BUS 116	Personal Finance or faculty-approved elective	3
BUS 120	Introduction to E-Commerce	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
CIS 118	Introduction to PC Applications	3
MAN 116	Principles of Supervision	3
MAN 226	Principles of Management	3
MAR 216	Principles of Marketing	3
Faculty advisor-approved business electives (Recommended: ACC, BUS, MAN, MAR, REE, SBM)		**10**
Required General Education Courses:		
ENG 121	English Composition I	3
MAT 107	Career Math or any MAT course 100 or higher	3
ECO 201	Principles of Macroeconomics	3
PHI 112	Ethics	3
Faculty advisor-approved general education elective		**3**
Total Credits		**60**

Business – Interdisciplinary AAS Degree

The Business – Interdisciplinary Degree gives you the opportunity to apply and blend career and technical skills with core business courses. You will acquire the knowledge and background to understand the various components required to operate a successful business.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
BUS 102	Entrepreneurial Operations	3
BUS 115	Introduction to Business	3
BUS 116	Personal Finance or faculty-approved elective	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
MAN 226	Principles of Management	3
MAR 216	Principles of Marketing	3
Interdisciplinary credits 16 credits in 100-level courses or higher in one vocational program within the Community Colleges of Colorado or the equivalent through an articulation agreement.(See faculty advisor.)		**16**
Required General Education Courses:		
ENG 121	English Composition I or ENG 131 Technical Writing	3
MAT 107	Career Math or any MAT course 100 or higher	3
ECO 201	Principles of Macroeconomics	3
PHI 112	Ethics	3
Faculty advisor-approved general education elective		**3**
Total Credits		**60**

Business – Real Estate AAS Degree

The Business - Real Estate Degree combines real estate expertise with foundational business concepts so you can operate successfully in a real estate-related business.

Required Courses		Credits
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
BUS 102	Entrepreneurial Operations	3
BUS 115	Introduction to Business	3
BUS 116	Personal Finance or faculty-approved elective	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
CIS 118	Introduction to PC Applications	3
MAN 212	Negotiation/Conflict Resolution	3
MAN 224	Leadership	3
MAR 216	Principles of Marketing	3
REE 201	Real Estate Brokers I	6
REE 202	Real Estate Brokers II	6
Required General Education Courses:		
ENG 121	English Composition I or ENG 131 Technical Writing I	3
MAT 107	Career Math or any MAT course 100 or higher	3
ECO 201	Principles of Macroeconomics	3
PHI 112	Ethics	3
Faculty advisor-approved general education elective		**3**
Total Credits		**62**

Business Certificates

Business Foundations Certificate

The courses composing this certificate provide a glimpse of the business environment. Foundational concepts are addressed to show the scope of business and the legal components that contribute to structure, operations, and success.

Required Courses		Credits
BUS 115	Introduction to Business	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
Total Credits		**9**

Leadership Certificate

This program exemplifies the trend of developing leaders everywhere in society and business. It offers a dynamic learning experience that helps students realize their leadership potential with innovative coursework applied in a hands-on environment.

Required Courses		Credits
MAN 280	Internship or MAN 187 Cooperative Education or BUS 192 Service Learning	3
MAN 215	Organizational Behavior	3
MAN 224	Leadership	3
MAN 230	Corporate Ethics and Social Responsibility	3
MAN 240	Strategic Management	3
MAN 150	Change Through Challenge or MAN 241 Project Management in Organizations	3
Business Electives. Select two from the following:		**6**
MAN 128	Human Relations in Organizations (3)	
MAN 156	Problem Solving and Decision Making in a Business Environment (3)	
MAN 150	Change Through Challenge (3)	

MAN 200	Human Resource Management I (3)	
MAN 210	Aligning Technology with Business Strategy (3)	
MAN 212	Negotiation and Conflict Resolution (3)	
MAN 241	Project Management in Organizations (3)	
Total Credits		**24**

Management and Supervision Certificate

This certificate creates a focused course of study combining business and management principles. It supplements current business experience to increase your competitive value or create a well-rounded groundwork of management.

Required Courses		**Credits**
ACC 121	Accounting Principles I	4
BUS 115	Introduction to Business	3
BUS 116	Personal Finance or faculty-approved elective	3
BUS 216	Legal Environment of Business	3
BUS 217	Business Communication and Report Writing	3
CIS 118	Introduction to PC Applications	3
MAN 116	Principles of Supervision	3
MAN 226	Principles of Management	3
MAR 216	Principles of Marketing	3
Total Credits		**28**

Real Estate Certificate

These courses meet the educational requirements of the Colorado Real Estate Commission for a Colorado Real Estate Broker's license.

Required Courses		**Credits**
REE 201	Real Estate Brokers I	6
REE 202	Real Estate Brokers II	6
Total Credits		**12**

Small Business Startup Certificate

This condensed program offers you the opportunity to obtain an overview of small business concepts to get you started on the road to establishing your own small business.

Required Courses		**Credits**
SBM 101	Starting a Small Business	1
SBM 103	Legal Aspects of a Small Business	1
SBM 106	Recordkeeping for a Small Business	1
SBM 108	Marketing for a Small Business	1
SBM 110	Managing a Small Business	1
SBM 112	Financing a Small Business	1
SBM 113	Writing a Business Plan	1
SBM 175	Special Topics or MAN 117 Time Management or faculty advisor-approved program elective	1
Total Credits		**8**

Workplace Readiness Certificate

Learning about the workplace and being prepared to enter the workplace can be worlds apart. This focused certificate gives students a blend of soft skills, theory, and practical application (with practice) to support entry or re-entry into the workforce.

Required Courses		**Credits**
MAR 106	Marketing Your Image	3
BUS 118	Business Survival Skills	3
Total Credits		**6**

Carpentry

www.rrcc.edu/carpentry

Beginning in the summer of 2014, there is a change in pre/corequisite classes. *** If you began your course of study in the summer of 2014, you will have HVA 107 as a pre/corequisite class for all CAR classes. Students taking HVA 107 can substitute this class for the HWE 113 and OSH 127 requirements since OSH 127 is not currently being offered. If you began your course of study before summer of 2014, you will graduate under the catalog requirements listed for the semester that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) and then return, you must meet the requirements of the catalog in effect at the time you re-enroll.

These carpentry certificates are part of the State of Colorado program approval for Building and Apartment Maintenance. Please see Air Conditioning, Heating, and Refrigeration and Plumbing for additional degrees and certificates under this category.

This program provides theory and hands-on training for entry-level skills through craftsman-level competencies in a variety of areas. All courses include current industry topics such as green building, energy conservation, and efficiency techniques. Areas of emphasis are designed to meet individual needs, whether you are a part-time or full-time student. All classes are open to all skill levels unless otherwise noted. Tools are provided for entry-level classes; personal tool requirements may increase with proficiency.

Advising: New students should contact Advising at **303.914.6255**. Current students should contact the department chair at **303.914.6306**.

Related course work may be found under:
Air Conditioning, Heating, and Refrigeration; Electricity; Fine Woodworking; Plumbing; and Renewable Energy Technology.

Certificates:

Residential Remodeling
Advanced Remodeling
Home Energy Efficiency

Carpentry Certificates

Residential Remodeling Certificate

Required Courses		**Credits**
CAR 103	Carpentry Basics	4
CAR 136	Remodeling, Renovation, and Additions	4
CAR 115	Form & Foundation Systems	1
CAR 122	Wall Framing	1
CAR 123	Roof Framing	1
CAR 125	Roofing Materials & Methods	1
CAR 130	Windows and Exterior Doors	1
CAR 134	Exterior Finishes and Trim	4
CAR 135	Thermal/Moisture Methods/Materials	1
CAR 150	Interior Trim - General	1
HWE 113	First Aid and Adult CPR ***	0.5

OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**20.5**

***See Program Description

Advanced Remodeling Certificate

Required Courses		**Credits**
CAR 102	Hand and Power Tools	1
CAR 103	Carpentry Basics	4
CAR 136	Remodeling, Renovation, and Additions	4
CAR 115	Form & Foundation Systems	1
CAR 122	Wall Framing	1
CAR 123	Roof Framing	1
CAR 125	Roofing Materials & Methods	1
CAR 130	Windows and Exterior Doors	1
CAR 134	Exterior Finishes and Trim	4
CAR 135	Thermal/Moisture Methods/Materials	1
CAR 146	Interior Finish/Drywall Construction	1
CAR 153	Interior Trim: Cabinet/Countertops	1
CAR 155	Interior Trim and Built-ins	4
CAR 160	Floor Finishes	1
CAR 166	Stair Design & Construction	4
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**31.5**

***See Program Description

Home Energy Efficiency Certificate

Required Courses		**Credits**
HVA 105	Electricity for HVAC/R	4
HVA 110	Fundamentals of Gas Heating	4
CAR 102	Hand and Power Tools	1
CAR 122	Wall Framing	1
CAR 130	Windows and Exterior Doors	1
CAR 135	Thermal/Moisture Methods/Materials	1
ENY 102	Building Energy Auditing Techniques	3
ENY 120	Solar Thermal System Install	4
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**20.5**

***See Program Description

Chemistry

www.rrcc.edu/chemistry

Degree: Associate of Science

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Chemistry. Consult with a faculty advisor before beginning this area of study. These courses provide the basic preparation leading to chemistry-related careers. Some courses might not be offered each semester.

Chemistry Area of Study

Suggested Courses for Transfer		**Credits**
CHE 111	General College Chemistry I *	5
CHE 112	General College Chemistry II *	5
CHE 211	Organic Chemistry I	5
CHE 212	Organic Chemistry II	5
MAT 201	Calculus I *	5
MAT 202	Calculus II	5

*Fulfills General Education requirements

General Education Courses		**27**

(See AS Degree Requirements on page 42)

Chemistry AS Degree

The completion of the AS - Chemistry Designated Degree is appropriate for students who plan to transfer to a state four-year college or university to complete a major in Communication. Consult with a faculty advisor if planning this program of study.

See AS - Chemistry Designated Degree Requirements on page 56

Communication

www.rrcc.edu/communication

Degree: Associate of Arts

Area of Study:

Communication Disorders *(Speech – Language Pathology and Audiology)*

Communication AA Degree

The completion of the AA - Communication Designated Degree is appropriate for students who plan to transfer to a state four-year college or university to complete a major in Communication. Consult with a faculty advisor if planning this program of study.

See AA - Communication Designated Degree Requirements on page 50

Communication Disorders Area of Study

This program is designed to provide orientation into a course of study in communication disorders, which usually includes speech-language pathology or audiology. The program will prepare you to pursue an undergraduate degree in the speech-language pathology or audiology areas. An articulation agreement is in place with the University of Northern Colorado for students who complete this degree. Consult with a faculty advisor before beginning this area of study.

Suggested Courses for Transfer		**Credits**
CMD 160	Introduction to Human Communication Disorders	3
CMD 260	Introduction to Phonetics	2
CMD 265	Physiological and Biological Acoustics	2
CMD 266	Normal Language Development	3
CMD 267	Anatomy and Physiology of the Speech and Hearing Mechanism	3
ASL 121	American Sign Language	5
COM 125	Interpersonal Communication* or COM 126 Communication in Healthcare	3
BIO 201	Human Anatomy and Physiology I	4

*Fulfills General Education requirement

General Education Courses		**35**
(See AA Degree Requirements on page 40)		
Recommended General Education courses:		
BIO 111	General College Biology	5
MAT 121	College Algebra	4
Highly recommended for transfer to UNC		
(Consult a faculty advisor):		
BIO 202	Human Anatomy and Physiology II	4

Computer Information Systems

www.rrcc.edu/computer-technology

Degrees: Associate of Applied Science

- **Computer Support Technician**
- **Cyber Security Specialist**
- **Game Development**
- **Microsoft Technology Associate (MTA)**
- **Network Specialist**
- **PC Applications Specialist**
- **Programming Specialist**
- **Web Development**

Certificates:

- **CISCO Network Associate**
- **Computer Support Technician**
- **Cyber Security Specialist**
- **Game Development**
- **Microsoft Technology Associate (MTA)**
- **Microsoft SQL Server Administrator**
- **Microsoft Windows Server**
- **Network Specialist**
- **PC Applications Specialist**
- **Programming Specialist**
- **Web Development**

Computer Information Systems Requirements for all AAS Degrees

The Computer Information Systems Associate of Applied Science degree prepares you for entry-level positions in all areas of emphasis that are listed following the core requirements. You must earn a minimum grade of C in all BTE, CIS, CNG, CSC, and CWB courses required for a certificate or degree.

Required Courses		**Credits**
Faculty advisor-approved business course:		3
	ACC 121 Accounting Principles I (4)	
	BUS 115 Introduction to Business (3)	
	BUS 120 Introduction to E-Commerce (3)	
	MAN 210 Aligning Technology with Business Strategy (3)	
	BUS 216 Legal Environment of Business (3)	
	or BUS 226 Business Statistics (3)	
ENG 121	English Composition I	3
ENG 122	English Composition II	3
	or ENG 131 Technical Writing	
MAT 121	College Algebra (or higher)	4
COM 115	Public Speaking	3
	or COM 125 Interpersonal Communication	
	or THE 118 Acting Skills: Trades/Business	
CIS 268	System Analysis and Design I	3
CIS 289	Capstone	3
	or CIS 280 Internship	
Credit from any two of the following three areas:		**6**
Arts & Humanities (ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE)		
Natural & Physical Sciences (AST, BIO, CHE, ENV, GEY, PHY, SCI)		
Social & Behavioral Sciences (ANT, ECO, GEO, HIS, POS, PSY, SOC)		
Total Credits		**28-29**

Computer Information Systems Degrees

Computer Support Technician AAS Degree

This area of emphasis provides both hardware and operating systems experience needed to work as a support person for both local and wide area network environments.

Required Courses		**Credits**
CIS 118	Introduction to PC Applications: MS Office	3
CIS 220	Fundamentals of UNIX	3
CNG 121	Computer Technician I: A+	4
CNG 122	Computer Technician II: A+	4
CNG 124	Networking I: Net+	3
CNG 125	Networking II: Net+	3
CNG 131	Principles of Information Assurance	3
CNG 211	Windows Configuration: Win OS	3
Choose 9 credit hours from the following:		**9**
CIS 222	UNIX System Administration (3)	
CNG 132	Network Security Fundamentals (3)	
CNG 133	Firewalls/Network Security (3)	
CNG 136	Guide to IT Disaster Recovery (3)	
CNG 212	Configuring Windows Server (4)	
CNG 213	Administering Windows Server (4)	
CNG 280	Internship (3)	
CSC 119	Introduction to Programming (3)	
Computer Support Technician AAS Degree Subtotal		**35**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**63-64**

Cyber Security Specialist AAS Degree

This area of emphasis provides you with the skills necessary to protect computing systems and networks that have an important impact on data confidentiality, integrity, and availability. You will learn about computer network threats and the appropriate incident response, to include defenses, countermeasures, and computer forensics.

Required Courses		**Credits**
CIS 220	Fundamentals of UNIX	3
CIS 222	UNIX System Administration	3
CNG 131	Principles of Information Assurance	3
CNG 132	Network Security Fundamentals	3
CNG 133	Firewalls/Network Security	3
CNG 136	Guide to IT Disaster Recovery	3

CNG 257	Network Defense/Countermeasures	3
CNG 258	Digital Forensics	4
CNG 259	Enterprise Security	4
Faculty advisor-approved electives		6
Cyber Security Specialist AAS Degree Subtotal		**35**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**63-64**

Game Development AAS Degree

This area of emphasis prepares you for an entry-level position as a developer in the gaming industry. It also allows you to develop strong technical skills in programming, which permits transfer to a four-year university.

Required Courses		**Credits**
CSC 119	Introduction to Programming	3
CSC 126	Game Design and Development	3
CSC 160	Computer Science I: C++	4
CSC 217	Advanced Python Programming	3
CSC 200	Game Programming I	3
CIS 220	Fundamentals of UNIX	3
Choose 15 credit hours from the following:		**15**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CIS 240	Database Design and Development (3)	
CIS 243	Introduction to SQL (3)	
CSC 161	Computer Science II: C++ (4)	
CSC 228	Advanced 3D Game Development (3)	
CSC 240	Java Programming (3)	
CSC 241	Advanced Java Programming (3)	
CSC 246	Mobile App Development (3)	
CSC 280	Internship (3)	
CNG 101	Networking Fundamentals (3)	
CNG 131	Principles of Information Assurance (3)	
Or faculty advisor-approved elective		
Game Development AAS Degree Subtotal		**34**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**62-63**

Microsoft Technology Associate (MTA) AAS Degree

This area of emphasis provides you with the skill set necessary to complete the Microsoft Technology Associate (MTA). You will design, implement, build, troubleshoot, debug, and maintain Windows and Web applications that use the .NET Framework; Visual Studio; and MS SQL Server database.

Required Courses		**Credits**
CSC 119	Introduction to Programming	3
CSC 236	C# Programming	4
CNG 131	Principles of Information Assurance	3
CWB 110	Complete Web Authoring: HTML	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
CSC 237	Advanced C# Programming	4
CWB 164	Structured Info Create: (XML)	3
Choose 6 credit hours from the following:		**6**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CIS 220	Fundamentals of UNIX (3)	
CSC 250	Develop Data Access w/MS.NET (3)	
CSC 253	MS Web Development Fundamentals: (ASP.NET) (3)	
CSC 262	MS Windows Development Fundamentals: (C#) (3)	
CIS 252	Implement and Maintain SQL Server Database (3)	
CIS 253	Develop a Microsoft SQL Server Database (3)	
CIS 280	Internship (3)	
CSC 280	Internship (3)	
Or faculty advisor-approved elective		
Microsoft Technology Associate (MTA) AAS Degree Subtotal		**32**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**60-61**

Network Specialist AAS Degree

This area of emphasis provides both hardware and operating systems experience needed to work as a support person for both local and wide area networks. This area of emphasis prepares you for entry-level positions in the computer networking field. Students in this program gain hands-on experience with network technologies, installation and configuration, media and topologies, management, and security. Upon successful completion of the program, you will have the needed background to prepare to take one or more of the following exams: Network+, Security+, MCITP (Microsoft Certified Information Technology Professional), MCTS (Microsoft Certified Technology Specialist), or CISCO (CCNA).

Required Courses		**Credits**
CIS 220	Fundamentals of UNIX	3
CNG 124	Networking I: Net+	3
CNG 125	Networking II: Net+	3
CNG 131	Principles of Information Assurance	3
CNG 132	Network Security Fundamentals	3
CNG 211	Windows Configuration: Win OS	3
Choose 15 credit hours from the following:		**15**
CIS 222	UNIX System Administration (3)	
CNG 121	Computer Technician I: A+ (4)	
CNG 122	Computer Technician II: A+ (4)	
CNG 133	Firewalls/Network Security (3)	
CNG 136	Guide to IT Disaster Recovery (3)	
CNG 212	Manage a MS Windows Server Environment (4)	
CNG 213	Administering Windows Server (4)	
CNG 214	Advanced Windows Server Administration (4)	
CNG 257	Network Defense and Counter Measures (3)	
CNG 260	CISCO Network Associate I (5)	
CNG 261	CISCO Network Associate II (5)	
CNG 262	CISCO Network Associate III (5)	
CNG 263	CISCO Network Associate IV (5)	
CNG 280	Internship (3)	
Network Specialist AAS Degree Subtotal		**33**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**61-62**

PC Applications Specialist AAS Degree

This area of emphasis prepares you for an entry-level position and/or advancement in businesses that employ people in office occupations. Upon completion of the course work, you will be prepared to sit for the Microsoft Office Certification examinations.

Required Courses		**Credits**
BTE 100	Computer Keyboarding I	1
BTE 125	Records Management	3
BTE 166	Business Editing Skills	3
CIS 118	Introduction to PC Applications: MS Office	3

CIS 128	Operating System: Windows	3
CIS 140	Microsoft Outlook	1
CIS 135	Complete PC Word Processing: MS Word	3
CIS 145	Complete PC Database: MS Access	3
CIS 155	PC Spreadsheet Concepts: MS Excel	3
CIS 165	Complete Presentation Graphics: MS PowerPoint	3
CWB 110	Complete Web Authoring: HTML	3
Choose 3 credit hours from the following:		**3**
CSC 119	Introduction to Programming: C or Python (3)	
CNG 101	Networking Fundamentals (3)	
CIS 280	Internship (3)	
CNG 131	Principles of Information Assurance (3)	
Or faculty advisor-approved electives		
PC Applications Specialist AAS Degree Subtotal		**32**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**60-61**

Programming Specialist AAS Degree

This area of emphasis prepares you to become an entry-level programmer. You will design, develop, build, troubleshoot, debug, maintain, and test computer application software programs in a variety of programming languages. Programs will range from simple business programs to the design and completion of a complex business system.

Required Courses		**Credits**
CSC 119	Introduction to Programming: C or Python	3
CSC 160	Computer Science I: C++ or CSC 236 C# Programming	4
CIS 240	Database Design and Development	3
CNG 131	Principles of Information Assurance or CNG 101 Introduction to Networking	3
CIS 220	Fundamentals of UNIX	3
Choose 9 credit hours from the following Object-oriented programming (OOP) Electives:		**9**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CSC 161	Computer Science II: C++ (4)	
CSC 237	Advanced C# Programming (4)	
CSC 240	Java Programming (3)	
CSC 241	Advanced Java Programming (3)	
CSC 246	Mobile App Development (3)	
Or any OOP faculty advisor-approved course (3)		
Choose 9 credit hours from the following:		**9**
Any CSC-prefixed faculty-advisor approved course		
CSC 225	Computer Architecture/Assembly Language Programming (4)	
CIS 243	Introduction to SQL (3)	
CSC 280	Internship (3)	
Or faculty advisor-approved elective (3)		
Programming Specialist AAS Degree Subtotal		**34**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**62-63**

Web Development AAS Degree

This area of emphasis prepares you for an entry-level position in Web Design/Development with a focus on the programming and database aspects of websites. Course offerings provide a mix of programming and applications that have been researched and retrofitted to meet the demands of today's Web fields.

Required Courses		**Credits**
CWB 110	Complete Web Authoring: HTML	3
CSC 119	Introduction to Programming: Python	3
CSC 160	Computer Science I: C++	4
CIS 220	Fundamentals of UNIX	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
CSC 217	Advanced Python Programming	3
CWB 205	Complete Web Scripting: JavaScript	3
Choose 9 credit hours from the following:		**9**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CSC 161	Computer Science II: C++ (4)	
CSC 236	C# Programming (4)	
CSC 237	Advanced C# Programming (4)	
CSC 240	Java Programming (3)	
CSC 241	Advanced Java Programming (3)	
CSC 253	MS Web Development Fundamentals: (ASP.NET) (3)	
CWB 164	Struct Info Create: XML (3)	
CWB 208	Web Application Development: PHP (3)	
CWB 209	Web Content Management Systems (WordPress, Drupal and/or Joomal) (3)	
CWB 280	Internship (3)	
or faculty advisor-approved course (3)		
Web Development AAS Degree Subtotal		**34**
Computer Information Systems AAS Degree Requirements		**28-29**
Total Credits		**62-63**

Computer Information Systems Certificates

Computer Information Systems Certificates are under revision, please consult with an academic adviser or see **www.rrcc.edu/computer-technology** for the most updated information.

CISCO Network Associate Certificate

This area of emphasis prepares you to take CISCO Certified Network Associate (CCNA) certification. Content includes basic network principles, basic router and switch configuration, intermediate routing and switching, and Wide Area Networking (WAN). Focus is on hands-on performance and assessment

Required Courses		**Credits**
CNG 131	Principles of Information Assurance	3
CNG 260	CISCO Network Associate I	5
CNG 261	CISCO Network Associate II	5
CNG 262	CISCO Network Associate III	5
CNG 263	CISCO Network Associate IV	5
CNG 280	Internship	3
Total Credits		**26**

Computer Support Technician Certificate

This area of emphasis provides both hardware and operating systems experience needed to work as a support person for both local and Wide Area Network environments.

Required Courses		**Credits**
CIS 118	Introduction to PC Applications: MS Office	3
CIS 220	Fundamentals of UNIX	3
CNG 121	Computer Technician I: A+	4
CNG 122	Computer Technician II: A+	4
CNG 124	Networking I: Net+	3
CNG 125	Networking II: Net+	3
CNG 131	Principles of Information Assurance	3
CNG 132	Network Security Fundamentals	3
CNG 211	Windows Configuration: Win OS	3
CNG 280	Internship	3
Total Credits		**32**

Cyber Security Specialist Certificate

This area of emphasis provides you with the skills necessary to protect computing systems and networks that have an important impact on data confidentiality, integrity, and availability. You will learn about computer network threats and the appropriate incident response, to include defenses, countermeasures, and computer forensics.

Required Courses		Credits
CNG 131	Principles of Information Assurance	3
CNG 132	Network Security Fundamentals	3
CNG 133	Firewalls/Network Security	3
CNG 136	Guide to IT Disaster Recovery	3
CNG 257	Network Defense/Counter Measures	3
CNG 258	Digital Forensics	4
CNG 259	Enterprise Security	4
CNG 280	Internship	3
Total Credits		**26**

Game Development Certificate

This area of emphasis prepares you for entry-level positions in the gaming industry. It also allows you to develop strong technical skills in programming, which permits transfer to a four-year university.

Required Courses		Credits
CSC 119	Introduction to Programming	3
CSC 126	Game Design and Development	3
CSC 160	Computer Science I: C++	4
CSC 217	Advanced Python Programming	3
CSC 200	Game Programming I	3
CIS 220	Fundamentals of UNIX	3
Choose 15 credit hours from the following:		**15**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CIS 240	Database Design and Development (3)	
CIS 243	Introduction to SQL (3)	
CSC 161	Computer Science II: C++ (4)	
CSC 228	Advanced 3D Game Development (3)	
CSC 240	Java Programming (3)	
CSC 241	Advanced Java Programming (3)	
CSC 246	Mobile App Development (3)	
CSC 280	Internship (3-4 credits)	
CNG 101	Networking Fundamentals (3)	
CNG 131	Principles of Information Assurance (3)	
Or faculty advisor-approved electives (3)		
Total Credits		**34**

Microsoft Technology Associate (MTA) Certificate

This area of emphasis provides you with the skill set necessary to complete the Microsoft Technology Associate (MTA). You will design, implement, build, troubleshoot, debug, and maintain Windows and Web applications that use the .NET Framework, Visual Studio and MS SQL Server database.

Required Courses		Credits
CSC 119	Introduction to Programming	3
CSC 236	C# Programming	4
CNG 131	Principles of Information Assurance	3
CWB 110	Complete Web Authoring: HTML	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
CSC 237	Advanced C# Programming	4
CWB 164	Struct Info Create: XML	3
Choose 6 credit hours from the following:		**6**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CSC 250	Develop Data Access w/MS.NET (3)	
CSC 253	MS Web Development Fundamentals: ASP.NET (3)	
CSC 262	MS Windows Development Fundamentals: C# (3)	
CIS 252	Implement and Maintain SQL Server Database (3)	
CIS 253	Develop a Microsoft SQL Server Database (3)	
CIS 280	Internship (3)	
CSC 280	Internship (3)	
CIS 220	Fundamentals of Unix (3)	
Or faculty advisor-approved elective (3)		
Total Credits		**32**

Microsoft SQL Server Administrator Certificate

This certificate prepares you for the Microsoft Certified Solution Administrator (MCSA). The MS SQL Server area of emphasis provides the essential skills in developing and maintaining the mission critical MS SQL database environment.

Required Courses		Credits
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
CIS 252	Implement and Maintain SQL Server Database	3
CIS 253	Develop a Microsoft SQL Server Database	3
CNG 131	Principles of Information Assurance	3
CIS 280	Internship	3
Total Credits		**18**

Microsoft Windows Server Certificate

This certificate prepares you for the Microsoft Certified Solution Administrator (MCSA). The MS Windows Server area of emphasis provides the skills necessary to design, implement, configure, and manage a Windows Server and Desktop. Content includes active directory, networking, and user experience.

Required Courses		Credits
CNG 131	Principles of Information Assurance	3
CNG 132	Network Security Fundamentals	3
CNG 211	Windows Configuration: Win OS	3
CNG 212	Configuring Windows Server	4
CNG 213	Administering Windows Server	4
CNG 214	Advanced Administration Windows Server	4
CNG 280	Internship	3
Total Credits		**24**

Network Specialist Certificate

This area of emphasis prepares you for entry-level positions in the networking field. You will gain hands-on experience with network technologies, installation and configuration, media and topologies, management, and security. Upon successful completion of the program, you will have the needed background to prepare to take the Network + exam.

Required Courses		Credits
CIS 220	Fundamentals of UNIX	3
CNG 121	Computer Technician I: A+	4
CNG 122	Computer Technician II: A+	4
CNG 124	Networking I: Net+	3
CNG 125	Networking II: Net+	3

CNG 131	Principles of Information Assurance	3
CNG 132	Network Security Fundamentals	3
CNG 211	Windows Configuration: Win OS	3
CNG 280	Internship	3
Total Credits		**29**

PC Applications Specialist Certificate

This area of emphasis prepares you for an entry-level position and/or advancement in businesses that employ people in office occupations. Upon completion of the coursework, you will be prepared to sit for the Microsoft Office certification examinations.

Required Courses		**Credits**
BTE 100	Computer Keyboarding I	1
BTE 125	Records Management	3
BTE 166	Business Editing Skills	3
CIS 118	Introduction to PC Applications: MS Office	3
CIS 128	Operating System: Windows	3
CIS 140	Microsoft Outlook	1
CIS 135	Complete PC Word Processing: MS Word	3
CIS 145	Complete PC Database: MS Access	3
CIS 155	PC Spreadsheet Concepts: MS Excel	3
CIS 165	Complete Presentation Graphics: MS PowerPoint	3
CWB 110	Complete Web Authoring: HTML	3
Choose 3 credit hours from the following:		**3**
CSC 119	Introduction to Programming: C or Python (3)	
CNG 101	Networking Fundamentals (3)	
CIS 280	Internship (3)	
CNG 131	Principles of Information Assurance (3)	
Or faculty advisor-approved elective (3)		
Total Credits		**32**

Programming Specialist Certificate

This area of emphasis prepares you to become an entry-level programmer. You will design, develop, and test computer application software programs in a variety of programming languages. Programs will range from simple business programs to the design and completion of a complex business system.

Required Courses		**Credits**
CSC 119	Introduction to Programming: Python	3
CSC 160	Computer Science I: C++ or CSC 236 C# Programming	4
CIS 220	Fundamentals of UNIX	3
CIS 240	Database Design and Development	3
CNG 131	Principles of Information Assurance or CNG 101 Networking Fundamentals	3
CIS 268	System Analysis and Design	3
Choose 9 credit hours from the following:		**9**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CSC 161	Computer Science II: C++ (4)	
CSC 237	Advanced C# Programming (4)	
CSC 240	Java Programming (3)	
CSC 241	Advanced Java Programming (3)	
CSC 246	Mobile App Development (3)	
Or any OOP faculty advisor-approved course (3)		
Choose 6 credit hours from the following:		**6**
Any CSC-prefixed faculty-advisor approved course (3)		
CSC 225	Computer Architecture/Assembly Language Programming (4)	
CIS 243	Introduction to SQL (3)	
CSC 280	Internship (3)	
Or any faculty advisor-approved course (3)		
Total Credits		**34**

Web Development Certificate

This area of emphasis prepares you for an entry-level position in Web Development with a focus on the programming and database aspects of websites. Course offerings provide a mix of programming and applications that have been researched and retrofitted to meet the demands of today's Web fields.

Required Courses		**Credits**
CWB 110	Complete Web Authoring: HTML	3
CSC 119	Introduction to Programming: Python	3
CSC 160	Computer Science I: C++	4
CIS 220	Fundamentals of UNIX	3
CIS 240	Database Design and Development	3
CIS 243	Introduction to SQL	3
CSC 217	Advanced Python Programming	3
CWB 205	Complete Web Scripting: JavaScript	3
Choose 9 credit hours from the following:		**9**
CIS 118	Introduction to PC Applications (3)	
CIS 128	Operating System: Windows (3)	
CWB 130	Web Editing Tools: Dreamweaver (3)	
CSC 161	Computer Science II: C++ (4)	
CSC 236	C# Programming (4)	
CSC 237	Advanced C# Programming (4)	
CSC 240	Java Programming (3)	
CSC 241	Advanced Java Programming (3)	
CSC 253	MS Web Development Fundamentals: ASP.NET (3)	
CWB 164	Struct Info Create: XML (3)	
CWB 208	Web Application Development: PHP (3)	
CWB 209	Web Content Management Systems (WordPress, Drupal and/or Joomal) (3)	
CWB 280	Internship (3)	
Or faculty advisor-approved course (3)		
Total Credits		**34**

Computer Science

www.rrcc.edu/computer-technology

Degree: Associate of Science

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Computer Science. Consult with a faculty advisor before beginning this area of study.

Computer Science Area of Study

Suggested Courses for Transfer		**Credits**
MAT 201	Calculus I*	5
MAT 202	Calculus II*	5
PHY 211	Physics: Calculus-Based I*	5
PHY 212	Physics: Calculus-Based II*	5
Additional GT Course Requirements		**24**
(See AS Degree Requirements on page 42)		
Approved AS Elective courses:		16
CSC 160	Computer Science I: C++ (4)	
CSC 161	Computer Science II: C++ (4)	
CSC 225	Computer Architecture/Assembly Language Programming (4)	
CSC Faculty-Approved Course (4)		
*Fulfills General Education Requirements		
Total Credits		**60**

Cosmetology

www.rrcc.edu/warrentech/cosmetology

Through a cooperative agreement with Warren Tech (the career and technical high school for Jefferson County Public Schools), RRCC students pursuing certain career and technical college degrees/certificates may take courses (on a space-available basis) at Warren Tech (WT), which is adjacent to the RRCC campus. You must have either graduated from high school, received a GED, or attained the age of 21. You pay RRCC tuition and WT program fees and your coursework is recorded on your RRCC transcript.

Classes follow the WT/Jeffco Public Schools' calendar. Deadlines and class start and end dates differ from those of RRCC. WT classes are conducted on a block schedule. The morning classes run Monday–Friday from 7:30–10:30 a.m. and the afternoon classes run Monday–Thursday from 12:00–3:45 p.m. **For more information, see Warren Tech Students on page 10.**

The Cosmetology Program is designed to develop the skills necessary for entry-level employment in areas of hairstylist, esthetics (esthetician-skin care), and nail technology (manicurist).

Degree: Associate of Applied Science

Cosmetology

Certificates:

Cosmetologist
Hairstylist
Manicurist
Esthetician (skin)

Cosmetology AAS Degree

Required Courses		Credits
Required certificate in Hairstyling as well as a certificate in either Manicurist or Esthetician to complete the AAS		60
General Education Courses:		
ENG 121	English Composition I or COM (100 or higher)	3
MAT 107	Career Math (or higher)	3
Courses from any two of the following three areas (100 or higher):		**6**
Art & Humanities: ARA, ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE		
Natural & Physical Sciences: AST, BIO, CHE, ENV, GEY, PHY, SCI		
Social & Behavioral Sciences: ANT, ECO, GEO, HIS, POS, PSY, SOC		
Electives from any of the above subject areas or CIS 118 Introduction to PC Applications		3
Total Credits		**75**

Cosmetology Certificates

Cosmetologist Certificate

The comprehensive Cosmetologist Certificate is designed to develop the skills necessary for entry-level employment in areas of the cosmetology field to include hairstylist, esthetician (skin), and manicurist (nail technology). In order to obtain this certificate, the hairstylist, manicurist, and esthetician programs must all be completed.

Required Courses		Credits
COS 103	Shampoo/Rinses/Conditioners I	1
COS 203	Shampoo/Rinse/Conditioners II	1
COS 110	Intro to Hair Coloring	2
COS 111	Intermediate I: Hair Coloring	2
COS 210	Intermediate II: Hair Coloring	2
COS 211	Advanced Hair Coloring	2
COS 120	Introduction to Hair Cutting	2
COS 121	Intermediate I: Hair Cutting	2
COS 220	Intermediate II: Hair Cutting	2
COS 221	Advanced Hair Cutting	2
COS 130	Intro to Hair Styling	2
COS 131	Intermediate I: Hair Styling	2
COS 230	Intermediate II: Hair Styling	2
COS 231	Advanced Hair Styling	1
COS 140	Intro to Chemical Texture	1
COS 141	Intermediate I: Chemical Texture	1
COS 240	Intermediate II: Chemical Texture	1
COS 241	Advanced Chemical Texture	1
NAT 110	Intro to Manicures & Pedicures	3
NAT 111	Intermediate Manicures & Pedicures	2
NAT 210	Advanced Manicures & Pedicures	2
NAT 211	Application of Artificial Nails	5
EST 110	Intro to Facials & Skin Care	3
EST 111	Intermediate Facials & Skin Care	2
EST 210	Advanced Massage & Skin Care	2
EST 211	Facial Makeup	1
EST 212	Hair Removal	3
COS 150	Laws, Rules and Regulations	1
COS 250	Mgmt, Ethics, Interpersonal Skills & Salesmanship	1
COS 160	Intro to Disinfection, Sanitation & Safety	2
COS 161	Intermediate I: Disinfection, Sanitation & Safety	1
COS 260	Intermediate II: Disinfection, Sanitation & Safety	2
COS 261	Advanced Disinfection, Sanitation & Safety	1
COS 262	Advanced II: Disinfection, Sanitation & Safety	3
EST 160	Intro to Disinfection, Sanitation and Safety	2
EST 161	Intermediate Disinfection, Sanitation and Safety	3
EST 260	Advanced Disinfection, Sanitation and Safety	2
Total Credits		**70**

Hairstylist Certificate

The Hairstylist Certificate is designed to develop the skills necessary for entry-level employment as a hairstylist.

Required Courses		Credits
COS 103	Shampoo/Rinses/Conditioners I	1
COS 203	Shampoo/Rinse/Conditioners II	1
COS 110	Intro to Hair Coloring	2
COS 111	Intermediate I: Hair Coloring	2
COS 210	Intermediate II: Hair Coloring	2
COS 211	Advanced Hair Coloring	2
COS 120	Introduction to Hair Cutting	2
COS 121	Intermediate I: Hair Cutting	2
COS 220	Intermediate II: Hair Cutting	2
COS 221	Advanced Hair Cutting	2

COS 130	Intro to Hair Styling	2
COS 131	Intermediate I: Hair Styling	2
COS 230	Intermediate II: Hair Styling	2
COS 231	Advanced Hair Styling	1
COS 140	Intro to Chemical Texture	1
COS 141	Intermediate I: Chemical Texture	1
COS 240	Intermediate II: Chemical Texture	1
COS 241	Advanced Chemical Texture	1
COS 150	Laws, Rules and Regulations	1
COS 250	Mgmt, Ethics, Interpersonal Skills & Salesmanship	1
COS 160	Intro to Disinfection, Sanitation & Safety	2
COS 161	Intermediate I: Disinfection, Sanitation & Safety	1
COS 260	Intermediate II: Disinfection, Sanitation & Safety	2
COS 261	Advanced Disinfection, Sanitation & Safety	1
COS 262	Advanced II: Disinfection, Sanitation & Safety	3
Total Credits		**40**

Manicurist Certificate

The Manicurist Certificate (nail technology) is designed to develop the skills necessary for entry-level employment as a manicurist.

Required Courses		**Credits**
COS 150	Laws, Rules and Regulations	1
COS 160	Intro to Disinfection, Sanitation & Safety	2
COS 161	Intermediate I: Disinfection, Sanitation & Safety	1
COS 250	Management, Ethics, Interpersonal Skills & Salesmanship	1
COS 260	Intermediate II: Disinfection, Sanitation & Safety	2
COS 261	Advanced Disinfection, Sanitation & Safety	1
NAT 110	Intro to Manicures & Pedicures	3
NAT 111	Intermediate Manicures & Pedicures	2
NAT 210	Advanced Manicures & Pedicures	2
NAT 211	Application of Artificial Nails	5
Total Credits		**20**

Esthetician (Skin) Certificate

The Esthetician Certificate (esthetics-skin care) is designed to develop the skills necessary for entry-level employment as an esthetician.

Required Courses		**Credits**
COS 150	Laws, Rules and Regulations	1
COS 250	Mgmt, Ethics, Interpersonal Skills & Salesmanship	1
EST 110	Intro to Facials & Skin Care	3
EST 111	Intermediate Facials & Skin Care	2
EST 210	Advanced Massage & Skin Care	2
EST 211	Facial Makeup	1
EST 212	Hair Removal	3
EST 160	Intro to Disinfection, Sanitation & Safety	2
EST 161	Intermediate Disinfection, Sanitation & Safety	3
EST 260	Advanced Disinfection, Sanitation & Safety	2
Total Credits		**20**

Criminal Justice

www.rrcc.edu/criminal-justice

The Criminal Justice Program is designed for those seeking a career in the Criminal Justice field. If you have a felony conviction, or any kind of criminal or significant driving record, you may not be employable in the criminal justice field.

Information: 303.914.6434.

Degree: Associate of Arts

Areas of Study:

Victim Assistance

Criminal Justice AA Degree

The completion of the Criminal Justice AA Degree is appropriate for those planning to transfer to a four-year college or university to complete a major in Criminal Justice or Criminology. The associate of arts degree in criminal justice is articulated with all state criminal justice/criminology bachelor degree programs for those planning to continue in the criminal justice and criminology field. It is critical to consult with a criminal justice faculty advisor early in your college career to explore all your career options. You are urged to consult with a Criminal Justice advisor before beginning any program of study. Courses provide the basic preparation leading to criminal justice-related careers. Some courses might not be offered each semester. **Contact 303.914.6434 for advising**.

See AA - Criminal Justice Designated Degree Requirements on page 50

Victim Assistance Area of Study

The completion of the following courses is appropriate for those planning to transfer to a four-year college or university to complete a major in Psychology, Counseling Psychology, Social Work, or Human Services, with the intent of a career working with victims of crime and trauma. Contact a criminal justice degree faculty for more information on this area of study at **303.914.6434**.

Suggested Courses for Transfer		**Credits**
CRJ 110	Introduction to Criminal Justice	3
CRJ 257	Victimology	3
CRJ 151	Domestic Violence	3
CRJ 152	Sexual Assault	3
CRJ 205	Principles of Criminal Law	3
CRJ 225	Crisis Intervention	3
CRJ 239	Managing Emergency Worker Stress	3
CRJ 289	Capstone	1
General Education Courses		**38**
(See AA Degree Requirements on page 40)		
Total Credits		**60**

Culinary Arts

www.rrcc.edu/culinary

This program is designed to prepare culinarians in hands-on, paid, full-time employment with an approved RMCC-sponsoring house. Related classes are taught at Head Start for five hours per week, 90 hours per semester. This VERY demanding six-semester (three-year) program will prepare and teach you to achieve certified culinarian status through the American Culinary Federation (ACF), while working full-time.

This program will earn students a journeyman certificate through the United States Department of Labor. This program is not designed as a traditional college class and does not offer specific sections, i.e. sauces or baking only.

Interested students MUST read detailed information on the RRCC culinary website prior to orientation sessions.

ALL pertinent information about the program is posted and up-to-date on the website. Please do not call for information on the program unless you have read the website in detail. Interested students must attend an orientation session as outlined on the website to receive a sponsoring house list.

Degree: Associate of Applied Science

Culinary Arts

Certificates:

Introduction to Culinary Arts

Culinary Arts

Culinary Arts Degrees

Culinary Arts AAS Degree

Required Courses		Credits
CUA 122	Introduction to Stocks, Soups and Sauces	1
CUA 124	Vegetable Preparation and Breakfast Cookery	1
CUA 127	Soups, Sauces and Consommés	3
CUA 131	Starches, Pastas, Casseroles and Grain Products	1
CUA 132	Center of the Plate: Meat	1
CUA 133	Center of the Plate: Poultry, Fish and Seafood	1
CUA 141	Baking: Principles and Ingredients	1
CUA 142	Basic Yeast-Raised Products and Quick Breads	1
CUA 143	Baking: Cakes, Pies, Pastries and Cookies	1
CUA 144	Baking Applications	1
CUA 150	Baking: Decorating and Presentation	3
CUA 151	Baking: Intermediate Bread Preparation	3
CUA 152	Individual Fancy Dessert Production	3
CUA 156	Nutrition for the Hospitality Professional	3
CUA 180	Culinary Arts Internship 1	5
CUA 182	Culinary Arts Internship 2	5
CUA 210	Advanced Cuisine and Garde Manger	4
CUA 242	Intermediate Garde Manger	1
CUA 255	Supervision in the Hospitality Industry	3
CUA 281	Culinary Arts Internship 3	5
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**62**

Culinary Arts Certificates

Introduction to Culinary Arts Certificate

Required Courses		Credits
CUA 101	Food Safety and Sanitation	2
CUA 121	Introduction to Food Production Principles and Practices	1
CUA 157	Menu Planning	3
Total Credits		**6**

Culinary Arts Certificate

Required Courses		Credits
CUA 101	Food Safety and Sanitation	2
CUA 105	Food Service Concepts and Management Skills	3
CUA 121	Introduction to Food Production Principles and Practices	1
CUA 122	Introduction to Stocks, Soups and Sauces	1
CUA 123	Intro to Garde Manger	1
CUA 124	Vegetable Preparation and Breakfast Cookery	1
CUA 127	Soups, Sauces and Consommés	3
CUA 131	Starches, Pastas, Casseroles and Grain Products	1
CUA 132	Center of the Plate: Meat	1
CUA 133	Center of the Plate: Poultry, Fish and Seafood	1
CUA 141	Baking: Principles and Ingredients	1
CUA 142	Basic Yeast-Raised Products and Quick Breads	1
CUA 143	Baking: Cakes, Pies, Pastries and Cookies	1
CUA 144	Baking Applications	1
CUA 150	Baking: Decorating and Presentation	3
CUA 151	Baking: Intermediate Bread Preparation	3
CUA 152	Individual Fancy Dessert Production	3
CUA 156	Nutrition for the Hospitality Professional	3
CUA 157	Menu Planning	3
CUA 180	Culinary Arts Internship I	5
CUA 182	Culinary Arts Internship II	5
CUA 210	Advanced Cuisine and Garde Manger	4
CUA 242	Intermediate Garde Manger	1
CUA 255	Supervision in the Hospitality Industry	3
CUA 281	Culinary Arts Internship III	5
Total Credits		**57**

Dance

www.rrcc.edu/dance

Degree: Associate of Arts

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Dance. This program provides basic preparation leading to dance-related careers, as well as to the teaching of dance. Consult with a faculty advisor before beginning this area of study.

Dance Area of Study

Suggested Courses for Transfer		Credits
DAN 111	Modern Dance I	1

DAN 112	Modern Dance II	2
DAN 121	Jazz I	1
DAN 122	Jazz II	2
DAN 125	History of Dance	3
DAN 131	Ballet I	1
DAN 132	Ballet II	2
DAN 133	Ballet III	2
DAN 211	Dance Composition	3
Choose from any of the other DAN courses for a total of 7credits:		
DAN 105	Hip Hop I	1
DAN 106	Hip Hop II	1
DAN 126	East/West Coast Swing I	1
DAN 127	East/West Coast Swing II	1
DAN 141	Ballroom Dance I	1
DAN 142	Ballroom Dance II	1
DAN 143	Tap I	1
DAN 151	Belly Dance I	1
DAN 152	Belly Dance II	1
DAN 251	Belly Dance III	1
General Education Courses		**38**
(See AA Degree Requirements on page 40)		

Diagnostic Medical Sonography

See Sonography on page 119

Early Childhood Education

www.rrcc.edu/early-childhood-education

All Early Childhood Education (ECE) degrees and certificates require you to take the placement test before your first semester. You must earn a C or higher in all ECE courses to graduate with a degree or certificate in Early Childhood. You must complete a criminal background check using Certified Background online background check.

Degree: Associate of Arts

Degree: Associate of Applied Science

Certificates:

Early Childhood Entry

Preschool Early Childhood Teacher

Infant/Toddler Early Childhood Teacher

Director, Early Childhood Education

Early Childhood Education Degrees

Early Childhood Education AA Degree

If you plan to transfer to a four-year public college or university to complete a degree with an emphasis in Early Childhood Education, including birth to grade 3, you should complete the following courses. These courses provide the basic preparation leading to early childhood teacher licensure and professional early childhood education careers. You must earn a B or higher in COM 115 to receive the AA in Early Childhood Education.

Consult with the ECE advisor before beginning this program of study.

Required Courses		**Credits**
ECE 101	Intro to Early Childhood Education	3
ECE 102	Early Childhood Lab Techniques	3
ECE 188	ECE Practicum I	3
ECE 205	Nutrition, Health and Safety	3
ECE 238	Child Growth and Development	3
ECE 241	Human Relations for ECE	3
Transfer Institution Approved Credits		**6**
(Meet with ECE faculty advisor for a list of approved credits for each institution.)		
General Education Course Requirements:		**38**
Communication (3 courses)		
ENG 121	English Composition I (3)	
ENG 122	English Composition II (3)	
COM 115	Public Speaking (3)	
Mathematics (2 courses)		
MAT 155	Integrated Math I (3)	
MAT 156	Integrated Math II (3)	
Arts &Humanities (2 courses)		
MUS 120	Music Appreciation (3) or ART 110 Art Appreciation (3)	
LIT 255	Children's Literature (3) or LIT 115 Introduction to Literature (3)	
Science (2 courses)		
SCI 155	Integrated Science I (4)	
SCI 156	Integrated Science II (4)	
Social Sciences (3 courses)		
GEO 105	World Regional Geography (3)	
HIS 121	U.S. History to Reconstruction (3)	
POS 111	American Government (3)	
Total Credits		**62**

Early Childhood Education AAS Degree

This program prepares you to work as a professional in a variety of capacities in early childhood education. If you complete the degree requirements, you will have met the academic requirements for both preschool early childhood teacher and director certificates.

Required Courses		**Credits**
ECE 101	Intro to Early Childhood Education	3
ECE 102	Early Childhood Lab Techniques	3
ECE 103	Guidance Strategies for Children	3
ECE 111	Infant and Toddler Theory and Practice	3
ECE 188	ECE Practicum I	3
ECE 205	Nutrition, Health and Safety	3
ECE 220	Curriculum Development: Methods and Techniques	3
ECE 238	Child Growth and Development	3
ECE 240	Administration of Early Childhood Care and Education Programs (Capstone)	3
ECE 241	Human Relations for ECE	3
ECE 256	Working with Parents, Families and Community Systems	3
ECE 260	The Exceptional Child	3
ECE 288	ECE Practicum II	3
Specific Program Requirements:		
CIS 118	Introduction to PC Applications or EDU 261 Teaching, Learning and Technology	3
General Education Course Requirements:		
ENG 121	English Composition I (or higher)	3
COM 125	Interpersonal Communication	3
MAT 107	Career Math (or higher)	3

Credit from two of the following areas: Arts & Humanities, Natural & Physical Sciences, Social & Behavioral Sciences	**6**
Faculty advisor-approved electives from above	**3**
Total Credits	**60**

Early Childhood Education Certificates

Early Childhood Entry Certificate

Completing this program provides you with the entry-level requirements for working in early care and education settings.

Required Courses		Credits
ECE 101	Intro to Early Childhood Education	3
ECE 103	Guidance Strategies for Children	3
Total Credits		**6**

Preschool Early Childhood Teacher Certificate

Completing this program prepares you for teacher positions in early care and education settings. Upon completion of these classes, you will have met academic requirements for a Colorado Early Childhood Teacher Certificate. In addition to the academic requirements, the Colorado Department of Human Services requires nine months (1,395 hours) of verifiable work experience.

Required Courses		Credits
ECE 101	Intro to Early Childhood Education	3
ECE 102	Early Childhood Lab Techniques	3
ECE 103	Guidance Strategies for Children	3
ECE 188	ECE Practicum I	3
ECE 220	Curriculum Development: Methods and Techniques	3
ECE 238	Child Growth and Development	3
Total Credits		**18**

Infant/Toddler Early Childhood Teacher Certificate

Completing this program prepares you for infant nursery supervisor positions in early childhood care and education settings. Upon completion of these classes, you will have met academic requirements as a Colorado Infant Nursery Supervisor. In addition to the academic requirements, the Colorado Department of Human Services requires 12 months (1,820 hours) of verifiable work experience.

Required Courses		Credits
ECE 101	Intro to Early Childhood Education	3
ECE 103	Guidance Strategies for Children	3
ECE 111	Infant and Toddler Theory and Practice	3
ECE 112	Infant and Toddler Lab Techniques	3
ECE 188	ECE Practicum I	1
ECE 238	Child Growth and Development	3
Total Credits		**16**

Director, Early Childhood Education Certificate

Completing this program prepares you for director-qualified positions in early childhood care and education programs. Upon completion of these classes, you will have met the academic requirements for an Early Childhood Director Certificate. In addition to the academic requirements, the Colorado Department of Human Services requires 24 months (3,640 hours) of verifiable work experience.

Required Courses		Credits
ECE 101	Intro to Early Childhood Education	3
ECE 102	Early Childhood Lab Techniques	3
ECE 103	Guidance Strategies for Children	3
ECE 111	Infant and Toddler Theory and Practice	3
ECE 188	ECE Practicum I	3
ECE 205	Nutrition, Health and Safety	3
ECE 220	Curriculum Development: Methods and Techniques	3
ECE 238	Child Growth and Development	3
ECE 240	Administration of Early Childhood Care and Education Programs (capstone)	3
ECE 241	Human Relations for ECE	3
ECE 260	The Exceptional Child	3
Total Credits		**33**

Economics

www.rrcc.edu/economics

Degree: Associate of Arts

Economics is the study of how society feeds, clothes, houses, and otherwise materially supports itself. It answers the fundamental questions of *How? What?* and *For whom?* Graduates work in business, government, and education in very colorful and varied careers, and they are able to contribute in many ways to answering these basic questions that confront all societies and individuals.

If you plan to transfer to a four-year college or university to complete a major in Economics, you should complete the following courses. Consult with a faculty or academic advisor before beginning this program of study. These courses provide the basic preparation leading to political science-related careers.

Economics AA Degree

See AA - Economics Designated Degree Requirements on page 50

Electricity Commercial-Industrial-Residential

www.rrcc.edu/electrical

This program prepares you for the many career opportunities within the electrical industry. A thorough understanding of DC, AC, one- and three-phase electric circuits and solid-state control devices will be reviewed and discussed. The student will build motor controls, programmable controllers, and instrumentation in the lab, as well as design and build control systems. The program also introduces students to fundamental wiring methods and connection for renewable energy systems. The electrical installation courses use the latest hands-on lab practices requirements according to the National Electrical Code. The electrical code and fire alarm classes are especially useful as preparation for National Institute for Certification in Engineering Technologies (NICET) state license, renewal and certification examinations. This program is excellent for electricians, engineers, firefighters, building department inspectors, instrumentation technicians, and maintenance personnel because it uses an extensive lab environment for

important, hands-on experience in the electrical classroom. Industrial Control & Instrumentation technicians maintain, repair, and troubleshoot mechanisms in a wide variety of industries applications. As a technician, you will repair, maintain, and install sophisticated systems relative to the process or manufacturing industries. This program is designed to provide you with a wide variety of electrical courses to prepare you for a job in the electrical industry. The need for trained electrical technicians continues to climb in a variety of industries, including; construction, manufacturing, power plants, oil and gas production facilities, mining operations, and chemical processing plants. **For advising, please call 303.914.6509.**

Related course work may be found under:
Air Conditioning, Heating, and Refrigeration on page 66 and Renewable Energy Technology on page 116.

Degrees: Associate of Applied Science

- Construction Electrician
- Maintenance Electrician
- Fire Protection Technology
- Construction Electrician/IBEW/NECA
- Power Technology
- Industrial Control & Instrumentation Technology

Certificates:

- Electrical Installation
- National Electrical Code
- Electrical Codes and Standards
- Residential Construction Electrician
- Construction Electrician
- Advanced Construction Electrician
- Maintenance Electrician
- Introduction to Instrumentation and Controls Technician
- Advanced Instrumentation and Controls Technician
- Advanced Maintenance Electrician
- Fire Alarm Code
- Introduction to Fire Alarm Technician
- Fire Alarm and Detection Technician
- Post-Degree Specialization for Advanced Construction Electrician
- Post-Degree Specialization for Advanced Maintenance Electrician

Electricity Commercial/Industrial/Residential Degrees

Construction Electrician AAS Degree

This degree can eliminate up to one year of apprenticeship hours required by the State of Colorado to become a licensed electrician.

Required Courses		Credits
EIC 100	Electrical Construction and Planning	4
EIC 110	Electrical Installations I	4
EIC 120	Electrical Installations II	4
EIC 130	National Electrical Code I	4
EIC 135	National Electrical Code II	4
EIC 150	DC Circuit Fundamentals	4
EIC 155	AC Circuit Fundamentals	4
Required Credits		**28**
Elective Courses (Choose 18 credits from the list below)		**18**
EIC 102, EIC 105, EIC 124, EIC 125, EIC 131, EIC 134, EIC 160, EIC 167, EIC 169, EIC 211, EIC 217, EIC 220, EIC 221, EIC 222, EIC 223, EIC 224, EIC 229, EIC 230, EIC 240, EIC 261, EIC 269. Other courses as approved by Electrical Department Advisor.		
General Education Courses (See AAS Degree Requirements on page 61)		**15**
Total Credits		**61**

Maintenance Electrician AAS Degree

This degree can eliminate up to one year of apprenticeship hours required by the State of Colorado to become a licensed electrician.

Required Courses		Credits
EIC 110	Electrical Installations I	4
EIC 120	Electrical Installations II	4
EIC 150	DC Fundamentals	4
EIC 155	AC Circuit Fundamentals	4
EIC 167	Electrical Maintenance	4
EIC 130	National Electrical Code I	4
EIC 220	Industrial Controls	4
EIC 225	Programmable Controllers I	4
Required Credits		**32**
Elective Courses (Choose 14 credits from the list below)		**14**
EIC 100, EIC 102, EIC 105, EIC 124, EIC 125, EIC 131, EIC 134, EIC 135, EIC 150, EIC 155, EIC 160, EIC 169, EIC 211, EIC 217, EIC 221, EIC 222, EIC 223, EIC 224, EIC 226, EIC 229, EIC 230, EIC 233, EIC 240, EIC 261, EIC 269. Other courses as approved by Electrical Department Advisor.		
General Education Courses (See AAS Degree Requirements on page 61)		**15**
Total Credits		**61**

Fire Protection Technology AAS Degree

This degree prepares you for entry into a career in fire alarm systems design, fire alarm systems technician, or fire sprinkler systems design. This degree is also useful for anyone working for building or fire departments and conducting plan review or inspections. Emphasis is placed on the latest technologies in accordance with national and local fire codes. Preparation for National Institute for Certification in Engineering Technologies (NICET) certification in fire alarm systems levels I, II, III, and IV is included in the program.

Required Courses		Credits
EIC 110	Electrical Installations I	4
EIC 120	Electrical Installations II	4
EIC 130	National Electrical Code I	4
EIC 135	National Electrical Code II	4

EIC 150	DC Circuit Fundamentals	4
EIC 240	Fire Alarm Fundamentals	4
EIC 241	Fire Alarm Systems	4
EIC 242	National Fire Alarm Code	4
Required Credits		**32**
Elective Courses (Choose from list below)		**14**

EIC 100, EIC 102, EIC 105, EIC 124, EIC 125, EIC 131, EIC 134, EIC 155, EIC 160, EIC 169, EIC 211, EIC 217, EIC 220, EIC 221, EIC 222, EIC 223, EIC 224, EIC 226, EIC 229, EIC 230, EIC 233, EIC 240, EIC 261, EIC 269. Other courses as approved by Electrical Department Advisor.

General Education Courses	**15**
(See AAS Degree Requirements on page 61)	
Total Credits	**61**

Construction Electrician/IBEW/NECA

Combine your four or five years of apprenticeship with general education classes at RRCC for an associate of applied science degree via an articulation agreement between IBEW/NECA and RRCC.

The objective of the program is to allow members who have served their apprenticeship program through the National Joint Apprenticeship (NJATC) to earn associate's degrees. This program allows you to combine your excellent trade skills with your academic skills. Upon completion of the IBEW/NECA NJATC apprenticeship program, RRCC will grant 43 credits toward an AAS degree. The degree requires a total of 61 credits, of which 18 must be taken at RRCC or through RRCC Online. You must show proof of completion of IBEW/NECA Wireman or Outside Lineman NJATC programs.

Power Technology AAS Degree

This associate of applied science degree is available for **only those who have completed or are currently enrolled in a power utility based apprenticeship**. RRCC's Electrical Program will grant 43 college credits toward an AAS degree. The degree requires a total of 61 credits, of which 18 must be taken at RRCC or through RRCC Online. By using your apprentice training and taking only six additional classes, you may obtain a degree online, at home, and at times of your choosing. Consult with an advisor for details.

Emphasis determined by the apprenticeship program completed:

- Line Technician
- Substation Electrician
- Meter Specialist
- Apparatus Electrician
- Instrument and Control Specialist
- Electrician Specialist
- Mechanic Specialist
- Power Plant Operator
- Field Engineering Specialist
- Relay and Control Specialist
- Utility Engineering Standards Specialist Tech

Industrial Control & Instrumentation Technology AAS Degree

Required Courses		**Credits**
EIC 124	Electrical Safety Requirements	1
EIC 130	National Electrical Code I	4
EIC 150	DC Fundamentals	4
EIC 155	AC Circuit Fundamentals	4
EIC 160	Electrical Instruments and Measurements	4
EIC 167	Electrical Maintenance	4
EIC 220	Industrial Electrical Controls	4
EIC 222	Instrument & Process Control I	4
EIC 223	Advanced Industrial Electrical Controls	4
EIC 225	Programmable Controllers I	4
EIC 226	PLC Controllers Advanced	4
EIC 230	IND Instrumentation & Control II	4
EIC 245	Supervisory Control and Data Acquisition	4
Required Credits		**49**
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**64**

Electricity Commercial/Industrial/Residential Certificates

Electrical Installation Certificate

Relating to AAS/Construction Electrician

Required Courses		**Credits**
EIC 100	Electrical Construction and Planning	4
EIC 110	Electrical Installations I	4
EIC 120	Electrical Installations II	4
EIC 130	National Electric Code I	4
Total Credits		**16**

National Electrical Code Certificate

Relating to AAS/Construction Electrician

Required Courses		**Credits**
EIC 130	National Electrical Code I	4
EIC 135	National Electrical Code II	4
EIC 169	Electrical Code Calculations	4
Total Credits		**12**

Electrical Codes and Standards Certificate

Relating to AAS/Construction Electrician

Required Courses		**Credits**
EIC 130	National Electrical Code I	4
EIC 135	National Electrical Code II	4
EIC 169	Electrical Code Calculations	4
EIC 211	IECC Energy Conservation Code	4
Total Credits		**16**

Residential Construction Electrician Certificate

Relating to AAS/Construction Electrician

Required Courses		**Credits**
EIC 102	Electrical Print Reading	4
EIC 100	Electrical Construction and Planning	4
EIC 110	Electrical Installations I	4
EIC 130	National Electric Code I	4
EIC 150	DC Circuit Fundamentals	4
EIC 155	AC Circuit Fundamentals	4
Total Credits		**24**

Construction Electrician Certificate

Relating to AAS/Construction Electrician

Required Courses		**Credits**
EIC 102	Electrical Print Reading	4
EIC 100	Electrical Construction and Planning	4
EIC 110	Electrical Installations I	4

EIC 120	Electrical Installations II	4
EIC 130	National Electric Code I	4
EIC 135	National Electric Code II	4
EIC 150	DC Circuit Fundamentals	4
EIC 155	AC Circuit Fundamentals	4
EIC 169	Electrical Code Calculations	4
Total Credits		**36**

Advanced Construction Electrician Certificate

Relating to AAS/Construction Electrician

Requires Construction Electrician Certificate or instructor's approval

Required Courses		**Credits**
EIC 124	Electrical Safety Requirements	1
EIC 160	Instruments & Measurements	4
EIC 167	Electrical Maintenance	4
EIC 205	Advanced Electrical Planning	4
EIC 210	Adv National Electrical Code	4
EIC 211	IECC Energy Conservation Code	4
EIC 215	Advanced Code Calculations	4
EIC 217	Electrical Estimating	4
EIC 240	Fire Alarm Fundamentals	4
Total Credits		**33**

Maintenance Electrician Certificate

Relating to AAS/Maintenance Electrician:

Required Courses		**Credits**
EIC 110	Electrical Installations I	4
EIC 120	Electrical Installations II	4
EIC 130	National Electric Code I	4
EIC 135	National Electric Code II	4
EIC 150	DC Circuit Fundamentals	4
EIC 155	AC Circuit Fundamentals	4
EIC 167	Electrical Maintenance	4
EIC 220	Industrial Electrical Controls I	4
EIC 225	Programmable Controls I	4
Total Credits		**36**

Introduction to Instrumentation and Controls Technician Certificate

Relating to AAS/Maintenance Electrician

Required Courses		**Credits**
EIC 220	Industrial Electrical Controls Prerequisite: EIC 150 and EIC 155 or permission	4
EIC 225	Programmable Controls I	4
EIC 222	Instrument and Process Control I	4
Total Credits		**12**

Advanced Instrumentation and Controls Technician Certificate

Relating to AAS/Maintenance Electrician

Required Courses		**Credits**
EIC 220	Industrial Electrical Controls Prerequisite: EIC 150 and EIC 155 or permission	4
EIC 223	Advanced Industrial Electrical Controls	4
EIC 226	Programmable Controls II	4
EIC 230	Instrument & Process Control II	4
EIC 245	Supervisory Control and Data Acquisition	4
EIC 275	Special Topic: Advanced Industrial Electrical Controls	4
Total Credits		**20**

Advanced Maintenance Electrician Certificate

Relating to AAS/Maintenance Electrician:

Requires Maintenance Electrician Certificate or advisor approval

Required Courses		**Credits**
EIC 160	Electrical Instruments and Measurements	4
EIC 169	Electrical Code Calculations	4
EIC 205	Advanced Electrical Planning	4
EIC 210	Advanced National Electrical Code	4
EIC 223	Advanced Industrial Electrical Controls	4
EIC 226	Advanced Programmable Controllers	4
EIC 230	IND Instrumentation and Control II	4
EIC 240	Fire Alarm Fundamentals	4
Total Credits		**32**

Introduction to Fire Alarm Technician Certificate

Relating to AAS/Fire Protection Technology

Required Courses		**Credits**
EIC 240	Fire Alarm Fundamentals	4
EIC 241	Fire Alarm Systems Design	4
EIC 242	National Fire Alarm Code	4
Total Credits		**12**

Fire Alarm Code Certificate

Relating to AAS/Fire Protection Technology

Required Courses		**Credits**
EIC 130	National Electrical Code I	4
EIC 135	National Electrical Code II	4
EIC 241	Fire Alarm Systems Design	4
EIC 242	National Fire Alarm Code	4
Total Credits		**16**

Fire Alarm and Detection Technician Certificate

Relating to AAS/Fire Protection Technology

Required Courses		**Credits**
EIC 110	Electrical Installations I	4
EIC 120	Electrical Installations II	4
EIC 124	Electrical Safety Requirements	1
EIC 150	DC Circuit Fundamentals	4
EIC 155	AC Circuit Fundamentals	4
EIC 240	Fire Alarm Fundamentals	4
EIC 241	Fire Alarm Systems Design	4
EIC 242	National Fire Alarm Code	4
Total Credits		**29**

Post-Degree Specialization for Advanced Construction Electrician Certificate

Relating to AAS/Construction Electrician

Requires AAS/Construction Electrician or instructor's approval.

Required Courses		**Credits**
EIC 160	Electrical Instruments and Measurements	4
EIC 205	Advanced Electrical Planning	4
EIC 210	Advanced National Electrical Code	4
EIC 215	Advanced Code Calculations	4
Total Credits		**16**

Post-Degree Specialization for Advanced Maintenance Electrician Certificate

Relating to AAS/Maintenance Electrician:

Prerequisite: Maintenance Electrician AAS degree emphasis or advisor approval

Required Courses		Credits
EIC 165	Solid State Devices and Circuits	4
EIC 210	Advanced National Electric Code	4
EIC 211	IECC International Energy Conservation Code	4
EIC 241	Advanced Fire Alarm Systems	4
Total Credits		**16**

Elementary Education

See Teacher Education on page 120

Emergency Management and Planning

www.rrcc.edu/emergency-management-planning

Degree: Associate of Applied Science

Emergency Management and Planning

Certificates:

Emergency Management and Planning

Fundamentals of Emergency Management

Emergency Management and Planning AAS Degree

Completion of this curriculum prepares you for:

- Entry into a career in emergency management and planning.
- Promotion within an emergency service agency or the private sector.
- Advancement to a four-year college in pursuit of a Bachelor's of Science degree in Public Administration with emphasis in Emergency Management and Planning.

Emphasis is placed on modern emergency management and planning techniques as currently practiced by the public and private sectors. The ability to perform essential work in a disaster requires unique skills and knowledge of emergency management and planning. These skills are covered in depth. The Federal Emergency Management Agency (FEMA) recognizes this program as one of the pioneering programs in the country. The emergency management and planning courses are available over the Internet, providing flexibility and avoiding lengthy and costly travel. It is highly recommended that anyone new to the field of Emergency Management start by taking EMP 101 and EMP 105.

Information:
www.rrcc.edu/emergency-management-planning

Required Courses (Choose 10 of 11 courses)		Credits
EMP 101	Principles of Emergency Management	3
EMP 105	Emergency Planning	3
EMP 106	Exercise Design and Evaluation	3
EMP 107	Emergency Operations Center and Communications	3
EMP 109	Incident Command System	3
EMP 240	Leadership and Influence	3
EMP 242	Effective Communication	3
EMP 247	Decision Making in a Crisis	3
EMP 244	Developing Volunteer Resources	3
EMP 250	Business Emergency Management	3
EMP 291	Public Information Officer	3
Total Required Credits		**30**
Required General Education Courses		
ENG or COM (100 or higher) (3)		
MAT 107 or higher (3)		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Elective Course Recommendations: EMP, EMS, FST, LEA, CRJ, GIS, CIS, BUS, MAN, PRA		**15**
Total Credits		**60**

Emergency Management and Planning Certificates

Emergency Management and Planning Certificate

The certificate program is geared toward current emergency management practitioners who want to upgrade their skills.

Required Courses (Choose 10 of 11 courses)		Credits
EMP 101	Principles of Emergency Management	3
EMP 105	Emergency Planning	3
EMP 106	Exercise Design and Evaluation	3
EMP 107	Emergency Operations Center and Communications	3
EMP 109	Incident Command System	3
EMP 240	Leadership and Influence	3
EMP 242	Effective Communication	3
EMP 247	Decision Making in a Crisis	3
EMP 244	Developing Volunteer Resources	3
EMP 250	Business Emergency Management	3
EMP 291	Public Information Officer	3
Total Credits		**30**

Fundamentals of Emergency Management Certificate

Required Courses		Credits
EMP 101	Principles of Emergency Management	3
EMP 105	Emergency Planning	3
EMP 106	Exercise Design and Evaluation	3
Total Credits		**9**

Emergency Medical Services

www.rrcc.edu/emergency-medical-services

This program is designed to train workers in the field of emergency medical service. It begins with an entry-level EMT certificate program and includes an Advanced EMT certificate program, a Paramedic certificate program, and an associate of applied science degree in Paramedicine. Consult the website early in your college career to explore all your educational options. A grade of C or higher must be achieved in all EMS courses to graduate. You must complete a criminal background check prior to enrolling in this program by using American Data Bank's online background check procedures: **www.healthcareex.com**.

Degree: Associate of Applied Science

Paramedicine

Certificates:

Emergency Medical Technician

Advanced Emergency Medical Technician

Paramedic

Emergency Medical Services Degrees

Paramedicine AAS Degree

This program assists in advancing a graduate's career in the EMS system. For admission into the Paramedicine program, please go to the St. Anthony's Hospital EMS Training website at:
www.sahems.org

Required Courses		**Credits**
EMS 225	Fundamentals of Paramedic Practice	3
EMS 226	Fundamentals of Paramedic Practice Lab	2
EMS 227	Paramedic Special Considerations	3
EMS 228	Paramedic Special Considerations Lab	2
EMS 229	Paramedic Pharmacology	3
EMS 230	Paramedic Pharmacology Lab	2
EMS 231	Paramedic Cardiology	5
EMS 232	Paramedic Cardiology Lab	1
EMS 233	Paramedic Medical Emergencies	4
EMS 234	Paramedic Medical Emergencies Lab	1
EMS 235	Paramedic Trauma Emergencies	4
EMS 236	Paramedic Trauma Emergencies Lab	1
EMS 237	Paramedic Internship Preparatory	2
EMS 280	Paramedic Internship I	6
EMS 281	Paramedic Internship II	6
General Education Course Requirements:		
ENG 121		3
Mathematics:		
MAT 107 or higher		3
Natural & Physical Sciences:		
BIO 201 Anatomy and Physiology I		4
BIO 202 Anatomy and Physiology II		4
Arts & Humanities or Social & Behavioral Sciences		3
Total Credits		**62**

Emergency Medical Services Certificates

Emergency Medical Technician Certificate

This program prepares you to sit for the National Registry practical and written certification exams, which are required for Colorado state certification. Once certified, the graduate is eligible for entry-level employment in the emergency medical services system.

Required Courses		**Credits**
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	Emergency Medical Technician-Basic Clinical	1
Total Credits		**12**

Advanced Emergency Medical Technician Certificate

This program prepares you to sit for the National Registry practical and written Advanced EMT certification exams, which are required for Colorado state certification. Once certified, the graduate is eligible for additional employment opportunities in the Emergency Medical Services system. Completion of the program also assists graduates to gain acceptance into a Paramedic training program.

Required Courses		**Credits**
EMS 127	AEMT Special Considerations	2
EMS 129	AEMT Pharmacology	1
EMS 130	EMT Intravenous Therapy	2
EMS 131	AEMT Fundamentals	2
EMS 133	AEMT Medical Emergencies	2
EMS 135	AEMT Trauma Emergencies	2
EMS 171	AEMT Clinical Internship	2
Total Credits		**13**

Paramedic Certificate

This program prepares you to sit for the National Registry practical and written certification exams, which are required for Colorado state certification. Once certified, the graduate is eligible for employment in the Emergency Medical Services system.

Required Courses		**Credits**
EMS 225	Fundamentals of Paramedic Practice	3
EMS 226	Fundamentals of Paramedic Practice Lab	2
EMS 227	Paramedic Special Considerations	3
EMS 228	Paramedic Special Considerations Lab	2
EMS 229	Paramedic Pharmacology	3
EMS 230	Paramedic Pharmacology Lab	2
EMS 231	Paramedic Cardiology	5
EMS 232	Paramedic Cardiology Lab	1
EMS 233	Paramedic Medical Emergencies	4
EMS 234	Paramedic Medical Emergencies Lab	1
EMS 235	Paramedic Trauma Emergencies	4
EMS 236	Paramedic Trauma Emergencies Lab	1
EMS 237	Paramedic Internship Preparatory	2
EMS 280	Paramedic Internship I	6
EMS 281	Paramedic Internship II	6
BIO 106	Anatomy and Physiology	4
Total Credits		**49**

Energy Technology Programs

Energy and Energy Efficiency courses, certificates, and Associate of Applied Science degrees are available in the program areas listed. These programs offer core skills required to install and maintain new energy technologies using practices that promote energy efficiency and sustain our natural resources.

Air Conditioning, Heating, and Refrigeration – HVAC Energy Efficiency on page 66
Carpentry – Home Energy Efficiency on page 75
Electricity: Commercial/Industrial/Residential – Energy Maintenance & Operations on page 86
Renewable Energy Technology – Solar Energy, Energy Efficiency Weatherization and Energy Auditing on page 116
Water Quality Management Technology on page 123

Please contact the Energy Technology programs offices directly:
Renewable Energy Technology **303.914.6668**
Mechanical Trades **303.914.6306**

Water Quality Management Technology **303.914.6325**

Bachelor of Science transfer program: All Associate of Applied Science graduates are eligible to participate in the Colorado Community College Pathways program, a strategic partnership between DeVry University – Colorado and Red Rocks Community College (RRCC). Students may transfer 80+ credit hours from RRCC to DeVry University and complete a Bachelor of Science in Technical Management in as few as two semesters. Transfer options also available for University of Denver and University of Phoenix, and may be available in other individual program areas. Contact your advisor for details.

Engineering Graphics Technology

www.rrcc.edu/engineering-graphics-technology

The Engineering Graphics Technology Program offers associate of science degrees and certificates. This program prepares you for employment as a design drafter.

Prerequisites may be waived or challenged for previous educational, occupational, or related experience. The curricula are designed to develop communication, leadership, and critical-thinking skills. The classroom setting will provide experience in the team approach to problem-solving. You will use Computer-Aided Design (CAD) to form the foundation for drafting standards, conventions, layouts, designs, and details of working drawings and models. Specifications, handbooks, and technical data applicable to engineering graphics are emphasized. Classes within the Engineering Graphics department are lecture/lab, and use the most current version of the software, when applied. It might be helpful to remember that one credit is equal to approximately twenty hours of class time. Lab fees are assessed. Consult with an Engineering Graphics Technology faculty advisor with any questions you have at **303.914.6572**. You must earn a C or higher in all courses to graduate.

Degrees: Associate of Applied Science

Engineering Graphics Architectural
Engineering Graphics Mechanical

Certificates:

Engineering Graphics Architectural
Engineering Graphics Civil
Engineering Graphics Mechanical
Intro to AutoCAD
Revit
SolidWorks

Engineering Graphics Technology Degrees

Engineering Graphics Architectural AAS Degree

The Architectural AAS degree prepares you for a career in a construction or architectural firm. It might be helpful to remember that one credit is equal to approximately 20 hours of class time.

Required Courses		**Credits**
CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
AEC 101	Basic Architectural Drafting	4
AEC 102	Residential Construction Drawing	4
AEC 121	Construction Materials and Systems	3
AEC 202	Architectural Design & Analysis	4
AEC 218	Sustainable Building Systems	3
AEC 225	Architectural Design & Development	4
CAD 224	Revit Architecture	3
CAD 227	Advanced Revit Architecture	3
CAD 289	Capstone: Architectural	6
CAD 289	Capstone	6
Required Architectural Credits		**46**
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**61**

Engineering Graphics Mechanical AAS Degree

The Mechanical AAS degree prepares you for a career with many options to choose from, such as mechanical design, piping, electrical, mining, or welding. Course electives allow you to select a preferred path in this field.

Required Courses		**Credits**
CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
CAD 202	Computer Aided Drafting 3D	3
CAD 262	3D Printing	3
CAD 256	SolidWorks Basic	6
CAD 257	SolidWorks Intermediate	6
CAD 258	SolidWorks Advanced	6
CAD 289	Capstone Mech I	6
CAD 289	Capstone Mech II	6
PHY 105	Conceptual Physics	4
Required Mechanical Credits		**46**
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**61**

Engineering Graphics Technology Certificates

Engineering Graphics Architectural Certificate

Required Courses		**Credits**
CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
AEC 101	Basic Architectural Drafting	4
AEC 102	Residential Construction Drawing	4
AEC 121	Construction Materials and Systems	3
AEC 202	Architectural Design & Analysis	4
AEC 225	Architectural Design & Development	4
CAD 224	Revit Architecture	3
And one of the following electives:		**3**
CAD 227	Advanced Revit Architecture (3)	
AEC 218	Sustainable Building Systems (3)	
Total Credits		**31**

Engineering Graphics Civil Certificate

Required Courses		Credits
CAD 101	Computer Aided Drafting I	3
CAD 233	Civil 3D	3
GIS 101	Intro to Geographic Information Systems	3
EGT 143	Civil/Survey Drafting I	3
EGT 243	Civil/Survey Drafting II	3
Total Credits		**15**

Engineering Graphics Mechanical Certificate

Required Courses		Credits
CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
CAD 202	Computer Aided Drafting 3D	3
CAD 262	3D Printing	3
Total Credits		**12**

Intro to AutoCAD Certificate

Required Courses		Credits
CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
Total Credits		**6**

Revit Certificate

Required Courses		Credits
CAD 224	Revit Architecture	3
CAD 227	Advanced Revit Architecture	3
Total Credits		**6**

SolidWorks Certificate

Required Courses		Credits
CAD 256	SolidWorks Basics	6
CAD 257	SolidWorks Intermediate	6
CAD 258	SolidWorks Advanced	6
Total Credits		**18**

Engineering - Pre-Engineering

www.rrcc.edu/engineering-preparatory

Degree: Associate of Science

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Engineering. Consult with a faculty advisor before beginning this area of study. If you plan to transfer to a college in Colorado, there is additional information about the Statewide Articulation Agreement for Engineering at the Colorado Department of Education's website. These courses provide the basic preparation leading to engineering-related careers.

Engineering - Pre-Engineering

Suggested Courses for Transfer		Credits
CHE 111	General College Chemistry I*	5
PHY 211	Physics: Calculus-Based I *	5
PHY 212	Physics: Calculus-Based II	5
MAT 201	Calculus I *	5
MAT 202	Calculus II	5
MAT 204	Calculus III with Engineering Applications	5
MAT 261	Differential Equations	4
* Fulfills General Education requirements		
General Education Courses		**26**
(See AS Degree Requirements on page 42)		
Total Credits		**60**

English

www.rrcc.edu/english

If you plan to transfer to a four-year college or university to complete a major in English or literature, the courses listed below provide basic preparation for further study and also can assist you with attaining your goal of working in an English/Literature-related career. Consult with a faculty or academic advisor before beginning this program of study. You may earn an associate of arts degree by meeting the AA general education requirements.

Degrees: Associate of Arts

Areas of Study:

- Literature
- Creative Writing

English (Literature Emphasis) AA Degree

See AA - English (Literature Emphasis) Designated Degree Requirements on page 51

Literature Area of Study

Suggested Courses for Transfer		Credits
LIT 115	Introduction to Literature	3
ENG 221	Creative Writing I	3
LIT 201	World Literature to 1600	3
LIT 202	World Literature after 1600	3
LIT 211	American Literature to Civil War	3
LIT 212	American Literature after Civil War	3
LIT 221	British Literature to 1770	3
LIT 222	British Literature since 1770	3
General Education Courses		**33**
(See AA Degree Requirements on page 40)		
Elective with ENG or LIT prefix		**3**
(Discuss elective options with English faculty advisor.)		
Total Credits		**60**

Creative Writing Area of Study

Suggested Courses for Transfer		Credits
ENG 221	Creative Writing I	3
ENG 226	Fiction Writing	3
ENG 227	Poetry Writing	3
ENG 230	Creative Nonfiction	3
ENG 231	Literary Magazine	3
LIT 115	Introduction to Literature*	3
*State-guaranteed general education course		
General Education Courses		**36**
(See AA Degree Requirements on page 40)		
Elective with ENG or LIT prefix		**6**
(Discuss elective options with English faculty advisor.)		
Total Credits		**60**

Fine Woodworking

www.rrcc.edu/fine-woodworking

This program provides theory and hands-on training for entry-level skills through craftsman/master-level competencies. Day, evening, and weekend classes for part-time or full-time students include the areas of lutherie (musical instrument building), furniture building, cabinet making, chair making, carving, woodturning, and wood finishing. Courses may be repeated up to three times to increase proficiency. All courses are sequenced as shown in the certificate.

Degree: Associate of Applied Science

Fine Woodworking

Certificates:

Woodworking Fundamentals
Craftsman
Cabinetmaker
Joiner
Contemporary Furniture Fundamentals
Fine Furniture Craftsman
Contemporary Furniture Craftsman
Artisan
Post-Degree Advanced Craftsman
Woodturner
Advanced Woodturner
Luthier Technician
Luthier Fundamentals
Luthier Craftsman

Fine Woodworking AAS Degree

The AAS degree in Fine Woodworking combines the skills of using power and hand tools to design and build fine furniture. You will be expected to develop individual portfolios that demonstrate the ability to design and build original and reproduction pieces, and demonstrate specific skills through presentations from each course. An AAS degree designation requires submittal of three pieces to be judged by a board of professional woodworkers and instructors.

The AAS degree includes 15 credits from General Education courses.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 104	Elements of Design	2
FIW 118	Introduction to Turning	3
FIW 125	Wood Finishing	3
(3 credits of special topics finishing classes may be substituted for FIW 125 with the advisor's permission)		
FIW 201	Furniture I: Table Making	4
FIW 202	Furniture II: Carcass Construction	4
FIW 203	Furniture III: Chair Making	4
(FIW 260 and FIW 261 Woodworking Intensive I and II may be substituted for FIW 101, FIW 201, FIW 202, and FIW 203)		
BUS 102	Entrepreneurial Operations	3
FIW 212	Contemporary Furniture Making	4
FIW Electives		**12**
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**60**

Fine Woodworking Certificates

Woodworking Fundamentals Certificate

This certificate is designed to give you the basics of most woodworking applications. It is well-suited for those who are seeking an occupation within an existing woodworking industry and/or continuing their pursuit of a degree or a more advanced certificate.

Required Courses		**Credits**
FIW 100	Fundamentals of Woodworking	3
FIW 201	Furniture I: Table Making	4
Total Credits		**7**

Craftsman Certificate

This certificate is designed for those who desire to show evidence of their knowledge of the basic skills required for a woodworking craftsman in order to pursue an entrepreneurial career within the field.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 201	Furniture I: Table Making	4
FIW 202	Furniture II: Carcass Construction	4
Total Credits		**14**

Cabinetmaker Certificate

Students seeking employment within the cabinetmaking business are required to show competencies on the tools associated with, and the design of, traditional box cabinetmaking. This certificate is designed to include those skills which are commonly sought within this field.

Required Courses		**Credits**
FIW 100	Woodworking Fundamentals (FIW 101 may be substituted for FIW 100)	3
FIW 128	Doormaking	4
FIW 109	Intro to Cabinetmaking	4
FIW 125	Wood Finishing	3
Total Credits		**14**

Joiner Certificate

This certificate is designed for those who desire to show evidence of their knowledge of the skills required in order to seek employment within an existing furniture-making business or to pursue an entrepreneurial career within the field.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 125	Wood Finishing	3
FIW 201	Furniture I: Table Making	4
FIW 202	Furniture II: Carcass Construction	4
FIW 203	Furniture III: Chair Making *(FIW 260 and FIW 261 Woodworking Intensive I and II may be substituted for FIW 101, FIW 201, FIW 202, and FIW 203)*	4
Total Credits		**21**

Contemporary Furniture Fundamentals Certificate

This certificate is designed for those who want to explore the design and creative elements of contemporary furniture construction. This certificate is well suited for those who have an understanding of furniture construction and want to expand the possibilities within the contemporary furniture field of fine woodworking.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 104	Elements of Design	2
FIW 125	Wood Finishing	3
FIW 201	Furniture I: Table Making	4
FIW 212	Contemporary Furniture Making	4
Total Credits		**19**

Fine Furniture Craftsman Certificate

This certificate is designed for those who want to design and build period or contemporary pieces of fine furniture. It is well suited for those seeking employment within an existing furniture-making business or to pursue an entrepreneurial career within the field.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 104	Elements of Design	2
FIW 118	Introduction to Turning	3
FIW 125	Wood Finishing	3
(3 credits of special topics finishing classes may be substituted for FIW 125 with the advisor's permission)		
FIW 201	Furniture I: Table Making	4
FIW 202	Furniture II: Carcass Construction	4
FIW 203	Furniture III: Chair Making	4
(FIW 260 and FIW 261 Woodworking Intensive I and II may be substituted for FIW 101, FIW 201, FIW 202, and FIW 203)		
Total Credits		**26**

Contemporary Furniture Craftsman Certificate

This certificate combines the skills of building and the skills of designing in the field of custom furniture building. You will be expected to develop an individual portfolio that demonstrates your ability to design and build original pieces, and demonstrate specific skills through presentations from each course. Design skills and drawing proficiency are required. Additional courses may be required. A Contemporary Furniture Craftsman designation requires submittal of three pieces to be judged by a board of professional woodworkers and instructors.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 104	Elements of Design	2
ART 121	Drawing I	3
FIW 118	Introduction to Turning	3
FIW 122	Woodcarving	3
FIW 125	Wood Finishing	3
FIW 200	Veneering and Marquetry	3
FIW 201	Furniture I: Table Making	4
FIW 212	Contemporary Furniture Making	4
FIW 213	Advanced Contemporary Furniture Making	4
Total Credits		**35**

Artisan Certificate

The artisan of old was the builder of the product. As you progress through this certificate, you will come to realize that the builder needs to have an intimate relationship with design. This certificate requires the completion of two particular projects chosen to illustrate the need to combine building and designing in the field of custom furniture production. Projects will be judged by a panel of instructors and/or professionals in the field.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 102	Classical Guitar Construction or FIW 103 Steel String Guitar Construction	6
FIW 104	Elements of Design	2
FIW 118	Introduction to Turning	3
FIW 122	Woodcarving	3
FIW 125	Wood Finishing	3
FIW 200	Veneering and Marquetry	3
FIW 201	Furniture I:Table Making	4
FIW 202	Furniture II: Carcass Construction	4
Total Credits		**34**

Post-Degree Advanced Craftsman Certificate

This certificate expands skills to the level of Advanced Craftsman. You will be expected to develop an individual portfolio that demonstrates your ability to set up and maintain equipment, design and build original pieces, and demonstrate specific skills through presentations from each course. Design skills and drawing proficiency are required. Additional courses may be required. An Advanced Craftsman designation requires submittal of three pieces to be judged by a board of professional woodworkers and instructors. Preliminary rehearsal submittals are encouraged to establish standards of craftsmanship.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 102	Classical Guitar Construction	6
FIW 103	Steel String Guitar Construction *(Other instrument-building classes may be substituted)*	6
FIW 109	Intro to Cabinetmaking	4
FIW 122	Woodcarving	3
FIW 128	Door making	4
FIW 200	Veneering and Marquetry	3
FIW 201	Furniture I: Table Making	4
FIW 202	Furniture II: Carcass Construction	4
FIW 203	Furniture III: Chair Making *(FIW 260 and FIW 261 Woodworking Intensive I and II may be substituted for FIW 101, FIW 201, FIW 202, and FIW 203)*	4
FIW 212	Contemporary Furniture	4
FIW Electives approved by advisor		**12**
Total Credits		**60**

Woodturner Certificate

This certificate is designed for those desiring to validate their experience in the world of wood turning. Those who successfully complete this certificate are seeking to begin their own woodturning or craft-based businesses.

Required Courses		**Credits**
FIW 100	Fundamentals of Woodworking	3
FIW 118	Introduction to Turning	3
FIW 119	Intermediate Turning I	3

FIW 120	Intermediate Turning II	3
Total Credits		**12**

Advanced Woodturner Certificate

This certificate is designed for those desiring to achieve proficiency in wood turning. Those who successfully complete this certificate are seeking to begin or have already begun their own woodturning or craft-based businesses.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	3
FIW 118	Introduction to Turning	3
FIW 119	Intermediate Turning I	3
FIW 120	Intermediate Turning II	3
FIW 121	Advanced Turning	3
Total Credits		**15**

Luthier Technician Certificate

This certificate is designed for those currently employed or seeking employment as a repair and setup technician. It is well suited for luthiers, entrepreneurs, and even music store owners.

Required Courses		**Credits**
FIW 105	Guitar Setup and Repair	3
FIW 175	Special Topic: Advanced Instrument Finishing and Setup	3
Total Credits		**6**

Luthier Fundamentals Certificate

As you progress through our rapidly growing Lutherie program, you may seek employment within the musical instrument repair and construction business or become an entrepreneur within this field of woodworking. You should plan to take your electives under the luthier program with special topic classes focused on your field of study. This certificate is designed to validate your experience in this field.

Required Courses		**Credits**
FIW 101	Introduction to Woodworking	6
FIW 102	Classical Guitar Construction	6
FIW 103	Steel String Guitar Construction (Other Instrument building classes may be substituted for FIW 102 or FIW 103)	6
FIW 131	Electric Guitar Construction	6
FIW 105	Guitar Setup & Repair	3
FIW 175	Special Topic: Advanced Instrument Finishing	3
FIW 126	French Polish	1
FIW Elective approved by advisor		**6**
Total Credits		**37**

Luthier Craftsman Certificate

Required Courses		**Credits**
FIW 102	Classical Guitar Construction	6
FIW 103	Steel String Guitar Construction or FIW 131 Electric Guitar Construction	6
Total Credits		**6**

Fire Science Technology

www.rrcc.edu/fire-science

Degrees: Associate of Applied Science

- **Fire Science Technology**
- **Fire Service Management**
- **Fire and Emergency Services**

Certificates:

- **Fire Fighter I**
- **Fire Instructor**
- **Fire Officer I**
- **Fire Officer II**
- **Fire Officer III**
- **Fire Inspector**

Completion of this curriculum prepares you for

- Entry into a career in fire suppression, prevention, or related fields
- Promotion within a fire department or within the fire service
- Transfer to a four-year college in pursuit of a Bachelor's of Science degree.

Fire Science Technology Degrees

Fire Science Technology AAS Degree

This program of study is designed for students new to or preparing for the fire service. Students must earn a C or higher in all Fire Science and general education courses to graduate.

Required Courses		**Credits**
FST 100	Firefighter I	9
FST 102	Principles/Emergency Services	3
FST 103	Fire Behavior and Combustion	3
FST 109	Occupational Safety and Health for Fire	3
FST 209	Fire Protection Systems	3
FST 105	Building Construction for Fire Protection	3
FST 106	Fire Prevention	3
FST 107	HazMat Operations (Level I)	3
FST 202	Strategy and Tactics I	3
FST 204	Principles of Code Enforcement	3
FST 205	Fire Investigation I	3
FST 206	Company Officer Leadership & Supervision	3
Elective Courses: FST, EMS		3
Required Course Credits		**45**
Required General Education Courses		
ENG 121 (3)		
MAT 107 or higher (3)		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**60**

Fire Service Management AAS Degree

This degree is for you if you are experienced as a firefighter and preparing for career advancement. You must earn a C or higher in all Fire Science and general education courses to graduate.

Emphasis is placed on the latest methodologies of fire prevention, incident management, and leadership principles within the fire service. Upper-level course work includes the study of fire scene strategy and tactics, the national incident management system, legal and administration issues in the fire service, and fire service leadership. The majority of this degree program is available online.

The Fire Service Management degree program credits may be transferred to Regis University, or other colleges, toward a Bachelor's of Science degree in Public Administration or Applied Science.

Required Courses		**Credits**
FST 102	Principles/Emergency Services	3
FST 103	Fire Behavior & Combustion	3
FST 109	Occupational Safety and Health for Fire	3
FST 209	Fire Protection Systems	3
FST 105	Building Construction for Fire Protection	3
FST 106	Fire Prevention	3
FST 201	Instruction Methodology	3
FST 204	Principals of Code Enforcement	3
FST 206	Fire Officer Supervision and Leadership	3
FST 207	Strategy and Tactics II	3
FST 251	Legal Aspects of the Fire Service	3
FST 289	Capstone	3
Electives		**9**
FST 202, FST 205, FST 251, FST 253, FST 255, or FST 257		
Required Course Credits		**45**
Required General Education Courses		
ENG 121 (3)		
MAT 107 or higher (3)		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**60**

Fire and Emergency Services AAS Degree

This program of study is designed for students new to, or preparing for, the fire service. You must earn a C or higher in all Fire Science and general education courses to graduate.

Required Courses		**Credits**
FST 102	Principles/Emergency Services	3
FST 103	Fire Behavior and Combustion	3
FST 109	Occupational Safety and Health for Fire	3
FST 209	Fire Protection Systems	3
FST 105	Building Construction for Fire Protection	3
FST 106	Fire Prevention	3
FST 206	Fire Company Supervision and Leadership	3
FST 253	Incident Management and NIMS	3
FST 257	Fire Service Administration	3
Elective Courses: FST, EMS, or EMP (only)		18
Required Course Credits		**45**
Required General Education Courses		
ENG 121 (3)		
MAT 107 or higher (3)		
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**60**

Fire Science Technology Certificates

Fire Fighter I Certificate

FST 170 highly recommended to enhance Fire Academy Certificate experience.

Required Courses		**Credits**
FST 100	Firefighter I	9
FST 107	HazMat Operations (Level I)	3
Total Credits		**12**

Fire Instructor Certificate

Required Courses		**Credits**
FST 201	Instructional Methodology	3
COM 115	Public Speaking	3
Total Credits		**6**

Fire Officer I Certificate

Prerequisites: ENG 121 English Composition I

Firefighter I Certificate (Colorado CDFS certification)

Required Courses		**Credits**
FST 103	Fire Behavior and Combustion	3
FST 202	Strategy and Tactics	3
FST 204	Principles of Code Enforcement	3
FST 206	Fire Company Supervision & Leadership	3
Total Credits		**12**

Fire Officer II Certificate

Prerequisite: Fire Officer I Certificate

Required Courses		**Credits**
FST 205	Fire Investigation I	3
FST 207	Strategy and Tactics II	3
FST 253	NIMS Fire Ground Organization and Command (ICS)	3
FST 255	Fire Service Management	3
Total Credits		**12**

Fire Officer III Certificate

Prerequisites: Fire Officer I and Fire Officer II Certificates

Required Courses		**Credits**
FST 251	Legal Aspects of Fire Service	3
FST 257	Fire Department Administration	3
FST 289	Capstone	3
Total Credits		**9**

Fire Inspector Certificate

Prerequisite: Fire Officer I Certificate.

Required Courses		**Credits**
FST 105	Building Construction for Fire Protection	3
FST 106	Fire Prevention	3
FST 204	Principles of Code Enforcement	3
FST 209	Fire Protection Systems	3
Total Credits		**12**

Foreign Languages

www.rrcc.edu/foreign-languages

Degree: Associate of Arts

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Foreign Languages. Consult with a faculty advisor before beginning this area of study. These courses provide the basic preparation leading to professional advancement in careers such as business, computer technology, medicine, engineering, and in the natural and behavioral sciences.

Foreign Languages Area of Study

Suggested Courses for Transfer	**Credits**
Choose one (FRE, GER, SPA)	
French/German/Spanish Language I:	
FRE/GER/SPA 111	5
French/German/Spanish Language II:	
FRE/GER/SPA 112	5
French/German/Spanish Language III:	
FRE/GER/SPA 211*	3
French/German/Spanish Language IV:	
FRE/GER/SPA 212*	3
* Fulfills General Education requirement	
General Education Courses	**32**
(See AA Degree Requirements on page 40)	

Foreign Languages Designated Degrees:

See AA - French Designated Degree Requirements on page 51

See AA - Spanish Designated Degree Requirements on page 55

French

www.rrcc.edu/foreign-languages

Degree: Associate of Arts

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in French. Consult with a faculty advisor before beginning this area of study.

French AA Degree

See AA - French Designated Degree Requirements on page 51

Geology

www.rrcc.edu/geology

Degree: Associate of Science

Area of Study:

Geology

Geology AS Degree

The completion of the AS - Geology Designated Degree is appropriate for students who plan to transfer to most in-state four-year colleges or universities in order to complete a major in Geology or a related field. Consult with a faculty advisor if planning this program of study.

See AS - Geology Designated Degree Requirements on page 57

Geology Area of Study

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Geology. Consult with a faculty advisor before beginning this area of study. These courses provide the basic preparation leading to geology-related careers. Some courses might not be offered each semester.

Suggested Courses for Transfer		**Credits**
GEY 111	Physical Geology	4
GEY 112	Historical Geology	4
CHE 111	General College Chemistry I *	5
CHE 112	General College Chemistry II *	5
PHY 211	Physics: Calculus Based I	5
PHY 212	Physics: Calculus Based II	5
MAT 201	Calculus I *	5
MAT 202	Calculus II *	5
**Fulfills General Education requirements		
General Education Courses		**22**
(See AS Degree Requirements on page 42)		

History

www.rrcc.edu/history

Degree: Associate of Arts

The completion of the following courses is appropriate for those who plan to transfer to a four-year college or university to complete a major in History. This program provides preparation if you are interested in teaching, government service, law, research, business and industry, journalism, publishing, libraries, or working with historical societies, museums, and/or archives. Consult with a faculty advisor before beginning this program of study.

History AA Degree

See AA - History Designated Degree Requirements on page 52

Health Sciences Programs

www.rrcc.edu/health-sciences

Diagnostic Medical Sonography on page 119
Emergency Medical Services on page 90
Holistic Health on page 99
Home Health Aide on page 107
Hospice Aide on page 107
Medical Office Technology on page 102
Nurse Aide on page 107
Phlebotomy on page 111
Physician Assistant on page 112
Radiologic Technology on page 115
RN Refresher on page 119

Holistic Health

www.rrcc.edu/holistic-health

This program provides the opportunity to learn a variety of complementary healing modalities. Upon completion of the program, you may apply your knowledge in wellness centers, clinics, spas, and fitness centers.

Degree: Associate of Applied Science

Holistic Health

Certificates:

Holistic Health Practitioner
Reflexology
Massage Therapy
Yoga Teacher

Holistic Health AAS Degree

This program provides the opportunity to learn a variety of complementary healing modalities. Upon completion of the program, you may apply your knowledge in wellness centers, clinics, spas, and fitness centers. The AAS degree can be transferred to Metropolitan State University of Denver into their Bachelors of Science Degree in Integrative Healthcare Program.

Required Courses		**Credits**
HHP 244	Holistic Health Level 1	1
HHP 254	Holistic Health Level 2	2
HHP 256	Holistic Health Level 3	2
HHP 229	Wellness Coaching	1
HWE 100	Human Nutrition	3
Recommended General Education Courses:		
Arts & Humanities		
Choose any 6 credits from this area of Statewide GT (Guaranteed Transfer) courses		6
English/Communication		
ENG 121, 122, COM 115 or 125		9
Mathematics:		
MAT 135		3
Natural & Physical Sciences		
BIO 111, BIO 201, BIO 202, CHE 101		18
Social & Behavioral Sciences		
ANT 101 Cultural Anthropology		3
HIS: Choose any Statewide GT courses		3
HHP (elective courses, any)		**10**
Total Credits		**61**

Holistic Health Certificates

Holistic Health Practitioner Certificate

This program was originally created for nurses and is now open to all interested persons who are ready to expand their knowledge and skills in holistic care. The program is intended to enhance health-care practice as well as to prepare you to be a facilitator in the redesigning of the new health care system. Courses are offered to integrate healing on all levels: physical, emotional, mental, and spiritual. To ensure enrollment, register no later than 10 days before class.

Required Courses		**Credits**
HHP 229	Wellness Coaching	1
HHP 244	Holistic Health I	1
HHP 254	Holistic Health II	2
HHP 256	Holistic Health III*	2
*13 credits must be completed before participating in HHP 256 Holistic Health III		
Electives: any of the HHP courses		**10**
Total Credits		**16**

Reflexology Certificate

The Healing Hands and Feet program student undergoes a vigorous and comprehensive program that includes 200 hours of standardized curriculum with a Certified Program instructor. Reflexology uses gentle pressure on the feet or hands and works reflex points that correspond to different areas of the body. Reflexology has been integrated into the health care field by doctors, nurses, and massage therapists. Students must complete a background check before beginning the HHP 270 Clinical course.

Required Courses		**Credits**
HHP 164	Introduction to Hand Reflexology	1
HHP 166	Introduction to Reflexology	1
HHP 169	Healing Hands and Feet	1
HHP 188	Practicum Reflexology Lab	2
HHP 190	Crystals and Mineral Usage	1
HHP 260	Advanced Reflexology	1
HHP 263	Creating a Holistic Business Practice	2
HHP 270	Clinical	2
Total Credits		**11**

Massage Therapy Certificate

This certificate prepares you to take the state board test for licensure and then practice therapeutic massage in a clinic, wellness center, salon, hospital, or other healthcare facility. Basic skills requirements are ENG 090 or CCR 092 or CCR 094. The 12-credit total prerequisites are: BIO 106, COM 125 or COM 126, HPR 106, HPR 178, and HHP 224. The certificate can be completed in 3 semesters after completion of the prerequisites. Students must complete a background check prior to starting the program.

The following courses must be completed before program admission:		
BIO 106	Applied Anatomy and Physiology	4

COM 125	Interpersonal Communication or COM 126 Communication in Healthcare	3
HPR 178	Medical Terminology	2
HHP 224	Intro to Massage Therapy	1
HPR 106	Law and Ethics for Health Professions	2

Required Courses		**Credits**
Following is the recommended sequence of required courses:		
Semester One		
MST 111	Basic Massage Therapy	4
HHP 229	Wellness Coaching	1
HPR 117	Anatomical Kinesiology	3
Semester Two		
MST 113	Professional Massage	3
MST 216	Pathology for Massage Therapy	3
HHP 208	Advanced Musculoskeletal Anatomy	2
Semester Three		
HPR 102	CPR for Professionals	0.5
MST 184	Clinical Massage I	2
MST 284	Clinical Massage II	2
MST 178	Seminar	3
Total Credits		**35.5**

Yoga Teacher Certificate

Covers the requirements to be a professional Hatha Yoga teacher. Enables participants to understand and practice Yoga and develop skills to teach a wide variety of people in various settings. A CPR course is required to complete the certificate. On completion of this certificate, you will be able to obtain certification from the Yoga Alliance.

It is highly recommended that you have taken a yoga course before enrolling in this program.

Required Courses		**Credits**
HHP 250	Yoga Teacher Training	10
Total Credits		**10**

HVAC

See Air Conditioning, Heating, and Refrigeration on page 66

Law Enforcement

www.rrcc.edu/law-enforcement-academy

Degree: Associate of Applied Science

Law Enforcement

Certificate:

Basic Law Enforcement Training Academy (P.O.S.T. Certification)

Law Enforcement AAS Degree

Specific courses required may vary, depending upon your background and work experience. Upon completion of this program, you should be able to be employed as a law enforcement patrol officer at departments requiring a two-year college degree.

Required Courses		**Credits**
LEA 101	Basic Police Academy I	6
LEA 102	Basic Police Academy II	12
LEA 103	Basic Law Enforcement Academy III	2
LEA 104	Basic Law Enforcement Academy IV	1
LEA 105	Basic Law	8
LEA 106	Arrest Control Techniques	3
LEA 107	Law Enforcement Driving	3
LEA 108	Firearms	3
PED 101	Conditioning Lab	1
Required Course Credits		**39**
Elective Recommendations:		
LEA 109	Culture and Conflict Resolution	2
LEA 116	Civil Liability	3
LEA 118	Report Writing	3
LEA 218	Drug Investigative Strategies	3
LEA 221	Community Problem Solving	3
LEA 240	Criminal Investigations	3
LEA 247	Street Survival Techniques	2
CRJ 110	Introduction to Criminal Justice	3
CRJ 125	Policing Systems	3
CRJ 135	Judicial Function	3
CRJ 205	Principles of Criminal Law	3
Required Advisor-Approved Electives		**6**
General Education Courses		
(See AAS Degree Requirements on page 61)		
Recommended General Education Courses:		
ENG 121		3
COM 115 or COM 125		3
MAT 120 (or higher)		4
Natural & Physical Sciences, Arts and Humanity (2 courses any area, 100 level or higher)		6
PSY or SOC (any course 100 level or higher)		3
Total General Education Course Requirements		**18**
Total Credits		**63**

Law Enforcement Certificates

Basic Law Enforcement Training Academy (P.O.S.T. Certification)

This certificate program exceeds the Colorado Peace Officers Standards and Training (P.O.S.T.) requirements for peace officer entry-level training. You will earn 39 credits during this intense course of study. This is not an open enrollment offering. You must make separate application to the Academy.

See www.rrcc.edu/law-enforcement-academy for details.

Required Courses		**Credits**
LEA 101	Basic Police Academy I	6
LEA 102	Basic Police Academy II	12
LEA 103	Basic Law Enforcement Academy III	2
LEA 104	Basic Law Enforcement Academy IV	1
LEA 105	Basic Law	8
LEA 106	Arrest Control Techniques	3
LEA 107	Law Enforcement Driving	3
LEA 108	Firearms	3
PED 101	Conditioning Lab	1
Total Credits		**39**

Management and Marketing

See Business on page 73

Mathematics

www.rrcc.edu/mathematics

Degree: Associate of Science

If you plan to transfer to a four-year college or university to complete a major in Mathematics, you should complete the following courses. Consult with the Math department chair or an academic advisor before beginning this program of study. These courses provide the basic preparation leading to mathematics-related careers. You may earn an associate of science degree by meeting the general education requirements.

Mathematics AS Degree

See AS - Mathematics Designated Degree Requirements on page 57

Mechanical Trades

Beginning in the summer of 2014, there is a change in pre/corequisite classes. *** If you began your course of study in the summer of 2014, you will have HVA 107 as a pre/corequisite class for all CAR classes. Students taking HVA 107 can substitute this class for the HWE 113 and OSH 127 requirements since OSH 127 is not currently being offered. If you began your course of study before summer of 2014, you will graduate under the catalog requirements listed for the semester that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) and then return, you must meet the requirements of the catalog in effect at the time you re-enroll.

New students should contact Advising at **303.914.6255**. Current students should call **303.914.6306**.

These certificates are part of the State of Colorado program approval for Building and Apartment Maintenance. Please see Air Conditioning, Heating, and Refrigeration on page 66, Carpentry on page 75, or Plumbing on page 112 for additional degrees and certificates under this category.

This program provides basic entry-level and job upgrade skills. This subset of degrees and certificates was created in partnership with industry associates and The Department of Labor. It addresses the need of most contractors for multi-talented employees that can handle varied tasks with confidence. It is also intended to assist in the preparation of plumbers for successful completion of state plumbing exams. Completion of plumbing-related coursework at Red Rocks Community College can replace the field experience (work under a master plumber) required to qualify to take the exams as follows: one hour of classroom training equals one hour of on-the-job training up to a maximum of one year.

Specialized and job upgrade courses (for example, PLU 207 International Plumbing Code, PLU 247 Hot Water Heating Systems) will continue to be taught as stand-alone courses.

Degree: Associate of Applied Science

Mechanical Trades

Certificates:

Basic Mechanical Skills
Advanced Mechanical Skills
Heating Specialties

Mechanical Trades AAS Degree

Required Courses		Credits
Level I Refrigeration Certificate		10.5
HVA 132	Air Conditioning and Refrigeration Controls	4
HVA 162	Heating Controls	4
HVA 206	Mechanical Codes	4
PLU 101	Piping Skills	4
CAR 103	Carpentry Basics	4
EIC 110	Electrical Installations I	4
PLU 108	Soldering and Brazing Skills	0.5
PLU 104	Plumbing Service	4
CAR 136	Remodeling, Renovation/Additions	4
HVA Electives		4
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**62**

Mechanical Trades Certificates

Basic Mechanical Skills Certificate

Required Courses		Credits
Level 1 Refrigeration Certificate		10.5
PLU 101	Piping Skills	4
CAR 103	Carpentry Basics	4
EIC 110	Electrical Installations I	4
PLU 108	Soldering and Brazing Skills	0.5
Total Credits		**23**

Advanced Mechanical Skills Certificate

Required Courses		Credits
Level 1 Refrigeration Certificate		10.5
HVA 132	Air Conditioning and Refrigeration Controls	4
HVA 162	Heating Controls	4
PLU 101	Piping Skills	4
CAR 103	Carpentry Basics	4
EIC 110	Electrical Installations I	4
PLU 108	Soldering and Brazing Skills	0.5
PLU 104	Plumbing Service	4
CAR 136	Remodeling, Renovation/Additions	4
Total Credits		**39**

Heating Specialties Certificate

Required Courses		Credits
HVA 105	Electricity for HVAC/R or PLU 105 Basic Electricity	4
HVA 110	Fundamentals of Gas Heating	4
HVA 162	Heating Controls	4
HVA 206	Mechanical Codes	4
PLU 101	Piping Skills	4
PLU 108	Soldering and Brazing Skills	0.5
PLU 208	International Fuel Gas Code	4
PLU 247	Hot Water Heating Systems	4
PLU 267	Radiant Heating Systems	4

ENY 102	Energy Audit Techniques	3
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**37**

*** See Program Description

Medical Imaging

See Radiologic Technology on page 115
or **Sonography** on page 119

Medical Office Technology

www.rrcc.edu/medical-office-technology

The medical office programs are designed to prepare you as a health career professional, assisting physicians/providers in various medical and business settings. Certificate completion requires completion of CCR 092 or CCR 094 or higher, or equivalent test placement/transfer of credit. Degree requirements include ENG 121 or higher. Some courses require MAT 050 or higher and AAS degree requirements require MAT 107 or higher. All program students must complete and pass a criminal background check and health/drug screen 60 days prior to enrolling in internships by using the current RRCC-approved background check and drug screen program. Immunizations, physician approval, and CPR are required of all Medical Assisting students prior to internship. Internship must be taken within 4 months of completion of the final advanced skills course. A minimum grade of C must be achieved for all program-required courses to proceed to internship and graduate with a certificate or degree. You should consult with the Medical Assisting Coordinator or refer to the website to ensure proper sequencing of courses and other educational options. Most MOT courses are not offered in the summer semester. Program completion time averages two years. If your completion is significantly greater than this, you may be asked to retake courses for proper skill abilities prior to internship.

Degrees: Associate of Applied Science

Medical Assisting
Medical Office

Certificates:

Medical Assisting
Medical Office
Medical Billing/Coding
Fundamentals of Medical Office Technology

Medical Office Technology Degrees

Medical Assisting AAS Degree

The Medical Assisting program prepares you for a career as a multi-skilled professional in the health career field performing administrative and clinical procedures. The Medical Assisting degree program is accredited by the Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, 727-210-2350, www.caahep.org, upon the recommendation of MAERB. All degree students will also receive a certificate. The AAS degree is accredited by the state of Colorado. At the completion of the program, you are required to take the national certification exam (AAMA) to become a Certified Medical Assistant. A math prerequisite of MAT 050 or higher is required for MOT 140 and MOT 150. AAS degree requirements include ENG 121 and MAT 107 or higher. Hepatitis B immunizations will be required before taking MOT 138 and MOT 140. Internship must be started within four months of completing all program courses. Please note that not all courses are offered in the summer session.

Required Courses		**Credits**
CIS 118	Introduction to PC Applications	3
HPR 106	Law and Ethics for Health Prof	2
HPR 178	Medical Terminology	2
MOT 110	Medical Office Administration	4
MOT 120	Medical Office Financial Management	3
MOT 130	Insurance Billing and Coding	3
MOT 136	Introduction to Clinical Skills	2
MOT 138	Medical Assisting Laboratory Skills	4
MOT 140	Medical Assisting Clinical Skills	4
MOT 150	Pharmacology for Medical Assistants	3
MOT 181	Administrative Internship (2) and MOT 182 Clinical Internship (3) or MOT 183 Medical Assisting Internship	5
Required General Education Courses		10
BIO 106	Basic Anatomy and Physiology (4)	
COM 126	Communication in Healthcare (3)	
ENG 121	English Compositition I (3)	
PSY 101	General Psychology (3)	
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**60**

Medical Office AAS Degree

The Medical Office program is designed to prepare you for a career as a health career professional, assisting physicians in front-office operations. CCR 092 and CCR 094, or test score equivalent, is required for many of the program courses. AAS degree requirements include ENG 121 and MAT 107 or higher. This program provides a wide range of medical office administration services. Internship must be started within four months of completing all required courses. Please note that not all courses are offered in the summer session.

Required Courses		**Credits**
ACC 101	Fundamentals of Accounting	3
BIO 106	Basic Anatomy and Physiology	4
CIS 118	Introduction to PC Applications	3
COM 126	Communication in Healthcare	3
HPR 106	Law and Ethics for Health Prof	2
HPR 178	Medical Terminology	2
MAN 116	Principles of Supervision or BUS 115 Introduction to Business	3
MOT 110	Medical Office Administration	4
MOT 120	Medical Office Financial Management	3
MOT 130	Insurance Billing and Coding	3
MOT 136	Introduction to Clinical Skills	2
MOT 181	Administrative Internship	2

Faculty advisor-approved electives. Any general education courses and/or: ACC, BUS, MAN, MOT courses	**11**
General Education Courses	**15**
(See AAS Degree Requirements on page 61)	
Total Credits	**60**

Medical Office Technology Certificates

Medical Assisting Certificate

The Medical Assisting program prepares you for a career as a multi-skilled professional in the health career field performing administrative and clinical procedures. The Medical Assisting certificate program is accredited by the Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, 727-210-2350, www.caahep.org, upon the recommendation of MAERB. At the completion of the program you are required to take the national certification exam (AAMA) to become a Certified Medical Assistant. CCR 092 and CCR 094, or appropriate placement scores, are required for many of the program courses. A math prerequisite of MAT 050 or higher is required for MOT 140 and MOT 150 for all certificate students (degree students are required to complete MAT 107 or higher). Immunizations will be required before taking MOT 138 and MOT 140. Internship must be started within four months of completing all program courses. Please note that not all courses are offered in the summer session.

Required Courses		**Credits**
CIS 118	Introduction to PC Applications	3
HPR 106	Law and Ethics for Health Prof	2
HPR 178	Medical Terminology	2
MOT 110	Medical Office Administration	4
MOT 120	Medical Office Financial Management	3
MOT 130	Insurance Billing and Coding	3
MOT 136	Introduction to Clinical Skills	2
MOT 138	Medical Assisting Laboratory Skills	4
MOT 140	Medical Assisting Clinical Skills	4
MOT 150	Pharmacology for Medical Assistants	3
MOT 181	Administrative Internship (2) and MOT 182 Clinical Internship (3)	
	or	
	MOT 183 Medical Assisting Internship	5
Required General Education Courses		
BIO 106	Basic Anatomy and Physiology	4
COM 126	Communication in Healthcare	3
PSY 101	General Psychology	3
Total Credits		**45**

Medical Office Certificate

The Medical Office program is designed to prepare you for a career as a health career professional, assisting health care providers in front-office operations. This program provides a wide range of medical office administration services. CCR 092 and CCR 094, or appropriate placement scores, are also required for many of the program courses. Internship must be started within four months of completing all required courses. Please note that not all courses are offered in the summer session.

Required Courses		**Credits**
ACC 101	Fundamentals of Accounting	3
HPR 106	Law and Ethics for Health Prof	2
HPR 178	Medical Terminology	2
CIS 118	Introduction to PC Applications	3
MAN 212	Negotiation and Conflict Resolution or BUS 115 Introduction to Business	3
MOT 110	Medical Office Administration	4
MOT 120	Medical Office Financial Management	3
MOT 130	Insurance Billing and Coding	3
MOT 136	Introduction to Clinical Skills	2
MOT 181	Administrative Internship	2
Required General Education Courses		
BIO 106	Basic Anatomy and Physiology	4
COM 126	Communication in Healthcare	3
Total Credits		**34**

Medical Billing/Coding Certificate

The Medical Billing/Coding certificate will prepare you to use and apply medical coding for insurance reimbursement and billing in a physician's office, billing, and insurance companies. The program provides a sound knowledge of medical coding rules and regulations, including compliance and reimbursement as well as billing procedures and regulations. CCR 092 and CCR 094, or appropriate placement scores, are required for many of the program courses. At the completion of the program, including an internship, you are eligible to take the National Certified Professional Coding (CPC) exam. Internship must be started within four months of completing all required courses. **Students seeking the AAS degree** will follow the requirements for the Medical Office degree on page 102, including the courses below. MOT 110 (listed below) is not required for the Billing and Coding certificate but is highly recommended. Please note that not all courses are offered in the summer session.

Required Courses		**Credits**
HPR 106	Law and Ethics for Health Prof	2
HPR 178	Medical Terminology	2
CIS 118	Introduction to PC Applications	3
MOT 110	Medical Office Administration (recommended but not required)	
MOT 120	Medical Office Financial Management	3
MOT 130	Insurance Billing and Coding	3
MOT 131	Advanced Billing and Coding	3
MOT 184	Billing Specialist Internship	3
Required General Education Courses		
BIO 106	Basic Anatomy and Physiology	4
Total Credits		**23**

Fundamentals of Medical Office Technology Certificate

This certificate will introduce you to the Medical Office profession by completing the basic fundamental required courses. CCR 092 and CCR 094, or appropriate placement scores, are also required for many of the program courses. The courses in this certificate will apply toward all the other certificates and degrees in MOT and do not need to be retaken if a grade of C or higher is achieved and you have met all other program requirements. You can decide upon completion which plan of study (certificate or degree) you will pursue. The MOT 110 class (included below) is not required for the Billing and Coding certificate but is highly recommended.

Required Courses		**Credits**
CIS 118	Introduction to PC Applications	3
HPR 106	Law and Ethics for Health Prof	2
HPR 178	Medical Terminology	2
MOT 110	Medical Office Administration	4
MOT 120	Medical Office Financial Management	3
Total Credits		**14**

Multimedia Graphic Design

www.rrcc.edu/multimedia

The Multimedia Graphic Design, Photography, and Journalism Departments provide four instructional classrooms with up to 24 computer workstations per classroom. The classrooms house state-of-the-art multimedia equipment and software for instruction and use. The MGD/PHO/JOU Student Computer Lab allows you to work outside the classroom with the same and current software and hardware that are used in the courses. Currently, the labs are equipped with Intel Power Macs, which allows you to choose between operating systems; the computers are loaded with both Windows 7 and Macintosh OSX. Peripheral devices are also available, including color and black-and-white output printers, flatbed scanners, and video capture stations. Pen tablets are also available for your use while working in the department facilities.

Photography, Journalism, and Videography students have available resources that include use of professional video cameras, audio recording, a traditional darkroom, and a fully functioning photographic studio. You must be enrolled in courses that are specific to this equipment to qualify for department-approved use.

Red Rocks Community College offers both associate degrees and certificates in the MGD/PHO/JOU programs that will prepare you to enter the work force upon graduation.

Recommended General Education Courses for AAS in MGD/PHO/JOU

Mathematics		
MAT 107	Career Math	3
Arts & Humanities		
ART 149	Mixed Media I: Digital Art or *ART 121 Drawing I or ART 139 Digital Photography I	3
English		
ENG 131	Technical Writing	3
General Education Elective		
ART 131	Visual Concepts 2-D Design* or ART 132 Visual Concepts 3-D Design*	3

*ART 121 and ART 131 or ART 132 may be used to fulfill one Arts & Humanities and the General Education course electives. You may substitute MGD/PHO advisor approved-classes if ART 121, and ART 131 or ART 132 are used to fulfill the General Education Course Requirements.

Degrees: Associate of Applied Science

- **Graphic Design & Print Production**
- **Video Production**
- **Professional Photography**
- **Digital Media Journalism**

Certificates:

- **Graphic Design & Print Production**
- **Web Design**
- **Advanced Web Design**
- **Photography Studio Management**
- **Professional Photography**
- **Digital Media Journalism**
- **Photographer's Assistant**
- **Fundamentals of Video Production**
- **Video Production**

Multimedia Graphic Design AAS Degrees

Graphic Design & Print Production AAS Degree

The Graphic Design/Print Production emphasis within the Multimedia Graphic Design Department prepares you to work in the traditional graphic design and printing industries. You will develop designs for electronic production for both digital and traditional press. In addition, you will learn design techniques for packaging and point of sale and other forms of print media. Printing press technology is also addressed.

Required Courses		**Credits**
Following is the recommended sequence of required courses. In addition, each semester students should take a GEN ED and/or an approved elective as noted below:		
Semester One		
MGD 101	Introduction to Computer Graphics	3
MGD 103	Introduction to Production Design	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
Semester Two		
MGD 114	Adobe InDesign	3
MGD 202	Point of Purchase Packaging Design	3
MGD 211	Adobe Photoshop II	3
MGD 212	Adobe Illustrator II	3
Semester Three		
MGD 118	Digital Color Theory or MGD 116 Typography I	3
MGD 213	Electronic Prepress	3
MGD-Approved Electives:		
JOU 225	Internet Media	3
ART 139	Digital Photography I *	3
Semester Four		
MGD 268	Business for Creatives or MGD 280 Internship or MGD 289 Capstone	3
MGD Approved Electives:		
CWB 130	Dreamweaver	3
MGD 121	Corel Painter for Digital Media	3
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
*ART 121 and ART 132 or ART 139 may be used to fulfill one Arts & Humanities and the General Education Elective. Students may substitute additional MGD/PHO classes if ART 121 and ART 132 or ART 139 are used for the Arts & Humanities and General Education Course Requirements.		
Total Credits		**60**

Video Production AAS Degree

The video production emphasis within the Multimedia Graphic Design Department prepares you for work in video and DVD production. You are exposed to many exciting aspects of video production, such as sound and digital editing, as well as motion graphics. **Information: www.rrcc.edu/multimedia**

Required Courses	**Credits**
Following is the recommended sequence of courses. In	

addition, each semester students should take a GEN ED and/or an approved elective as noted below.

Semester One		
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 104	Videography I	3
MGD 164	Digital Video Editing I	3
Semester Two		
MGD 163	Sound Design I: Apple Logic Pro	3
MGD 204	Videography II	3
MGD 165	Adobe After Effects I	3
MGD 264	Digital Video Editing II	3
Semester Three		
MGD 263	Sound Design II: Apple Logic Pro	3
MGD-Approved Electives		
MGD 265	Adobe AfterEffects II	3
MGD 121	Painter for Digital Media	3
ART 139	Digital Photography *	3
		3

Semester Four		
MGD 268	Business for Creatives	3
	or MGD 280 Internship	3
	or MGD 289 Capstone	
Alternative MGD Approved Electives		
MUS 105	Intro to Computer Music Applications	3
MGD 211	Adobe Photoshop I	3
	or MGD 212 Adobe Illustrator II	
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		

*ART 139 and/or MUS 105 may be used to fulfill one Arts & Humanities and the General Education Elective Course Requirements.

Total Credits **60**

Professional Photography AAS Degree

The Professional Photography AAS degree prepares you for a career as a professional photographer. By blending both film and digital skills, you will learn techniques that include camera operation, print production, lighting, equipment, and business management, including the history of photography. You will use both a traditional film SLR camera and a digital SLR camera or a digital camera with manual settings. **Information: www.rrcc.edu/multimedia**

Required Courses		**Credits**

Following is the recommended sequence of courses. In addition, each semester students should take a GEN ED and/or an approved elective as noted below.

Semester One		
ART 113 *	History of Photography	3
PHO 120 *	Fundamentals of Photography I	3
PHO 161	Digital Capture Processing I	2
PHO 162	Digital Capture Processing II	2
PHO 109	Traditional Darkroom Lab (optional) (1)	
Semester Two		
MGD 111	Adobe Photoshop I	3
PHO 143	Perception and Photography	3
PHO 122	Photo Image Capture II	3
Semester Three		
PHO 204	Commercial Studio Lighting	3
PHO 155	Photography of the Human Form I	3
	or PHO 260 Event and Wedding Photography	
MGD 121	Corel Painter for Digital Media	3
	or PHO 266 Professional Digital Workflow Adobe Lightroom	

Semester Four		
MGD 268	Business for Creatives	3
ART 144	Portrait Photography	3
	or PHO 232 Professional Portraiture	
MGD/PHO Advisor-Approved Electives		**11**
Recommended MGD Electives:		
MUS 105*	Intro to Computer Music Applications	3
ART 121*	Drawing I	3
ART 131*	Visual Concepts: 2D Design	3
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		

* ART 113 and ART 138 or ART 121 and/or ART 131 or ART 139 and/or MUS 105 may be used to fulfill one Arts & Humanities and the General Education Elective. Students may substitute ART/PHO/MGD classes if the ART 113 and ART 138 are counted toward the Arts & Humanities and General Education Course Requirements.

Total Credits **60**

Digital Media Journalism AAS Degree

The AAS in Digital Media Journalism prepares you for work with blogs, microblogs, social networking applications, virtual worlds, audio, and video podcasting for delivering mass media using the Internet as the primary means of media distribution. You will combine traditional journalism skills in writing and editing with digital skills in video, page layout, and production to produce e-zines, blogs, podcasts, and other relevant Internet publications.

Information: www.rrcc.edu/journalism

Required Courses		**Credits**
JOU 102	Intro to Editing	3
JOU 105	Introduction to Mass Media	3
JOU 106	Fundamentals of Reporting	3
MGD 102	Intro to Multimedia	3
MGD 104	Videography I	3
MGD 111	Adobe Photoshop I	3
MGD 114	Adobe InDesign	3
JOU 114	TV Production	3
	or JOU 121 Photojournalism	
JOU 206	Intermediate Newswriting and Editing	3
JOU 241	Magazine Article Writing	3
JOU 225	Internet Media	3
JOU 215	Publications Production and Design	3
Faculty Advisor Approved Electives from MGD		**9**
MGD Recommended Electives		
JOU 121	Photojournalism	3
MGD 164	Digital Video Editing I: Apple Final Cut Pro	3
ART 139	Digital Photography I*	3
MUS 105	Intro to Computer Music Applications*	3
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		

*ART 139 and MUS 105 may be used to fulfill one Arts & Humanities and the General Education Elective Course Requirements.

Total Credits **60**

Multimedia Graphic Design Certificates

Graphic Design/Print Production Certificate

The graphic design/print production emphasis prepares you for a career in printing, graphic design, and prepress production. As an established industry, there are many job opportunities in the Denver Metro area in graphic design. The Graphic Design and Print Production certificate can be combined with the Video Production

AAS Degree or the Web Design and Development AAS degree to add additional marketable skills to the traditional AAS degree.

Required Courses		Credits
MGD 101	Introduction to Computer Graphics or MGD 102 Introduction to Multimedia	3
MGD 103	Introduction to Production Design	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 114	Adobe InDesign	3
MGD 118	Digital Color Theory	3
MGD 202	Point of Purchase Packaging Design	3
MGD 211	Adobe Photoshop II or MGD 212 Adobe Illustrator II	3
MGD 213	Electronic Prepress	3
Total Credits		**27**

Web Design Certificate

The Web Design certificate within the Multimedia Graphic Design Department prepares you for entry-level work in Web page production. You will learn the importance of page layout, user interface, and design, as well as site design. The Web Design certificate and/or the Advanced Web Design certificate, when combined with the Graphic Design and Print Production AAS degree or Video Production AAS degree, adds additional marketable skills to the traditional AAS degree.

Required Courses		Credits
CWB 130	Dreamweaver	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 116	Typography	3
MGD 118	Digital Color Theory	3
Total Credits		**15**

Advanced Web Design Certificate

You will evaluate the look and feel of websites, learn HTML and HTML editors, and learn advanced Web production techniques, such as adding sound, video, or animation to a website. You are exposed to pre-production, production, and post-production concepts. Motion graphic techniques, video-editing, and sound design used in Web development will be addressed. You must complete or be concurrently enrolled in the Web Design Certificate program.

Required Courses		Credits
MGD 104	Videography I	3
MGD 163	Sound Design I: Apple Logic Pro	3
MGD 164	Digital Video Editing I: Final Cut Pro	3
CWB 205	Complete Web Scripting: JavaScript	3
JOU 225	Internet Media	3
Total Credits		**15**

Photography Studio Management Certificate

You will learn essential skills for creating and managing a photographic studio.

Required Courses		Credits
MGD 268	Business for Creatives	3
SBM 101	Starting a Small Business	1
Total Credits		**4**

Professional Photography Certificate

You will learn techniques in both film and digital photography, such as camera techniques, print production, lighting, equipment, and business management. You will use both a traditional film SLR camera and a digital SLR camera or a digital camera with manual settings.

Required Courses		Credits
PHO 120	Fundamentals of Photography	3
MGD 111	Adobe Photoshop I	3
PHO 143	Perception and Photography	3
PHO 204	Commercial Studio Lighting	3
MGD 268	Business for Creatives	3
Total Credits		**15**

Digital Media Journalism Certificate

The Digital Media Journalism certificate prepares you for work with blogs, microblogs, and social networking applications for delivering mass media using the Internet as the primary means of media distribution. You will combine traditional journalism skills in writing and editing with digital skills in video, page layout, and production to produce e-zines, blogs, podcasts, and other relevant Internet publications.

Required Courses		Credits
JOU 102	Intro to Editing	3
JOU 105	Introduction to Mass Media	3
JOU 106	Fundamentals of Reporting	3
MGD 104	Videography I	3
MGD 111	Adobe Photoshop I	3
MGD 114	Adobe InDesign	3
JOU 241	Magazine Article Writing	3
JOU 225	Internet Media	3
JOU 215	Publications Production and Design	3
Total Credits		**27**

Photographer's Assistant Certificate

You will learn the basics of photography that provide the skills necessary to act as a commercial photographer's assistant. Assisting can be the apprenticeship route to becoming a professional photographer.

Required Courses		Credits
PHO 204	Commercial Studio Lighting	3
PHO 120	Fundamentals of Photography	3
Total Credits		**6**

Fundamentals of Video Production Certificate

You will learn the basics of video production for success as an independent business or to become an important asset to someone else's.

Required Courses		Credits
MGD 104	Videography I	3
MGD 164	Digital Video Editing I	3
MGD 165	After Effects	3
MGD 204	Videography II	3
Total Credits		**12**

Video Production Certificate

The Video Production emphasis within the Multimedia Graphic Design Department prepares you for work in video and DVD production. You will be exposed to many exciting aspects of video production, such as sound and digital editing, as well as motion graphics. The Video Production certificate, when combined with the Graphic Design and Print Production AAS degree, adds additional marketable skills to the traditional AAS degree.

Required Courses		Credits
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 104	Videography	3
MGD 163	Sound Design I: Apple Logic Pro	3
MGD 164	Digital Video Editing I	3
MGD 165	Adobe AfterEffects I	3
MGD 264	Digital Video Editing II	3
MGD 204	Videography II	3
Total Credits		**24**

Nurse Aide

www.rrcc.edu/health-sciences

Certificates:

Nurse Aide
Home Health Aide
Hospice Aide

Nurse Aide Certificate

Lifting requirement. Open enrollment with one of the following acceptance requirements documented with Red Rocks Community College: Appropriate placement scores or SAT verbal score of 440 or higher or ACT English score of 18 or higher or CCR 094 with a C or higher. Additional required Information and forms (e.g. criminal background check, immunization records, physician's statement, and drug screen) can be found at **www.rrcc.edu/health-careers**. Register for the NUA 170 clinical section that corresponds to the NUA 101 class. You must pass NUA 101 with a grade of C or higher in order to participate in the NUA 170 clinical rotation. You must pass both NUA 101 and NUA 170 with a grade of C or higher in order to receive a certificate of completion.

For the step-by-step Nursing Assistant Enrollment process, please visit our website at: **www.rrcc.edu/nurse-aide/admissions.**

Required Courses		Credits
NUA 101	Nurse Aide Theory/Lab	4
NUA 170	Nurse Aide Clinical	1
Total Credits		**5**

Home Health Aide Certificate

This certificate is designed to provide Certified Nurse Aides with additional training and knowledge on how to assist the elderly, sick, and disabled and to help maintain their safety, health, and independence in the comfort and convenience of their own home. *Prerequisite: NUA 101, NUA 170, and HPR 102 (or hold a current Colorado Nurse Aide Certification and CPR card.)*

Required Courses		Credits
NUA 105	Home Health Aide Theory	2
NUA 180	Home Health Aide Internship	0.5
Total Credits		**2.5**

Hospice Aide Certificate

This certificate summarizes the history, philosophy, goals, and objectives of end-of-life care. This course is designed to provide additional training and knowledge on how to provide palliative care and assist terminally ill patients in order to achieve the highest level of comfort and quality of life.

Required Courses		Credits
NUA 120	Hospice & Palliative Care	1
NUA 121	Bereavement & Spiritual Care	1
NUA 181	Hospice Care Internship	0.5
Total Credits		**2.5**

Outdoor Education

www.rrcc.edu/outdoor-education

Degree: Associate of Applied Science

Outdoor Education

Certificates:

Introduction to Outdoor Education
The Outdoor Professional
Outdoor Business/Management
Wilderness Therapy Specialist
Facilitation/Education Specialist

Information: 303.914.6238.

Outdoor Education Degrees

Outdoor Education AAS Degree

The AAS degree is for those who are preparing for entry-level employment in a career-oriented program of study or who are upgrading skills in a specific occupation. This degree is not intended for transfer; however, courses are considered for transfer on an individual basis by the receiving college or university.

Individual departments may specify particular courses for general education. Meet with an advisor for a degree worksheet.

Required Courses		Credits
General Education Courses		**15**
ENG or COM (100 or higher) (3)		
MAT 107 (career or higher) (3)		
Choose 6 credits (TWO courses) from the following (100 and above):		
Arts & Humanities: ARA, ART, ASL, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE		
Physical & Life Sciences: AST, BIO, CHE, ENV, GEY, MET, NRE, PHY, SCI		
Social & Behavioral Science: ARG, ANT, ECO, GEO, GIS, HIS, POS, PSY, SOC		
Choose an additional 3 credits from any of the above prefixes or CIS 118		
Required Core Courses		**6**
REC 101	Recreation-Principles & Practice (3)	
OUT 187	Cooperative Education Internship (3)	
Elective Courses		**8**
(Must select 8 credits from the following courses. Courses must not duplicate any certificate courses.)		
REC 212	Outdoor Recreation Programming (3)	
OUT 101	Mountaineering (3)	

OUT 108	Wilderness Survival Skills (3)	
OUT 109	Winter Wilderness Survival Skills (2)	
OUT 112	Mountain Orientation (2)	
OUT 113	Desert Orientation (2)	
OUT 114	Canyon Orientation (2)	
OUT 115	Snow Orientation (2)	
OUT 116	River Orientation (2)	
OUT 119	Flyfishing I (1)	
OUT 126	Mountain Biking (1)	
OUT 129	Ice Climbing I (1)	
OUT 130	Ice Climbing II (1)	
OUT 131	Rock Climbing I (1)	
OUT 132	Rock Climbing II (2)	
OUT 137	Kayaking (1)	
OUT 139	Whitewater Rafting Guide (2)	
OUT 140	Swift Water Rescue Tech I (1)	
OUT 143	Backpacking (2)	
OUT 144	Backcountry Cooking (1)	
OUT 145	Introduction to Winter Sports (1)	
OUT 149	Alpine Skiing I (1)	
OUT 150	Alpine Skiing II (1)	
OUT 151	Snowshoeing (1)	
OUT 152	Snowboarding I (1)	
OUT 153	Snowboarding II (1)	
OUT 156	Survival Plants in Summer I (2)	
OUT 157	Survival Plants in Fall I (2)	
OUT 158	Survival Plants in Spring I (2)	
OUT 161	Survival Plants in Summer II (3)	
OUT 162	Survival Plants in Fall II (3)	
OUT 163	Survival Plants In Spring II (3)	
OUT 168	Avalanche Awareness Level I (1)	
OUT 169	Avalanche Awareness Level II (2)	
OUT 201	Scuba Diving (1)	
OUT 202	Open Water Diver (1)	
OUT 203	Advanced Open Water Diver (2)	
OUT 204	Rescue Diver (2)	
OUT 205	Divemaster (3)	
OUT 216	Challenge Course Facilitation (2)	
OUT 237	Paddle Sports (2)	
In addition to the requirements above, you must complete at least one of the following Certificates:		**31**
The Outdoor Professional Certificate (31)		
Outdoor Business/Management Certificate (31)		
Wilderness Therapy Specialist Certificate (31)		
Facilitation/Education Specialist Certificate (31)		
Total Credits		**60**

Outdoor Education Certificates

By completing the Outdoor Education Certificate Program, you will have a well-rounded outdoor education experience and a high degree of training specific to employment within the outdoor industry. Types of organizations that may employ graduates include recreation facilities, outfitters and guide services, ski areas, summer adventure camps, community nature centers and outdoor programs, whitewater river outfitters, outdoor equipment purveyors, and other outdoor education and/or recreation companies and organizations. In addition to field-based experiential learning of basic technical skills, you will be prepared to be a future outdoor trip leader by examining and developing the interpersonal skills needed for positions in outdoor leadership.

Each certificate requires a set of core courses and elective groupings specific to the area of concentration. These certificates are designed to prepare the student to incorporate a more focused emphasis area within outdoor education as well as include other more interdisciplinary emphasis areas that incorporate other subject areas into the curriculum. One certificate is required as part of the AAS degree requirements. The Introduction to Outdoor Education does not meet the AAS degree certificate requirement but the courses will apply to other certificates.

Introduction to Outdoor Education Certificate

The Introduction to Outdoor Education certificate is designed to give a well-rounded foundation for students interested in learning more about the outdoor education industry. This certificate may be helpful for students who are trying to determine a direction for their future career in the outdoor industry.

Required Courses		**Credits**
OUT 136	Leave No Trace Trainer Cert.	2
PRA 218	Outdoor Leadership	3
OUT 135	Risk Management for Outdoor Professionals	1
HWE 129	Wilderness First Responder	4
Total Required Courses		**10**
Electives: (Choose 6 Credits)		**6**
OUT 101	Mountaineering (3)	
OUT 108	Wilderness Survival Skills (3)	
OUT 109	Winter Wilderness Survival Skills (2)	
OUT 112	Mountain Orientation (2)	
OUT 113	Desert Orientation (2)	
OUT 114	Canyon Orientation (2)	
OUT 115	Snow Orientation (2)	
OUT 116	River Orientation (2)	
OUT 119	Flyfishing I (1)	
OUT 126	Mountain Biking (1)	
OUT 129	Ice Climbing I (1)	
OUT 130	Ice Climbing II (1)	
OUT 131	Rock Climbing I (2)	
OUT 132	Rock Climbing II (2)	
OUT 137	Kayaking (1)	
OUT 139	Whitewater Rafting Guide (2)	
OUT 140	Swift Water Rescue Tech I (1)	
OUT 143	Backpacking (2)	
OUT 144	Backcountry Cooking (1)	
OUT 145	Introduction to Winter Sports (1)	
OUT 149	Alpine Skiing I (1)	
OUT 150	Alpine Skiing II (1)	
OUT 151	Snowshoeing (1)	
OUT 152	Snowboarding I (1)	
OUT 153	Snowboarding II (1)	
OUT 156	Survival Plants in Summer I (2)	
OUT 157	Survival Plants in Fall I (2)	
OUT 158	Survival Plants in Spring I (2)	
OUT 168	Avalanche Awareness Level I (1)	
OUT 169	Avalanche Awareness Level II (2)	
OUT 201	Scuba Diving (1)	
OUT 202	Open Water Diver (1)	
OUT 203	Advanced Open Water Diver (2)	
OUT 204	Rescue Diver (2)	
OUT 216	Challenge Course Facilitation (2)	
OUT 237	Paddle Sports (2)	
Total Credits		**16**

The Outdoor Professional Certificate

The Outdoor Professional Certificate is for those who are seeking a career as a field guide or outdoor instructor in a variety of environments in the outdoor industry. This certificate focuses on understanding industry standards, examining interactions with clients, and experiential learning through field experiences.

Required Courses		**Credits**
OUT 136	Leave No Trace Trainer Cert.	2

PRA 218	Outdoor Leadership	3
OUT 135	Risk Management for Outdoor Professionals	1
HWE 129	Wilderness First Responder	4
REC 210	Principles of Outdoor Recreation	3
OUT 107	Orienteering and Route Finding	2
Total Required Credits		**15**
Choose 16 credits from the following courses:		**16**
REC 212	Outdoor Recreation Programming (3)	
OUT 101	Mountaineering (3)	
OUT 108	Wilderness Survival Skills (3)	
OUT 109	Winter Wilderness Survival Skills (2)	
OUT 112	Mountain Orientation(2)	
OUT 113	Desert Orientation (2)	
OUT 114	Canyon Orientation (2)	
OUT 115	Snow Orientation (2)	
OUT 116	River Orientation (2)	
OUT 119	Flyfishing I (1)	
OUT 126	Mountain Biking (1)	
OUT 129	Ice Climbing I (1)	
OUT 130	Ice Climbing II (1)	
OUT 131	Rock Climbing I (2)	
OUT 132	Rock Climbing II (2)	
OUT 137	Kayaking (1)	
OUT 139	Whitewater Rafting Guide (2)	
OUT 140	Swift Water Rescue Tech I (1)	
OUT 143	Backpacking (2)	
OUT 144	Backcountry Cooking (1)	
OUT 145	Introduction to Winter Sports (1)	
OUT 149	Alpine Skiing I (1)	
OUT 150	Alpine Skiing II (1)	
OUT 151	Snowshoeing (1)	
OUT 152	Snowboarding I (1)	
OUT 153	Snowboarding II (1)	
OUT 156	Survival Plants in Summer I (2)	
OUT 157	Survival Plants in Fall I (2)	
OUT 158	Survival Plants in Spring I (2)	
OUT 161	Survival Plants in Summer II (3)	
OUT 162	Survival Plants in Fall II (3)	
OUT 163	Survival Plants In Spring II (3)	
OUT 168	Avalanche Awareness Level I (1)	
OUT 169	Avalanche Awareness Level II (2)	
OUT 201	Scuba Diving (1)	
OUT 202	Open Water Diver (1)	
OUT 203	Advanced Open Water Diver (2)	
OUT 204	Rescue Diver (2)	
OUT 205	Divemaster (3)	
OUT 216	Challenge Course Facilitation (2)	
OUT 237	Paddle Sports (2)	
Total Credits		**31**

Outdoor Industry Business/Management Certificate

The Outdoor Industry Business/Management Certificate is for those who are seeking a career in the outdoor industry that focuses on business practices. This includes management, ownership, marketing, administrative duties, and more. The certificate will better prepare an individual with the skills necessary to properly operate and manage a business related to the outdoor industry.

Required Courses		**Credits**
OUT 136	Leave No Trace Trainer Cert.	2
PRA 218	Outdoor Leadership	3
OUT 135	Risk Management for Outdoor Professionals	1
HWE 129	Wilderness First Responder	4
REC 210	Principles of Outdoor Recreation	3
Total Required Courses		**13**
Electives: BUS/ACC/MAN/MAR Courses (Choose 8-9 Credits)		**8-9**
BUS 102	Entrepreneurial Operations (3)	
BUS 115	Introduction to Business (3)	
BUS 216	Legal Environment of Business (3)	
ACC 101	Fundamentals of Accounting (3)	
MAN 128	Human Relations in Organizations (3)	
MAN 156	Problem Solving and Decision Making in a Business Environment (3)	
MAN 200	Human Resource Management I (3)	
MAR 216	Principles of Marketing (3)	
MAR 220	Principles of Advertising (3)	
OR the Small Business Start Up Certificate on page 75 (8 credits) all courses listed below:		
SBM 101 Starting a Small Business (1)		
SBM 103 Legal Aspects of a Small Business (1)		
SBM 106 Recordkeeping for a Small Business (1)		
SBM 108 Marketing for a Small Business (1)		
SBM 110 Managing a Small Business (1)		
SBM 112 Financing a Small Business (1)		
SBM 113 Writing a Business Plan (1)		
SBM 175 Special Topics (1)		
or MAN 117 Time Management (1)		
or faculty advisor-approved program or elective (1)		
Electives: OUT Courses (Choose 9-10 Credits)		**9-10**
OUT 101	Mountaineering (3)	
OUT 108	Wilderness Survival Skills (3)	
OUT 109	Winter Wilderness Survival Skills (2)	
OUT 112	Mountain Orientation (2)	
OUT 113	Desert Orientation (2)	
OUT 114	Canyon Orientation (2)	
OUT 115	Snow Orientation (2)	
OUT 116	River Orientation (2)	
OUT 119	Flyfishing I (1)	
OUT 126	Mountain Biking (1)	
OUT 129	Ice Climbing I (1)	
OUT 130	Ice Climbing II (1)	
OUT 131	Rock Climbing I (2)	
OUT 132	Rock Climbing II (2)	
OUT 137	Kayaking (1)	
OUT 139	Whitewater Rafting Guide (2)	
OUT 140	Swift Water Rescue Tech I (1)	
OUT 143	Backpacking (2)	
OUT 144	Backcountry Cooking (1)	
OUT 145	Introduction to Winter Sports (1)	
OUT 149	Alpine Skiing I (1)	
OUT 150	Alpine Skiing II (1)	
OUT 151	Snowshoeing (1)	
OUT 152	Snowboarding I (1)	
OUT 153	Snowboarding II (1)	
OUT 156	Survival Plants in Summer I (2)	
OUT 157	Survival Plants in Fall I (2)	
OUT 158	Survival Plants in Spring I (2)	
OUT 161	Survival Plants in Summer II (3)	
OUT 162	Survival Plants in Fall II (3)	
OUT 163	Survival Plants In Spring II (3)	
OUT 168	Avalanche Awareness Level I (1)	
OUT 169	Avalanche Awareness Level II (2)	
OUT 201	Scuba Diving (1)	
OUT 202	Open Water Diver (1)	
OUT 203	Advanced Open Water Diver (2)	
OUT 204	Rescue Diver (2)	
OUT 205	Divemaster (3)	
OUT 216	Challenge Course Facilitation (2)	
OUT 237	Paddle Sports (2)	
Total Credits		**31**

Wilderness Therapy Specialist Certificate

The Wilderness Therapy Specialist Certificate is for students who are seeking a career that uses wilderness as a therapeutic process to help those in need. This certificate focuses on theory within

psychology and sociology as well as experiential learning in the outdoors through field courses.

Required Courses		Credits
OUT 136	Leave No Trace Trainer Cert.	2
PRA 218	Outdoor Leadership	3
OUT 135	Risk Management for Outdoor Professionals	1
HWE 129	Wilderness First Responder	4
OUT 107	Orienteering and Route Finding	2
Total Required Courses		**12**
Electives: PSY/SOC Courses (Choose-9 Credits)		**9**
PSY 101	General Psychology I (3)	
PSY 102	General Psychology II (3)	
PSY 231	Positive Psychology (3)	
PSY 229	Introduction to Addictive Behavior (2)	
PSY 265	Psychology of Personality (3)	
SOC 101	Introduction to Sociology I (3)	
SOC 231	Sociology of Deviant Behavior (3)	
SOC 265	Violence and Culture (3)	
Electives: OUT Courses (Choose 9-10 Credits)		**9-10**
OUT 101	Mountaineering (3)	
OUT 108	Wilderness Survival Skills (3)	
OUT 109	Winter Wilderness Survival Skills (2)	
OUT 112	Mountain Orientation (2)	
OUT 113	Desert Orientation (2)	
OUT 114	Canyon Orientation (2)	
OUT 115	Snow Orientation (2)	
OUT 116	River Orientation (2)	
OUT 119	Flyfishing I (1)	
OUT 126	Mountain Biking (1)	
OUT 129	Ice Climbing I (1)	
OUT 130	Ice Climbing II (1)	
OUT 131	Rock Climbing I (2)	
OUT 132	Rock Climbing II (2)	
OUT 137	Kayaking (1)	
OUT 139	Whitewater Rafting Guide (2)	
OUT 140	Swift Water Rescue Tech I (1)	
OUT 143	Backpacking (2)	
OUT 144	Backcountry Cooking (1)	
OUT 145	Introduction to Winter Sports (1)	
OUT 149	Alpine Skiing I (1)	
OUT 150	Alpine Skiing II (1)	
OUT 151	Snowshoeing (1)	
OUT 152	Snowboarding I (1)	
OUT 153	Snowboarding II (1)	
OUT 156	Survival Plants in Summer I (2)	
OUT 157	Survival Plants in Fall I (2)	
OUT 158	Survival Plants in Spring I (2)	
OUT 161	Survival Plants in Summer II (3)	
OUT 162	Survival Plants in Fall II (3)	
OUT 163	Survival Plants In Spring II (3)	
OUT 168	Avalanche Awareness Level I (1)	
OUT 169	Avalanche Awareness Level II (2)	
OUT 201	Scuba Diving (1)	
OUT 202	Open Water Diver (1)	
OUT 203	Advanced Open Water Diver (2)	
OUT 204	Rescue Diver (2)	
OUT 205	Divemaster (3)	
OUT 216	Challenge Course Facilitation (2)	
OUT 237	Paddle Sports (2)	
Total Credits		**31**

Park Ranger Technology

www.rrcc.edu/park-ranger-technology

The Park Ranger Technology (Recreation Management) Program provides training for those seeking careers in natural resource protection, interpretation, and management. Law enforcement, natural resource interpretation, public safety services, and outdoor recreation/education are the major areas of concentration, reflecting the needs of the industry and potential employment in all levels of government as well as private companies. To become a full-time professional Park Ranger, most hiring agencies have three basic requirements: **1)** a bachelor's degree from an accredited institution of higher learning; **2)** basic park ranger knowledge and skills; **3)** seasonal park ranger employment experience. The Park Ranger Technology certificate programs are designed around all agency requirements and allows you to design a program around specific interests, career goals, and previous training or education, and is appropriate for the following individuals:

- Students with a high school diploma, or some college, wishing to begin a program of study to prepare them for employment as a professional Park Ranger. In addition to the Certificate of Concentration, the program advisor will help you design an appropriate two-year associate degree that can be transferred to a four-year institution.
- Students seeking part-time or full-time seasonal employment as a Park Ranger with an agency (local, state, or federal) which may not require a four-year degree. Students must first consult with the program advisor before beginning any program of study.
- Students who already have a four-year degree in an unrelated field and who wish to make a career change.

Information: 303.914.6238.

Certificates:

Introduction to Park Ranger Technology
Law Enforcement
Outdoor Recreation Management
Resource Interpretation

Park Ranger Technology Certificates

Introduction to Park Ranger Technology Certificate

The Introduction to Park Ranger Technology Certificate is for those who have an interest in becoming a Park Ranger and who would like to have more information about this career field in order to make a definitive decision.

Required Courses		Credits
PRA 102	Introduction to Park Ranger Technology	3
PRA 203	Natural Resource Management	3
Total Credits		**6**

Law Enforcement Certificate

The Law Enforcement Certificate is for those students wishing to increase their job opportunities by becoming qualified for full law enforcement responsibilities in the field.

Required Courses		Credits
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
PRA 102	Introduction to Park Ranger Technology	3
PRA 203	Natural Resource Management	3
PRA 280	Park Ranger Internship	3
Total Credits		**47**

Outdoor Recreation Certificate

The Outdoor Recreation Certificate provides a wide choice for those wishing to become employed as guides, outdoor instructors, safety personnel, or rangers with both governmental and private agencies.

Required Courses		**Credits**
PRA 102	Introduction to Park Ranger Technology	3
PRA 203	Natural Resource Management	3
PRA 205	Resource Interpretation	3
PRA 218	Outdoor Leadership	3
REC 100	Introduction to Recreation	2
OUT 134	Wilderness Ethics	2
OUT 135	Risk Mgmt for Outdoor Professional	1
OUT 136	Leave No Trace Trainer Cert.	2
PRA 280	Park Ranger Internship	3
Required Course credits		**22**
Elective Courses		**10**
Choose 10 credits from the following:		
HPR 125	Outdoor Emergency Care or HWE 129 Wilderness First Responder	4
GIS 101	Geographic Information Systems	3
OUT 101	Mountaineering	3
OUT 107	Orienteering and Route Finding	2
OUT 108	Wilderness Survival Skills	3
OUT 109	Winter Wilderness Survival Skills	2
OUT 112	Mountain Orientation	2
OUT 113	Desert Orientation	2
OUT 114	Canyon Orientation	2
OUT 115	Snow Orientation	2
OUT 116	River Orientation	2
OUT 119	Fly Fishing I	1
OUT 126	Mountain Biking	1
OUT 129	Ice Climbing I	1
OUT 130	Ice Climbing II	1
OUT 131	Rock Climbing I	2
OUT 132	Rock Climbing II	2
OUT 137	Kayaking	1
OUT 139	Whitewater Rafting Guide	2
OUT 140	Swift Water Rescue Tech I	1
OUT 143	Backpacking	2
OUT 144	Backcountry Cooking	1
OUT 145	Introduction to Winter Sports	1
OUT 149	Alpine Skiing I	1
OUT 150	Alpine Skiing II	1
OUT 151	Snowshoeing	1
OUT 152	Snowboarding I	1
OUT 153	Snowboarding II	1
OUT 156	Survival Plants in Summer I	2
OUT 157	Survival Plants in Fall I	2
OUT 158	Survival Plants in Spring I	2
OUT 161	Survival Plants in Summer II	3
OUT 162	Survival Plants in Fall II	3
OUT 163	Survival Plants In Spring II	3
OUT 168	Avalanche Awareness Level I	1
OUT 169	Avalanche Awareness Level II	2
OUT 201	Scuba Diving	1
OUT 202	Open Water Diver	1
OUT 216	Challenge Course Facilitation	2
OUT 237	Paddle Sports	2
Total Credits		**42**

Resource Interpretation Certificate

The Resource Interpretation Certificate is for those working with resource interpretation, naturalists, and/or other nature center work with the public.

Required Courses		**Credits**
PRA 102	Introduction to Park Ranger Technology	3
PRA 203	Natural Resource Management	3
PRA 205	Resource Interpretation	3
PRA 218	Outdoor Leadership	3
OUT 134	Wilderness Ethics	2
OUT 135	Risk Mgmt for Outdoor Professional	1
OUT 136	Leave No Trace Trainer Cert.	2
PRA 280	Park Ranger Internship	3
Total Credits		**20**

Philosophy

www.rrcc.edu/philosophy

Degree: Associate of Arts

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Philosophy. Consult with a faculty advisor before beginning this area of study.

Philosophy AA Degree

See AA - Philosophy Designated Degree Requirements on page 53

Phlebotomy

www.rrcc.edu/phlebotomy

Certificate

This CCHE approved certificate is designed to prepare you to gain employment as a Phlebotomist in the health care industry. You will receive an extensive and varied program of study that includes theory and venipuncture practice. After successful completion of this course and the Phlebotomy Internship, you are eligible to apply and sit for the national AMT (American Medical Technologist) certification exam. Documentation of at least two Hepatitis B immunizations are required before the start of the HPR 112 Phlebotomy course. Immunizations, physician approval, and background check/drug screen are required before the start of the internship. You must complete a criminal background check and drug screen 90 days prior to enrolling in the internship by using the current RRCC-approved background check/drug screen program. The internship, HPR 180, must be started within four months of completing HPR 112.

Phlebotomy Certificate

Please fill out an application form to be considered for these courses at: www.rrcc.edu/phlebotomy. Permission of the instructor is required to register for both courses and the courses are taken in consecutive semesters. You must be at least 18 years old to register for this program. Placement test scores must

meet the prerequisite requirement for ENG 121 or higher or documented previous ENG 121 or college degree. An additional pre/co-requisite of HPR 178 must be taken previously or concurrently with HPR 112.

Required Courses		Credits
HPR 112	Phlebotomy Certification	4
HPR 180	Phlebotomy Internship	3
Total Credits		**7**

Photography

See Multimedia Graphic Design on page 104

Physician Assistant

www.rrcc.edu/physician-assistant

Certificate

Physician Assistants (PAs) are healthcare providers who are authorized to practice medicine with the supervision of a licensed physician. The mission of the RRCC PA Program is to train clinically competent and compassionate physician assistants to provide primary care to the medically underserved.

The rigorous, year-round, full-time, 25-month curriculum leads to a certificate that qualifies graduates to sit for the Physician Assistant National Certifying Examination (PANCE). The first two semesters of the program are devoted to classroom, laboratory, and small-group work, most of which is on campus. You will then be scheduled for three off-campus clinical rotations. You will return to campus for another ten weeks of didactic curriculum. The remainder of the program is devoted to off-campus clinical rotations. Many of the clinical rotations are scheduled outside of the Denver metropolitan area. Qualified students may apply to an affiliated institution to obtain a master's degree designed to be completed at the same time as the certificate.

Please note that admissions requirements, program curriculum, and graduation requirements are subject to change. The RRCC PA program website is the most current source for program information.

Program Application and Admission Criteria

Candidates must submit an application to the program through the Central Application Service for Physician Assistants (CASPA). Application information with a link to CASPA is found on the RRCC PA program website. At the time of application, candidates must have completed a Bachelor degree from a regionally accredited institution of higher education.

Physician Assistant Certificate

Required Didactic Courses		Credits
PAP 201, PAP 202, and PAP 203	Professional Seminar I, II, III	2
PAP 204, PAP 205, and PAP 206	Problem-Based Learning I, II, III	2.5
PAP 207, PAP 208, and PAP 209	Clinical Medicine I, II, III	11
PAP 210, PAP 211, and PAP 212	History and Physical Exam I, II, III	6
PAP 214	Behavioral Medicine	1
PAP 220	Anatomy	3
PAP 221	Biochemistry	3
PAP 222	Physiology	3
PAP 223	Pathophysiology	2
PAP 224, PAP 225, and PAP 226	Pharmacology I, II, III	5
HPR 120	ACLS	1
HPR 130	PALS	1
PAP 231, PAP 232, and PAP 233	Professional Seminar IV, V, VI	1.5
PAP 234, PAP 245, and PAP 236	Problem Based Learning IV, V, VI	2

Required Clinical Courses		Credits
PAP 270	Clinical Clerkship I	9
PAP 271	Elective Clerkship I	3
PAP 272	Clinical Clerkship II	12
PAP 273	Clinical Clerkship III	9
PAP 274	Elective Clerkship II	3
Total Credits		**80**

Physics

www.rrcc.edu/physics

Degree: Associate of Science

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Physics. Consult with a faculty advisor before beginning this area of study. These courses provide the basic preparation leading to physics-related careers. Some courses might not be offered each semester.

Physics AS Degree

See AS - Physics Designated Degree Requirements on page 58

Plumbing

www.rrcc.edu/plumbing

Certificate

This program provides basic entry-level and job upgrade skills. This subset of degrees and certificates was created in partnership with industry associates and The Department of Labor. It addresses the need of most contractors for multi-talented employees that can handle varied tasks with confidence. It is also intended to assist in the preparation of plumbers for successful completion of state plumbing exams. Completion of plumbing-related coursework at Red Rocks Community College can replace the field experience (work under a master plumber) required to qualify to take the exams as follows: one hour of classroom training equals one hour of on-the-job training up to a maximum of one year.

Specialized and job upgrade courses (for example, PLU 207 International Plumbing Code, PLU 247 Hot-Water Heating Systems) will continue to be taught as stand-alone courses.

Beginning in the summer of 2014, there is a change in pre/corequisite classes. *** If you began your course of study in the

summer of 2014, you will have HVA 107 as a pre/corequisite class for all PLU classes. Students taking HVA 107 can substitute this class for the HWE 113 and OSH 127 requirements since OSH 127 is not currently being offered. If you began your course of study before summer of 2014, you will graduate under the catalog requirements listed for the semester that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) and then return, you must meet the requirements of the catalog in effect at the time you re-enroll.

This certificate is part of the State of Colorado program approval for Building and Apartment Maintenance. Please see Air Conditioning, Heating, and Refrigeration on page 66; Carpentry on page 75; or Mechanical Trades on page 101 for additional degrees and certificates under this category.

New students should contact Advising at **303.914.6255**. Current students should call **303.914.6306**.

Plumbing Service Certificate

Required Courses		Credits
PLU 101	Piping Skills	4
PLU 207	International Plumbing Code	4
PLU 108	Soldering and Brazing Skills	0.5
PLU 104	Plumbing Service	4
HVA 105	Electricity for HVAC/R or PLU 105 Basic Electricity	4
HWE 113	First Aid and Adult CPR ***	0.5
OSH 127	10-HR Construction Industry Standards ***	1
Total Credits		**18**

***See Program Description

Political Science

www.rrcc.edu/political-science

Degree: Associate of Arts

If you plan to transfer to a four-year college or university to complete a major in Political Science, you should complete the following courses. Consult with a faculty or academic advisor before beginning this program of study. These courses provide the basic preparation leading to political science-related careers.

Political Science AA Degree

See AA - Political Science Designated Degree Requirements on page 53

Power Equipment and Sport Vehicle Technology

www.rrcc.edu/warrentech/power-equipment-sport-vehicle-technology

Through a cooperative agreement with Warren Tech (the career and technical high school for Jefferson County Public Schools), RRCC students pursuing certain career and technical college degrees/certificates may take courses (on a space-available basis) at Warren Tech (WT), which is adjacent to the RRCC campus. You must have either graduated from high school, received a GED, or attained the age of 21. You pay RRCC tuition and WT program fees and your coursework is recorded on your RRCC transcript.

Classes follow the WT/Jeffco Public Schools' calendar. Deadlines and class start and end dates differ from those of RRCC. WT classes are conducted on a block schedule. The morning classes run Monday–Friday from 7:30–10:30 a.m. and the afternoon classes run Monday–Thursday from 12:00–3:45 p.m. **For more information, see Warren Tech Students on page 10.**

This two-year program is designed to provide you with the basic and advanced skill training as needed for successful entry to the power and sport vehicle industry.

Degree: Associate of Applied Science

Power Equipment and Sports Vehicle Technology

Certificates:

Power Equipment Maintenance Technician

Sports Vehicle Maintenance Technician

Power Equipment and Sports Vehicle Technology AAS Degree

Required Courses		Credits
HEM 110	Gasoline, Power Plants & Elec Sys	5
HEM 113	Diesel Fuel Systems	3
HEM 161	Heavy Equipment Laboratory	4
HEM 210	Hydraulics and Transmissions	3
HEM 211	Final Drives and Brakes	2
HEM 268	Heavy Equipment Laboratory I	4
HEM 269	Heavy Equipment Laboratory II	4
SVT 101	SVT Orientation and Safety	1
SVT 102	SVT Rolling Chassis	3
SVT 103	SVT Electrical Theory	2
SVT 104	2 Stroke Engines	2
SVT 105	4 Stroke Engines	2
SVT 106	SVT Electrical Repair	2
SVT 107	SVT Drive Systems	2
SVT 108	SVT Trade Practices	1
SVT 109	SVT Snow/ATV/PWC	2
SVT 143	Physics for Transportation	3
SVT 160	Basic Motorcycle Repair I	1
SVT 165	Basic Motorcycle Repair II	1
SVT 170	Basic Motorcycle Repair III	1
SVT 175	Basic Motorcycle Repair IV	1
SVT 180	Basic Motorcycle Repair V	1
SVT 202	Adv SVT Electrical Syst.	4
General Education Courses		**15**
(See AAS Degree Requirements on page 61)		
Total Credits		**69**

Power Equipment and Sports Vehicle Technology Certificates

Power Equipment Maintenance Technician Certificate

Required Courses		Credits
HEM 110	Gasoline, Power Plants & Elec Sys	5
HEM 113	Diesel Fuel Systems	3

HEM 161	Heavy Equipment Laboratory	4
HEM 210	Hydraulics and Transmissions	3
HEM 211	Final Drives and Brakes	2
HEM 268	Heavy Equipment Laboratory I	4
HEM 269	Heavy Equipment Laboratory II	4
Total Credits		**25**

Sports Vehicle Maintenance Technician Certificate

Required Courses		**Credits**
SVT 101	SVT Orientation and Safety	1
SVT 102	SVT Rolling Chassis	3
SVT 103	SVT Electrical Theory	2
SVT 104	2 Stroke Engines	2
SVT 105	4 Stroke Engines	2
SVT 106	SVT Electrical Repair	2
SVT 107	SVT Drive Systems	2
SVT 108	SVT Trade Practices	1
SVT 109	SVT Snow/ATV/PWC	2
SVT 143	Physics for Transportation	3
SVT 160	Basic Motorcycle Repair I	1
SVT 165	Basic Motorcycle Repair II	1
SVT 170	Basic Motorcycle Repair III	1
SVT 175	Basic Motorcycle Repair IV	1
SVT 180	Basic Motorcycle Repair V	1
SVT 202	Adv SVT Electrical Syst.	4
Total Credits		**29**

Precision Machining Technology

www.rrcc.edu/warrentech/precision-machining-technology

Through a cooperative agreement with Warren Tech (WT), the career and technical high school for Jefferson County Public Schools, RRCC students pursuing select career and technical college degrees and certificates attend Warren Tech for specific coursework and receive RRCC credit. RRCC students can attend WT on a space-available basis, provided they have either graduated from high school, received a GED, or attained the age of 21. **For more information, see Warren Tech Students on page 10.**

This program is designed to develop the skills necessary for entry-level employment in the machining industry. Entry-level skills in fabrication and plastic parts that meet industrial standards will be taught. The Precision Machining program is currently undergoing revision to offer a wider variety of courses and times. Please refer to the website for the most recent program information.

Degree: Associate of Applied Science

Precision Machining

Certificates:

Machine Shop Fundamentals
Lathe Operator
Mill Operator
CNC Lathe Operator
CNC Mill Operator
Manufacturing Quality Control Level I

Precision Machining AAS Degree

Required Courses		**Credits**
MAC 101	Introduction to Machine Shop	3
MAC 102	Blueprint Reading	3
MAC 110	Introduction to Engine Lathe	3
MAC 111	Intermediate Engine Lathe	3
MAC 120	Introduction to Milling Machine	3
MAC 121	Intermediate Milling Machine	3
MAC 145	Production Manufacturing	3
MAC 201	Introduction to CNC Turning Operations	3
MAC 202	CNC Turning Operations II	3
MAC 205	Introduction to CNC Milling Operations	3
MAC 206	CNC Milling Operations II	3
MAC 245	CAD/CAM 3D	3
MAC 250	Advanced Inspection Techniques	3
MAC 252	Practical Metallurgy	3
EGT 205	Geometric Dimension &Tolerance	3
Required General Education Courses:		
ENG 121	English Composition I (or higher)	3
COM 115	Public Speaking	3
MAT 107	Career Math (or higher), MAT 121 recommended	3
Choose from TWO of the following areas for a total of 6 credits:		**6**
Arts & Humanities: ARA, ART, ASL, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE (100 and above). **Natural & Physical Sciences:** AST, BIO, CHE, ENV, GEY, MET, NRE, PHY, SCI (100 and above). **Social & Behavioral Sciences:** ARG, ANT, ECO, GEO, GIS, HIS, POS, PSY, SOC (100 and above).		
Total Credits		**60**

Precision Machining Introductory Certificates

Machine Shop Fundamentals Certificate

Required Courses		**Credits**
MAC 101	Introduction to Machine Shop	3
MAC 102	Blueprint Reading	3
Total Credits		**6**

Manufacturing Quality Control Level I Certificate

Required Courses		**Credits**
MAC 102	Blueprint Reading	3
MAC 250	Advanced Inspection Techniques	3
EGT 205	Geometric Dimensioning & Tolerancing	3
Total Credits		**9**

Precision Machining Advanced Certificates

The certificates below require the completion of one of the above certificates.

Lathe Operator Certificate

Required Courses		**Credits**
Pre-req	Machine Shop Fundamentals Certificate on page 114	6
MAC 110	Introduction to Engine Lathe	3
MAC 111	Intermediate Engine Lathe	3
Total Credits		**12**

CNC Lathe Operator Certificate

Required Courses		Credits
Pre-req	Manufacturing Quality Control Level I Certificate on page 114	9
MAC 201	Introduction to CNC Turning Operations	3
MAC 202	CNC Turning Operations II	3
MAC 245	CAD/CAM 3D	3
MAC 252	Practical Metallurgy	3
Total Credits		**21**

Mill Operator Certificate

Required Courses		Credits
Pre-req	Machine Shop Fundamentals Certificate on page 114	6
MAC 120	Introduction to Milling Machine	3
MAC 121	Intermediate Milling Machine	3
EGT 205	Geometric Dimensioning & Tolerancing	3
Total Credits		**12**

CNC Mill Operator Certificate

Required Courses		Credits
Pre-req	Manufacturing Quality Control Level I Certificate on page 114	9
MAC 145	Production Manufacturing	3
MAC 205	Introduction to CNC Milling Operations	3
MAC 206	CNC Milling Operations II	3
MAC 245	CAD/CAM 3D	3
Total Credits		**21**

Psychology

www.rrcc.edu/psychology

Degree: Associate of Arts

Degree: Associate of Science

The field of psychology is concerned with the study of normal and abnormal human behavior. Psychologists frequently provide personal counseling in hospitals, clinics, schools, corrections facilities, or in their own private practices. Experimental psychologists work in laboratories and try to develop theories of why and how people behave as they do. Completion of the following courses is appropriate for those who plan to transfer to a four-year college or university to complete a major in Psychology. Consult with a faculty advisor before beginning any program of study.

Psychology AA Degree

See AA - Psychology Designated Degree Requirements on page 54.

Psychology AS Degree

See AS - Psychology Designated Degree Requirements on page 58.

Radiologic Technology

www.rrcc.edu/radiologic-technology

Degree: Associate of Applied Science

Certificates:

Computed Tomography (CT)

Magnetic Resonance Imaging (MRI)

Mammography

Bone Densitometry

Radiologic Technology AAS Degree

The Radiologic Technology Program is designed to provide training in radiologic technology for students who wish to establish eligibility to participate in the national certification examination of the American Registry of Radiologic Technologists (ARRT). Graduates who pass the national certifying examination are qualified to assume diagnostic radiographer positions in medical facilities across the nation, both in hospitals and private clinics or offices. Graduates of the program may also be eligible to pursue further certification in Bone Densitometry, CT, MRI, Mammography, Ultrasound, Nuclear Medicine, and Radiation Therapy.

The required general education courses, HPR 178 and RTE 101 must be complete or in-session when the student applies to the program. Upon acceptance into the program, students can expect to spend 30-40 hours per week in the classroom or at clinical internship. Internships take place in healthcare facilities. Students can expect to rotate through a variety of clinical shifts, including days, nights, weekends, and overnights. The final semester will include a capstone course. Additional fees apply for most RTE courses.

Admission to the radiologic technology program is through a competitive selection process. Applications are accepted once a year in March. Information sessions are held regularly throughout the year. Please contact an advisor or visit the website for details: **www.rrcc.edu/radiologic-technology**.

Prerequisite Courses		Credits
HPR 178	Medical Terminology	2
RTE 101	Introduction to Radiology	2

Required Courses		Credits
RTE 111	Patient Care	2
RTE 121	Radiologic Procedures I	3
RTE 122	Radiologic Procedures II	3
RTE 131	Radiographic Pathology and Image Evaluation I	1.5
RTE 132	Radiographic Pathology & Image Evaluation II	1.5
RTE 141	Radiographic Equipment and Imaging I	3
RTE 142	Radiographic Equipment and Imaging II	3
RTE 171	Clinical Preparation	3
RTE 181	Clinical Internship I (Additional fees)	6
RTE 182	Clinical Internship II	6
RTE 183	Clinical Internship III	6
RTE 221	Advanced Medical Imaging	3
RTE 231	Radiation Biology/Protection	2
RTE 281	Clinical Internship IV	6
RTE 282	Clinical Internship V	6

RTE 289	Registry Review (Capstone)	3
Required General Education Courses:		**18**
ENG or COM (100 level or above) (3)		
PSY or SOC (100 level or above) (3)		
MAT 121 College Algebra (4)		
BIO 201 Human Anatomy and Physiology I (4)		
BIO 202 Human Anatomy and Physiology II (4)		
Total Credits		**80**

Radiologic Technology Certificates

For more information regarding these courses, please contact the program office at 303.914.6033. These specialty courses are not available every semester.

Advanced education and training courses are available for individuals currently certified by the American Registry of Radiologic Technologists (ARRT) in the following specialties:

Computed Tomography (CT) Certificate

Required Courses		**Credits**
RTE 240	Principles of CT Imaging	3
RTE 255	Multiplanar Sectional Imaging	2
RTE 284	Advanced Clinical	10
Total credits		**15**

Magnetic Resonance Imaging (MRI) Certificate

Required Courses		**Credits**
RTE 260	Magnetic Resonance Imaging	3
RTE 255	Multiplanar Sectional Imaging	2
RTE 284	Advanced Clinical	10
Total credits		**15**

Mammography Certificate

Required Courses		**Credits**
RTE 250	Mammography	3
RTE 284	Advanced Clinical	10
Total credits		**13**

Bone Densitometry Certificate

Required Courses		**Credits**
RTE 256	Bone Densitometry	2
RTE 284	Advanced Clinical	10
Total credits		**12**

Real Estate

See Business on page 73

Renewable Energy Technology

www.rrcc.edu/renewable-energy

Renewable energy sources are increasingly becoming a substantial part of America's quest for a diversified and secure energy future. Environmentally friendly and regenerating, renewable energy sources have always been the right choice, and with rising fuel costs, along with limited resources, renewable energy is no longer a choice but a requirement. Careers in renewable energy will be increasing dramatically locally, nationally, and globally.

There is an increasing demand for skilled solar equipment installers, system designers, project managers, business managers, and sales and marketing people, as well as home energy auditors and weatherization technicians. Be a part of the change toward energy independence.

New students should contact Advising at **303.914.6255.** Current students should call **303.914.6306 or 303.914.6668.**

Degrees: Associate of Applied Science

Renewable Energy Technology
Solar Thermal Specialty
Solar Photovoltaic Specialty
Solar Photovoltaic Business Owner Specialty
Solar Thermal Business Owner Specialty

Certificates:

Photovoltaic Entry Level
Advanced Photovoltaic Installation
Solar Photovoltaic Designer
Solar Thermal Entry Level
Solar Thermal Installer
Solar Thermal Designer
Post EIC Degree Solar Photovoltaic
Post HVA Degree Solar Thermal
Energy Auditing
Fundamentals of Renewable Energy

Renewable Energy Technology Degrees

Renewable Energy Technology AAS Degree

Those seeking an AAS degree in Renewable Energy Technology should select either a Solar Thermal or Solar Photovoltaic Specialty.

The AAS degree in Renewable Energy may also be customized to meet the needs of the entrepreneur operating a solar business. A renewable energy advisor will work with you to identify courses within the area which complement your career goals.

Information: 303.914.6306 or 303.914.6668

Solar Thermal Specialty AAS Degree

With a focus toward Solar Thermal Installation Technicians, the following courses should prepare the student with sufficient knowledge for taking the NABCEP Installer Exam. (Additional field installations are required, see NABCEP.org for more information.)

Required Courses		**Credits**
ENY 101	Introduction to Energy Technologies	3
ENY 102	Building Energy Audit Techniques	3
OSH 127	10-HR Construction Industry Standards	1
HVA 105	Electricity for HVAC/R	4
CAR 123	Roof Framing	1
CAR 125	Roofing Materials and Methods	1

ENY 120	Solar Thermal System Install	4
ENY 275	Special Topic: Thermal Install II & Controls	4
CON 105	Construction Technology	4
PLU 101	Piping Skills	4
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
Internship or Elective:		**7**
Seek advisor approval for elective courses in ACC, BUS, CIS, COM, CON, EIC, ENY, HVA, MAN, MAR, or PLU		
General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy Science & Technology	4
Choose 6 credits from the following areas:		**6**
ANT, ARA, ART, AST, BIO, CIS 118, CHE, ECO, FRE, GEO, GER, GEY, HIS, HUM, LIT, MUS, PHI, PHY, POS, PSY, SOC, or SPA		
Total Credits		**60**

Solar Photovoltaic Specialty AAS Degree

Required Courses		**Credits**
ENY 101	Introduction to Energy Technologies	3
ENY 102	Building Energy Audit Techniques	3
OSH 127	10-HR Construction Industry Standards	1
HVA 105	Electricity for HVAC/R	4
CAR 123	Roof Framing	1
CAR 125	Roofing Materials and Methods	1
ENY 130	Solar Photovoltaic Grid Tie	2
EIC 120	Electrical Installations II	4
EIC 130	National Electrical Code I	4
CON 105	Construction Technology	4
ENY 131	Solar Stand-Alone Systems	2
ENY 132	NABCEP Entry Level Prep Class	1
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
ENY 236	Advanced PV Concepts & Commercial Applications	4
Internship or Elective:		**3**
Seek advisor approval for elective courses in ACC, BUS, CIS, COM, CON, EIC, ENY, HVA, MAN, MAR, or PLU		
General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy, Science and Technology	4
Choose 6 credits from the following areas:		**6**
ANT, ARA, ART, AST, BIO, CIS 118, CHE, ECO, FRE, GEO, GER, GEY, HIS, HUM, ITA, JPN, LIT, MUS, PHI, PHY, POS, PSY, SOC, or SPA		
Total Credits		**61**

Solar Photovoltaic Business Owner Specialty AAS Degree

Required Courses		**Credits**
ENY 101	Introduction to Energy Technologies	3
ENY 102	Building Energy Audit Techniques	3
OSH 127	10-HR Construction Industry Standards	1
HVA 105	Electricity for HVAC/R	4
ENY 130	Solar Photovoltaics Grid-Tie	2
CON 105	Construction Technology	4
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
BUS 102	Entrepreneurial Operations	3
Advisor-Approved Electives		**12**
Internship or Elective*		**4**
***The elective list for Business Owner is a mix of advisor-approved classes within ACC, BUS, CIS, COM, MAN, MAR, or PSY**		
General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy Science and Technology	4
Choose 6 credits from the following areas:		**6**
ANT, ARA, ART, AST, BIO, CIS 118, CHE, ECO, FRE, GEO, GER, GEY, HIS, HUM, ITA, JPN, LIT, MUS, PHI, PHY, POS, PSY, SOC, or SPA		
Total Credits		**60**

Solar Thermal Business Owner Specialty AAS Degree

Required Courses		**Credits**
ENY 101	Introduction to Energy Technologies	3
ENY 102	Building Energy Audit Techniques	3
OSH 127	10-HR Construction Industry Standards	1
HVA 105	Electricity for HVAC/R	4
CON 105	Construction Technology	4
ENY 120	Solar Thermal System Install	4
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
BUS 102	Entrepreneurial Operations	3
Advisor-Approved Electives		**10**
Internship or Elective:		**4**
The elective list for Business Owner is a mix of advisor-approved classes within ACC, BUS, CIS, COM, CON, MAN, MAR, or PSY		
General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy Science and Technology	4
Choose 6 credits from the following areas:		**6**
ANT, ARA, ART, AST, BIO, CIS 118, CHE, ECO, FRE, GEO, GER, GEY, HIS, HUM, ITA, JPN, LIT, MUS, PHI, PHY, POS, PSY, SOC, or SPA		
Total Credits		**60**

Renewable Energy Technology Certificates

Fundamentals of Renewable Energy Certificate

Required Courses		**Credits**
ENY 101	Introduction to Energy Technologies	3
PHY 107	Energy Science and Technology	4
Total credits		**7**

PV Entry Level Certificate

This Certificate matches the requirements for taking the NABCEP Entry-Level Exam.

Required Courses		**Credits**
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
ENY 130	Solar Photovoltaics Grid-Tie	2
ENY 131	Solar Stand-Alone Systems	2
ENY 132	NABCEP Prep	1
Total Credits		**6.5**

Advanced Photovoltaic Installation Certificate

Focused toward Solar Photovoltaic Installation Technicians, the following courses should prepare the student with sufficient knowledge for taking the NABCEP Installer Exam. (Additional field installations are required, see NABCEP.org for more information.)

Required Courses		Credits
ENY 101	Introduction to Energy Technologies	3
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
HVA 105	Electricity for HVAC/R	4
EIC 120	Electrical Installations II	4
CAR 123	Roof Framing	1
CAR 125	Roofing Materials and Methods	1
ENY 130	Solar Photovoltaics Grid Tie	2
EIC 130	National Electrical Code I	4
ENY 131	Solar Stand-Alone Systems	2
ENY 132	NABCEP Entry Level Prep Class	1
ENY 231	Solar Contracting	4
ENY 236	Advanced PV Concepts & Commercial Applications	4
Total credits		**31.5**

Solar Photovoltaic Designer Certificate

These courses provide information often found in the solar industry related to technology and common design and installation practices.

Required Courses		Credits
ENY 101	Introduction to Energy Technologies	3
HVA 105	Electricity for HVAC/R	4
EIC 130	National Electric Code I	4
ENY 130	Solar Photovoltaics Grid-Tie	2
CON 105	Construction Technology	4
ENY 131	Advanced PV Install	2
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
ENG 131	Technical Writing	3
Total Credits		**30**

Solar Thermal Entry Level Certificate

Required Courses		Credits
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
ENY 120	Solar Thermal System Install I	4
Total credits		**5.5**

Solar Thermal Installer Certificate

Focused toward Solar Thermal Installation Technicians, the following courses should prepare the student with sufficient knowledge for taking the NABCEP Installer Exam. (Additional field installations are required, see NABCEP.org for more information.)

Required Courses		Credits
ENY 101	Introduction to Energy Technologies	3
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
HVA 105	Electricity for HVAC/R	4
CAR 123	Roof Framing	1
CAR 125	Roofing Materials and Methods	1
ENY 120	Solar Thermal System Install I	4
ENY 275	Special Topic: Thermal Install II & Controls	4
PLU 101	Piping Skills	4
ENY 231	Solar Contracting	4
Total Credits		**26.5**

Solar Thermal Designer Certificate

These courses provide information often found in the solar industry related to technology and common design and installation practices.

Required Courses		Credits
ENY 101	Introduction to Energy Technologies	3
HVA 105	Electricity for HVAC/R	4
ENY 120	Solar Thermal System Install I	4
CON 105	Construction Technology	4
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
ENY 275	Special Topic: Thermal Install II and Controls	4
ENG 131	Technical Writing	3
Total Credits		**30**

Post EIC Degree Solar Photovoltaic Certificate

Prerequisite: Requires an AAS degree for Construction Electrician, Maintenance Electrician on page 87, or Power Technology on page 88.

Required Courses		Credits
ENY 101	Introduction to Energy Technologies	3
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
CAR 123	Roof Framing	1
CAR 125	Roofing Materials and Methods	1
ENY 130	Solar Photovoltaics Grid-Tie	2
ENY 131	Solar Stand-Alone Systems	2
ENY 236	Advanced PV Concepts & Commercial Applications	4
Total Credits		**14.5**

Post HVA Degree Solar Thermal Certificate

Prerequisite: Requires an AAS degree in Mechanical Trades.

Required Courses		Credits
ENY 101	Introduction to Energy Technologies	3
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
CAR 123	Roof Framing	1
CAR 125	Roofing Materials and Methods	1
ENY 120	Solar Thermal System Install I	4
ENY 275	Special Topic: Thermal Install II & Controls	4
Total Credits		**14.5**

Energy Auditing Certificate

Required Courses		Credits
ENY 101	Introduction to Energy Technologies	3
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
ENY 102	Building Energy Audit Tech	3
Advisor-Approved Electives:		**6**

Students completing this certificate along with some field experience will have the option to sit for the BPI Building Analyst exam. Please note exam costs are in addition to course tuition and fees.

Total Credits	**13.5**

RN Refresher Program

www.rrcc.edu/health-sciences or www.rrcc.edu/rn-refresher

The RN Refresher program at Red Rocks Community College is designed for registered nurses who want to return to practice nursing but need a refresher. The field of nursing has changed as healthcare systems have evolved. In order to return to the workforce, an individual needs to possess current knowledge and skills about the practice of nursing. Requirements for this program: A current Colorado RN license, or a license to be reinstated, proof of immunizations, Health Care Provider – BLS certification, and a letter from a physician stating you are physically and mentally able to participate in this course. You must pass HPR 120, NUR 290, and NUR 291 (and NUR 170, if required) with a grade of C or higher in order to receive a Certificate of Completion. Please see the website for a separate application to the program.

Required Courses		**Credits**
NUR 290	RN Refresher	8
NUR 291	RN Refresher Clinical	2
HPR 120	Advanced Cardiac Life Support (ACLS)	1
NUR 170	Clinical I (if required to meet DORA requirements)	1
Total Credits		**11-12**

Secondary Education

See Teacher Education on page 120

Sociology

www.rrcc.edu/sociology

Degree: Associate of Arts

The field of sociology is the systematic and scientific study of the cultural, institutional, and interactional forces that drive social change, give rise to social institutions, and shape the everyday lives and realities of individuals. The completion of the following courses is appropriate for those who plan to transfer to a four-year college or university to complete a major in Sociology. Consult with a faculty advisor before beginning any program of study.

Sociology AA Degree

See AA - Sociology Designated Degree Requirements on page 54

Sonography

www.rrcc.edu/sonography

Degrees: Associate of Applied Science

Diagnostic Medical Sonography
Diagnostic Cardiac Sonography

Certificates:

Vascular Technology

The sonography program prepares the student for entry-level positions in the fields of general sonography and adult-cardiac sonography. All sonography students will complete coursework in vascular technology while in the program.

Upon completion of the degree, students will be able to take national certification examinations from the American Registry of Diagnostic Medical Sonographers (ARDMS), Cardiovascular Credentialing International (CCI), or American Registry of Radiologic Technologists (ARRT). The certificate in Vascular Technology is completed in conjunction with the associate of applied science degree by all sonography cohort students. It may be added to an existing registry for sonographers working in the field.

You must complete a qualifying degree (two-year, direct patient-care, healthcare degree, or a four-year degree in any field), as well as DMS 101, HPR 178, RTE 255, BIO 201, BIO 202, and one of the following mathematics courses: MAT 121, MAT 122, or MAT 201. Application to the program is separate from the college. Applications are due in March for the cohort that begins in fall. Please visit the sonography website for more information and application forms. Information sessions are scheduled regularly throughout the year.

Note: Additional fees apply for DMS 244, DMS 245, DMS 246, DMS 270, and DMS 289.

Sonography Degrees

Diagnostic Medical Sonography AAS Degree

Associate of Applied Science students can complete the vascular technology certificate by taking DMS 203, DMS 204, and DMS 251 in addition to their required course work.

Prerequisite courses:		**Credits**
DMS 101	Introduction to Sonography	2
RTE 255	Multiplanar Sectional Imaging or equivalent	2
Required Courses		**Credits**
DMS 205	Small Parts Ultrasound	2
DMS 221	OB/GYN Ultrasound I	2
DMS 222	OB/GYN Ultrasound II	2
DMS 231	Abdominal Ultrasound I	2
DMS 232	Abdominal Ultrasound II	2
DMS 241	Ultrasound Physics I	2
DMS 242	Ultrasound Physics II	2
DMS 244	Ultrasound Scan Lab	6
DMS 245	Vascular Ultrasound Lab	3
DMS 270	Clinical Observation	2.5
DMS 271	Clinical I	6
DMS 272	Clinical II	6
DMS 273	Clinical III	6
DMS 274	Clinical IV	6
DMS 288	Practicum	6
DMS 289	Ultrasound Capstone	3
Required General Education Courses:		
MAT 121, MAT 122 or MAT 201		4
BIO 201		4

BIO 202		4
ENG/COM		3
PSY/SOC		3
Total Credits		**80.5**

Diagnostic Cardiac Sonography AAS Degree

Associate of Applied Science students can complete the vascular technology certificate by taking DMS 203 and DMS 204.

Prerequisite Courses		**Credits**
DMS 101	Introduction to Sonography	2
RTE 255	Multiplanar Sectional Imaging or equivalent	2
Required Courses		**Credits**
DMS 235	Pediatric Echocardiography	2
DMS 251	Cardiovascular Anatomy and Physiology	2
DMS 257	Adult Echocardiography	3
DMS 267	Adult Echocardiographic Pathology	3
DMS 241	Ultrasound Physics I	2
DMS 242	Ultrasound Physics II	2
DMS 245	Vascular Ultrasound Lab	3
DMS 246	Echocardiography Ultrasound Lab	3
DMS 270	Clinical Observation	2.5
DMS 271	Clinical I	6
DMS 272	Clinical II	6
DMS 273	Clinical III	6
DMS 274	Clinical IV	6
DMS 285	Independent Study	1
DMS 288	Practicum	6
DMS 289	Ultrasound Capstone	3
HPR 190	Basic EKG Interpretation	2
Required General Education Courses:		
MAT 121, MAT 122, or MAT 201		4
BIO 201		4
BIO 202		4
ENG/COM		3
PSY/SOC		3
Total Credits		**80.5**

Sonography Certificate

The certificate is awarded to students who complete the Diagnostic Medical Sonography AAS Degree on page 119 or the Diagnostic Cardiac Sonography AAS Degree on page 120 and take the additional courses below. It can be completed by individuals who are currently nationally registered in sonography as well.

Vascular Technology Certificate

Required Courses		**Credits**
DMS 203	Cerebrovascular Sonography	2
DMS 251	Vascular Anatomy and Physiology	2
DMS 252	Abdominal Vascular Sonography	2
DMS 275	Special Topic: Lower Extremity Doppler	2
RTE 284	Advanced Clinical	6
Total Credits		**14**

Spanish

www.rrcc.edu/foreign-lanuguages

The completion of the following suggested courses is for those planning to transfer to a four-year college or university to complete a major in Spanish. Consult with a faculty advisor before beginning this area of study.

Spanish AA Degree

See AA - Spanish Designated Degree Requirements on page 55

Speech and Communication

See Communication on page 76

Teacher Education

www.rrcc.edu/elementary-secondary-teacher-education

Contact the teacher education faculty advisor before beginning any of these programs of study.

Degrees: Associate of Arts

Elementary Education (K-6 grade)

Secondary Education (7-12 grade)

Teacher Education Additional Program of Study:

Adult Basic Education Authorization (ABEA)

Teacher Education Degrees

Elementary Education AA Degree

The AA degree requirements comply with the state wide Elementary Teacher Education Articulation Agreement between RRCC and Colorado's public four-year colleges and universities. If you plan to transfer to a four-year college or university within Colorado to complete teacher certification, you must complete the 41 credits outlined below with a C or higher, unless noted. The remaining 19 credits needed for the AA degree are specific to individual transfer schools.

Before beginning to take classes, you must meet with RRCC's Teacher Education faculty advisor to plan a course of study and to examine the list of approved credits for each four-year institution in Colorado.

General Education Courses		**Credits**
Communication		
ENG 121	English Composition I (B or higher)	3
ENG 122	English Composition II	3
Arts & Humanities		
LIT 115 or LIT 201, or LIT 202, or LIT 211, or LIT 221		3
Mathematics		
MAT 155	Integrated Math 1	3
MAT 156	Integrated Math II	3

Social & Behavioral Sciences		
GEO 105	World Regional Geography	3
HIS 121	U.S. History to Reconstruction	3
POS 111	American Government	3
Natural & Physical Sciences		
SCI 155	Integrated Science	4
SCI 156	Integrated Science	4
Statewide Education Requirements		
COM 115	Public Speaking	3
PSY 238	Child Development	3
EDU 221	Introduction to Teacher Education	3
EDU 288	Practicum	1
Transfer Institution Approved Credits		**19**
(Meet with the teacher education faculty advisor for a list of approved credits for each institution.)		
Total Credits		**61**

Secondary Education AA Degree

If you plan to transfer to a four-year college or university to complete a Secondary Education certification program, meet with the RRCC Teacher Education faculty advisor to design a course of study. Electives will include RRCC education courses and courses in your area of emphasis.

Teacher Education Additional Program of Study

Adult Basic Education Authorization (ABEA)

Proficiency in these course competencies represents a foundational knowledge in the field of adult basic education. A transcript or Certificate of Equivalency for the four required courses is required to apply to the Colorado Department of Education (CDE) for the Adult Basic Education Authorization (ABEA). EDU 135 is optional. Paid instructors employed by Adult Education and Family Literacy Act (AEFLA)-funded programs in Colorado must have the ABEA or earn it within three years of hire. Adult educators in the Colorado Department of Corrections must have the ABEA or a valid Colorado teaching license. For more information about the ABEA, go to the CDE Office of Adult Education and Family Literacy website at **www.cde.state.co.us/index_adult.htm**.

Required Courses		**Credits**
EDU 131	Introduction to Adult Education	3
EDU 132	Planning, Organizing, and Delivering Adult Education Instruction	3
EDU 133	Adult Basic Education (ABE) and Adult Secondary Education (ASE/GED)	3
EDU 134	Teaching English as a Second Language (ESL) to Adult Learners	3
Total Credits		**12**

Theatre Arts

www.rrcc.edu/theatre-arts-dance

Consult with the Program Chair of Theatre Arts and Dance before beginning any program of study.

Degree: Associate of Arts

Theatre Arts

Degree: Associate of Applied Science

Theatre Technology

Certificates:

Costume Basics
Costume Applications
Costume and Fashion
Stagehand Basics
Stagehand Applications
Stagecraft

Theatre Arts Degrees

Theatre AA Degree

The completion of the following courses is appropriate for those who plan to transfer to a four-year college or university to complete a major in Theatre. This program provides basic preparation leading to theatre-related careers, as well as to the teaching of theatre.

See AA -Theatre Designated Degree Requirements on page 55

Theatre Technology AAS Degree

(Choose either Emphasis in Stage Costuming or Emphasis in Stagecraft)

This two-year course of study will prepare you for entry-level employment in technical support positions within the entertainment industry. In addition, it will provide the first two years of necessary course work if you want to pursue advanced degrees at four-year institutions in theatre design and technology. Consult with the Director of Theatre Arts and Dance early in your college career to explore all your educational options. You must earn a C or higher in all theatre courses to graduate.

Required Courses for Either Emphasis		**Credits**
THE 104	Basic Costume and Apparel Construction	3
THE 105	Theatre Appreciation	3
THE 108	Theatre Script Analysis	3
THE 116	Technical Theatre	3
THE 118	Acting Skills Trades/Business	3
THE 131	Theatre Production I (fall only)	3
THE 132	Theatre Production II (spring only)	3
THE 135	Stage Makeup I (fall only)	3
THE 200	Paint/Draw/Render Modeling Techniques	3
THE 231	Theatre Production III (fall only)	3
THE 260	Employment Skills for Technical Theatre (spring only)	1
THE 275	Special Topic: Practical Theatre Technologies	3
THE 280	Internship	1

In addition to these courses, one of the following two emphases is required:

Emphasis in Stage Costuming:		
THE 100	Technical Theatre Lab	1
THE 109	Basics of Pattern Drafting (spring only)	3
THE 136	Stage Makeup II (spring only)	3

THE 202	Intermediate Costume Construction (fall only)	3
THE 245	Basics of Costume Design & Construction (spring only)	3
THE 222	Costume Accessories & Millinery	3
Emphasis in Stagecraft:		
THE 100	Technical Theatre Lab	2
THE 152	Production Stage Management	3
THE 216	Theatre Lighting and Design (fall only)	3
THE 221	Set Design (spring only)	3
THE 225	Sound Operation & Design Basics (spring only)	2
THE 275	SPT: Practical Theatre Technologies	3
General Education Requirements for Either Emphasis:		**15**
THE 211	Development of Theatre: Greek-Renaissance (fall only)	3
THE 212	Development of Theatre: Restoration to Modern (spring only)	3
Communication (3 credits)		
ENG 121		
Mathematics (3 credits)		
MAT 107 and above		
Natural & Physical Sciences (3 credits)		
AST, BIO, CHE, ENV, GEY, PHY, SCI		
or		
Social & Behavioral Sciences (3 credits)		
ANT, ECO, GEO, GIS, HIS, POS, PSY, SOC		
Required Program Credits		**48**
Total Credits		**63**

Theatre Arts Certificates

Costume Basics Certificate

The Certificate in Costume Basics is appropriate for those who want to prepare for a career in costume and fashion design. Upon completion of the courses, you will be prepared for entry-level employment in costume and fashion careers as stitchers, wardrobe assistants, and costume shop assistants. You should consult with the Program Chair of Theatre Arts and Dance early in your college career to explore all of your educational options. You must earn a C or higher in all theatre courses to graduate.

This certificate is intended for a one-semester (fall) course of study.

Required Courses		**Credits**
THE 105	Theatre Appreciation	3
THE 104	Basic Costume and Apparel Construction	3
THE 135	Stage Makeup I	3
Total Credits for One Semester		**9**

Costume Applications Certificate

The Certificate in Costume Applications is appropriate for those who want to prepare for a career in costume and fashion design. Upon completion of the courses, you will be prepared for entry-level employment in costume and fashion careers as stitchers, wardrobe assistants, and costume shop assistants. You should consult with the Program Chair of Theatre Arts and Dance early in your college career to explore all of your educational options. You must earn a C or higher in all theatre courses to graduate.

This certificate is intended for a one-semester (fall) course of study.

Required Courses		**Credits**
THE 100	Technical Theatre Lab	1
THE 131	Theatre Production I	3
THE 202	Intermediate Costume Construction	3
Total Credits For One Semester		**7**

Costume and Fashion Certificate

The Certificate in Costume and Fashion is appropriate for those who want to prepare for a career in costume and fashion design. Upon completion of the courses, you will be prepared for entry-level employment in costume and fashion careers as stitcher, wardrobe assistant, costume shop assistant, alterationist, tailor, makeup artist, window dresser, and other fashion and entertainment-related employment opportunities. This certificate also prepares you for pursuing an advanced degree in costume design and the fashion industry. You should consult with the Program Chair of Theatre Arts and Dance early in your college career to explore all of your educational options. You must earn a C or higher in all theatre courses to graduate.

This certificate is intended for a one-year course of study, divided into two semesters (fall and spring).

Required Courses		**Credits**
THE 100	Technical Theatre Lab	1
THE 105	Theatre Appreciation	3
THE 104	Basic Costume and Apparel Construction	3
THE 109	Basics of Pattern Drafting	3
THE 116	Technical Theatre	3
THE 202	Intermediate Costume Construction	3
THE 135	Stage Makeup I	3
THE 136	Stage Makeup II	3
THE 222	Costume Accessories & Millinery	3
Total Credits for Two Semesters		**25**

Stagehand Basics Certificate

This course of study is designed to train you for entry-level positions as back-stage technicians, running crews, shop assistants, and set-building. Related professions are carpentry, cabinet-making, and careers requiring construction skills. You should consult with the Program Chair of Theatre Arts and Dance early in your college career to explore all of your educational options. You must earn a C or higher in all theatre courses to graduate.

This certificate is intended for a one-semester (fall) course of study.

Required Courses		**Credits**
THE 116	Technical Theatre	3
THE 105	Theatre Appreciation	3
THE 104	Basic Costume and Apparel Construction	3
Total Credits for One Semester		**9**

Stagehand Applications Certificate

This course of study is designed to train you for entry-level positions as a back-stage technician, running crew, shop assistant, and set-builder. Related professions are carpentry, cabinet-making, and careers requiring construction skills. You should consult with the Program Chair of Theatre Arts and Dance early in your college career to explore all of your educational options. You must earn a C or higher in all theatre courses to graduate.

This certificate is intended for a one-semester (fall) course of study.

Required Courses		Credits
THE 100	Technical Theatre Lab	1
THE 131	Theatre Production I	3
THE 135	Stage Makeup I	3
Total Credits for One Semester		**7**

Stagecraft Certificate

This course of study is designed to train you for entry-level positions asa back-stage technician, running crew, shop assistant, crew leader, properties assistant, and set-builder. Related professions are carpentry, cabinet-making, and careers requiring construction skills. You should consult with the Program Chair of Theatre Arts and Dance early in your college career to explore all of your educational options. You must earn a C or higher in all theatre courses to graduate.

This certificate is intended for a one-year course of study, divided in to two semesters (fall and spring).

Required Courses		Credits
THE 100	Technical Theatre Lab	1
THE 105	Theatre Appreciation	3
THE 104	Basic Costume and Apparel Construction	3
THE 116	Technical Theatre	3
THE 132	Theatre Production II	3
THE 135	Stage Makeup I	3
THE 216	Theatre Lighting and Design	3
THE 221	Set Design for Film and Theatre	3
THE 275	Special Topics: Practical Theatre Technologies	3
Total Credits for Two Semesters		**25**

Water Quality Management Technology

www.rrcc.edu/water-quality-management

The Water Quality Management Technology Program is a comprehensive study of all levels and areas of operations in the water and wastewater industry. You will be introduced to the many functions and career opportunities within the field. You can then establish an educational program that best fits your goals and interests.

If you are working in the industry, you can obtain higher education and skill levels for higher operator certification by attending specific courses. A degree in water Quality Management Technology will give you all the instruction necessary to work in supervisory and management positions.

Information: 303.914.6325

Degree: Associate of Applied Science

Water Quality Management

Certificates:

Education and Experience
Introduction to Water Treatment
Introduction to Wastewater Treatment
Mathematics in Water Quality
Laboratory Analysis
Distribution and Collection Systems
Advanced Water Treatment Certification
Advanced Wastewater Treatment Certification

Water Quality Management AAS Degree

Required Courses		Credits
WQM 100	Introduction to Water Quality Management	3
WQM 105	Specific Calculations for Water Quality Management	4
WQM 119	Basic Water Quality Analysis	4
WQM 120	Water Quality Equipment Maintenance	4
WQM 126	Safety in the Water Quality Industry	3
WQM 200	Hydraulics for Water Quality Management	4
WQM 206	Design Interpretation of Water Quality Systems	4
WQM 216	Biological and Bacteriological Water Quality Analysis	4
WQM 217	Disinfection Techniques in Water Quality Systems	4
General Education Courses (See WQM Faculty Advisor)		**12**
Faculty advisor-approved WQM electives		**12**
Required Electives		
BUS 121	Basic Workplace Skills	1
GIS 101	Introduction to Geographic Information Systems	3
Total Credits		**62**

Water Quality Management Technology Certificates

Upon completion of this program, you will possess the skills and knowledge for entry-level positions within the industry in your specific area of interest.

Education and Experience Certificate

Required Courses		Credits
WQM 126	Safety & Security Systems	3
WQM 280	Internship	3-6
Total Credits		**6-9**

Introduction to Water Treatment Certificate

Required Courses		Credits
WQM 100	Introduction to Water Quality Management	3
WQM 124	C and D Review for Water Certification	3
Total Credits		**6**

Introduction to Wastewater Treatment Certificate

Required Courses		Credits
WQM 100	Introduction to Water Quality Management	3
WQM 125	C and D Review for Wastewater Certification	3
Total Credits		**6**

Mathematics in Water Quality Certificate

Required Courses		Credits
WQM 105	Specific Calculations for Water Quality Management	4
WQM 200	Hydraulics	4
Total Credits		**8**

Laboratory Analysis Certificate

Required Courses		Credits
WQM 119	Basic Water Analysis	4
WQM 216	Bacteriological/Biological Water Analysis	4
Total Credits		**8**

Distribution and Collection Systems Certificate

Required Courses		Credits
WQM 109	Water Distribution	3
WQM 118	Wastewater Collection Systems	3
Total Credits		**6**

Advanced Water Treatment Certification

Required Courses		Credits
WQM 124	Water Certification Review for C and D	3
WQM 224	Water Treatment Review for A and B	3
Total Credits		**6**

Advanced Wastewater Treatment Certification

Required Courses		Credits
WQM 125	Wastewater Cert Review for C and D	3
WQM 225	Wastewater Treatment Review A and B	3
Total Credits		**6**

Welding

www.rrcc.edu/warrentech/welding

Through a cooperative agreement with Warren Tech (the career and technical high school for Jefferson County Public Schools), RRCC students pursuing certain career and technical college degrees/certificates may take courses (on a space available basis) at Warren Tech (WT) which is adjacent to the RRCC campus. You must have either graduated from high school, received a GED, or attained the age of 21. You pay RRCC tuition and WT program fees and your coursework is recorded on your RRCC transcript.

Classes follow the WT/Jeffco Public Schools' calendar. Deadlines and class start and end dates differ from those of RRCC. WT classes are conducted on a block schedule. The morning classes run Monday–Friday from 7:30–10:30 a.m. and the afternoon classes run Monday–Thursday from 12:00–3:45 p.m. **For more information, see Warren Tech Students on page 10.**

This program is designed to develop the skills necessary for entry-level employment in the welding industry. Entry-level welder certification from the American Welding Society may be earned upon completion of the program.

Degree: Associate of Applied Science

Welding

Certificates:

OFW and OFC Certificate
SMAW Certificate
GMAW Certificate
FCAW Certificate
GTAW Certificate

Welding AAS Degree

Required Courses		Credits
WEL 100	Safety for Welders	1
WEL 101	Allied Cutting Process	4
WEL 102	Oxyacetylene Joining Processes	4
WEL 103	Basic Shielded Metal Arc I	4
WEL 110	Advanced Shielded Metal Arc I	4
WEL 124	Introduction to Gas Tungsten Arc Welding	4
WEL 201	Gas Metal Arc Welding I	4
WEL 202	Gas Metal Arc Welding II	4
WEL 203	Flux Cored Arc Welding I	4
WEL 204	Flux Cored Arc Welding II	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
WEL 250	Layout and Fabrication	4
CAD 101	Computer Aided Drafting I	3
General Education Course Requirements:		
ENG 131	Technical Writing	3
MAT 107	Career Math (or higher)	3
COM 115	Public Speaking	3
PHY 105	Conceptual Physics	4
One elective from any of the following areas:		**3**
Arts & Humanities		
ARA, ART, COM, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE		
Natural & Physical Sciences		
AST, BIO, CHE, GEY, PHY		
Social & Behavioral Sciences		
ANT, ECO, HIS, POS, PSY, SOC		
Total Credits		**64**

Welding Certificates

For the following certificates, you must complete WEL 100 Safety for Welders as a prerequisite course.

Ox-Fuel Welding and Cutting (OFW and OFC) Certificate

Required Courses		Credits
WEL 100	Safety for Welders	1
WEL 101	Allied Cutting Process	4
WEL 102	Oxyacetylene Joining Processes	4
Total Credits		**9**

Shield Metal Arc Welding (SMAW) Certificate

Required Courses		Credits
WEL 103	Basic Shielded Metal Arc I	4
WEL 110	Advanced Shielded Metal Arc I	4
Total Credits		**8**

Gas Metal Arc Welding (GMAW) Certificate

Required Courses		Credits
WEL 201	Gas Metal Arc Welding I	4
WEL 202	Gas Metal Arc Welding II	4
Total Credits		**8**

Flux Core Arc Welding (FCAW) Certificate

Required Courses		Credits
WEL 203	Flux Cored Arc Welding I	4
WEL 204	Flux Cored Arc Welding II	4
Total Credits		**8**

Gas Tungsten Arc Welding (GTAW) Certificate

Required Courses		Credits
WEL 124	Intro. to Gas Tungsten Arc Welding	4
WEL 224	Advanced Gas Tungsten Arc Welding	4
Total Credits		**8**

Woodworking

See Fine Woodworking on page 94

Course descriptions and course numbers are used by all Colorado Community Colleges to make it easier for students to select courses and transfer among state colleges.

AAA – Academic Achievement Courses

AAA 050 Semester Survival
2 credits
Emphasizes basic study skills in order to bolster student's chances of completing the current semester successfully.

AAA 101 College 101: The Student Experience
1 credit
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 use college and community resources to attain education and career goals.

AAA 109 Advanced Academic Achievement
3 credits
Assists the student in making a successful transition to higher education by setting up a pattern of success that will last the rest of his/her life. During this course students will build academic and personal skills that are necessary for a successful college experience. We understand the unique position the former offender population is in, so this class is designed to challenge the students to look closely at themselves and the way that they think. Through the use of the book "Man's Search for Meaning" the Gateway student learns not only about how to study but also what is necessary to be successful. Some of the skill sets we will be covering in this course are: muscle reading, note taking, test taking, and time management. Students will be introduced to personal learning styles and ways of using those styles to improve ways to study.

ACC – Accounting Courses

www.rrcc.edu/business

ACC 101 Fundamentals of Accounting
3 credits
Presents the basic elements and concepts of accounting, with emphasis on the procedures used for maintaining journals, ledgers, and other related records, and for the completion of end-of-period reports for small service and merchandising businesses.
To apply toward graduation, this course must be taken prior to successfully completing ACC 121.

ACC 121 Accounting Principles I
4 credits
Introduces the study of accounting principles for understanding of the theory and logic that underlie procedures and practices. Major topics include the accounting cycle for service and merchandising companies, special journals and subsidiary ledgers, internal control principles and practices, notes and interest, inventory systems and costing, plant assets and intangible asset accounting, and depreciation methods and practices.
Prerequisites: Appropriate placement scores.

ACC 122 Accounting Principles II
4 credits
Continues the study of accounting principles as they apply to partnerships and corporations. Major topics include stocks and bonds, investments, cash flow statements, financial analysis, budgeting, and cost and managerial accounting.
Prerequisite: ACC 121 or equivalent.

ACC 131 Income Tax
3 credits
Presents basic concepts of federal income taxation, including gross income, deductions, accounting periods and methods, and property transactions, with emphasis on taxation of individuals and sole proprietorships.
Prerequisite: ACC 121 strongly recommended.

ACC 132 Tax Help Colorado
2 credits
Prepares the student 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 credit
Allows the student to prepare actual federal and state income tax returns for individuals in the real-time environment.

ACC 135 Spreadsheet Applications for Accounting
3 credits
Introduces spreadsheets as an accounting tool. Using an accounting perspective, the student applies fundamental spreadsheet concepts. The spreadsheets are used as a problem-solving and decision-making tool.
Prerequisite: ACC 121.

ACC 138 Payroll and Sales Tax
3 credits
Acquaints students with laws pertaining to payroll and sales taxes including record-keeping rules. Students prepare various federal, state, and local forms for reporting payroll taxes, and sales taxes. A computerized payroll simulation is included in the course.
Prerequisite: ACC 121 or equivalent knowledge.

ACC 211 Intermediate Accounting I
4 credits
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. It 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 credits
Focuses on the theoretical and practical aspects of accounting for long-term liabilities, stockholders equity, investments, pensions, and leases. It includes income tax allocation, financial statement analysis, cash flow statements, and accounting methods changes.
Prerequisite: ACC 211.

ACC 216 Governmental and Not-for-Profit Accounting
3 credits
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 credits
Presents cost-accumulation methods and reports. It 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 245 Computerized Accounting with a Professional Package
3 credits
Integrates accounting principles and practices with a computerized accounting package such as Peachtree, DacEasy, or other professional package. This course emphasizes computerized functions of the general ledger and integrated accounts payable, accounts receivable, invoicing, and payroll systems.
Prerequisite: ACC 121 or ACC 101

ACC 267 AIPD Certification Review
1 credit
Reviews the concepts and topics covered in various accounting courses to prepare students to pass the American Institute of Professional Bookkeepers (AIPB) exam and apply for certification.

ACC 275 Special Topics in Accounting
1-3 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

ACC 280 Internship
1-3 credits
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: Permission of instructor.

ACC 285 Independent Study
1-3 credits
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

ACT – Automotive Collision Technology Courses

www.rrcc.edu/warrentech

ACT 101 Introduction to Automotive Collision Technology
4 credits
Designed as an orientation to the automotive collision repair industry. Students receive an overview of job possibilities as well as learn various types of automobile construction. Names, uses, and maintenance procedures for a variety of tools and equipment are covered. Focuses on general collision repair and refinishing shop safety procedures with an emphasis on personal and environmental safety issues. Students also learn the proper handling and disposal of hazardous materials.

ACT 110 Safety in Collision Repair
2 credits
Introduces the student to safety techniques and operation as it relates to shop safety and industry standards. The student is exposed to regulations and collision shop operations. In addition, the student becomes involved with VICA, developing writing and speaking skills.

ACT 111 Metal Welding and Cutting I
3 credits
Covers sheet metal oxygen-acetylene welding and MIG welding techniques including safety, materials, equipment, and setups. Personal and vehicle protective measures prior to welding procedures is presented.

ACT 121 Non-Structural Repair Preparation
3 credits
Covers the basic characteristics of preparation for automotive repair. Students familiarize themselves with damage analysis, extent of damage, and the sequence of repair. Focuses on removal of vehicle components and protection of panels along with storage and labeling of parts. Safety procedures and equipment use are included.

ACT 122 Panel Repair and Replacements
3 credits
Covers straightening options prior to replacement decisions, and emphasizes the identification, handling, and replacement of parts such as adjustment and alignment of bolt-on parts, fixed parts, and accessories.

ACT 123 Metal Finishing and Body Filling
3 credits
Covers metal finishing, metal shrinking, and the use of cosmetic fillers. Emphasis is placed on the use of proper tools required to perform these tasks, including use, selection, and safety procedures for tools and equipment selected.

ACT 124 Exterior Panel Replacement (Weld-on)
3 credits
Covers the replacement of welded-on panels such as quarters, roofs, cab panels, side panels, etc. Emphasis is placed on the use of proper tools required to perform these tasks, including use, selection, and safety procedures for tools and equipment selected.

ACT 131 Structural Damage Diagnosis
3 credits
Focuses on methods of frame measurement using dimension charts and service manuals. Includes the use of self-centering gauges and mechanical and electronic measuring. Appropriate terms and definitions of vehicle structures and vehicle diagnosis is covered, including identification and analysis of damage. This course includes the techniques for basic hook-ups and safety procedures used in making corrective pulls.

ACT 132 Structural Damage Repair
3 credits
Continues the study and application of frame measurement and repair. The student applies methods found in dimension charts and service manuals for vehicle diagnosis and straightening. Training includes the replacement of a structural panel with the identification of damaged suspension components replaced according to manufacturer's recommendations.

ACT 141 Refinishing Safety
1 credit
Covers correct use of safety procedures used in refinishing. Proper fit and use of various types of protective equipment is emphasized. The identification of tools and equipment with use and maintenance is covered, including national guidelines for proper disposal and handling of hazardous materials.

ACT 142 Surface Preparation I
2 credits
Covers surface preparation for refinishing, including cleaning, sanding, feather edging, chemical treatment of bare materials, and priming. The application of primers, including rationale and use, is covered. In addition, students learn skills for proper removal and storage of exterior trim and protection of adjacent panels.

ACT 143 Spray Equipment Operation
2 credits
Covers the inspection, cleaning, and determination of the condition of spray guns and related equipment. Students learn skills for adjusting spray guns by setting-up and testing spray gun operations.

ACT 144 Refinishing I
2 credits
Provides the knowledge needed for application and use of automotive paint systems. Course includes locating color codes, mixing formulas, matching, and selections of materials. Proper paint gun

use and adjustments is taught for the product being applied. In addition, the student will practice correct masking and detailing techniques.

ACT 151 Plastics & Adhesives I
1 credit
Designed to teach the state-of-the-art repair for both rigid and flexible plastic components and choosing adhesives using the latest manufacturer's repair techniques.

ACT 160 Custom Painting
3 credits
Provides instruction in basic custom paint application, such as pearl paints, candy colors, and metal flakes.

ACT 161 Automotive Graphics and Designs
3 credits
Provides instruction in the application of graphics and designs to an automotive finish. These designs include striping, flames, paint fades, and graphics.

ACT 162 Automotive Air Brushing and Murals
3 credits
Provides instruction in the use of airbrush equipment to produce murals. Instruction in mural layout background, foreground, and fine detail will be provided.

ACT 163 Automotive Special Effects and Refinishing
3 credits
Provides instruction in the different types of design effects that can be achieved through special techniques.

ACT 165 Automotive Body Customizing I
3 credits
Covers tool identification, welding (mig and resistance), plasma cutting, metal finishing, metal shrinking, and the use of cosmetic fillers. Emphasis is placed on the use of proper tools required to perform body customizing tasks, including use, selection, and safety procedures for tools and equipment selected.

ACT 166 Automotive Body Customizing II
3 credits
Covers modification of vehicle and vehicle parts such as chopping, measuring, realigning, fabricating, recessing, and shaping.

ACT 167 Automotive Body Customizing III
3 credits
Covers the completion of modifications that were started in Automotive Body Customizing II, along with the addition of body molding kits.

ACT 170 Automotive Collision Technology Lab Experiences I
3 credits
Prepares students to perform basic tasks for a specialized area in a controlled instructional lab.

ACT 171 Automotive Collision Technology Lab Experiences II
1-3 credits
Course is a continuation of Lab Experiences I. Designed to prepare the individual to perform basic tasks for a specialized area in a controlled instructional lab.

ACT 172 Automotive Collision Technology Lab Experiences III
3 credits
Course is a continuation of Lab Experiences II. Designed to prepare the individual to perform basic tasks for a specialized area in a controlled instructional lab.

ACT 180 Automotive Collision Repair Internship
2 credits
Meets the needs of the student in a selected specialized area in a work-based environment. Individualized instruction at the job site is coordinated based on student's interest and instructor approval. *Prerequisite: Completion of coursework in specialized area.*

ACT 205 Estimating and Shop Management
3 credits
Initiates written estimates on damaged vehicles. Students learn shop management, including work orders, ordering supplies, operating costs, time cards, shop liabilities, employee safety, and insurance management issues.

ACT 211 Metal Welding and Cutting II
2 credits
Covers Mig welding procedures of seam weld, stitch welds, and destructive testing. Resistance spot welding, which includes two-sided spot weld, plasma cutting, safety, materials, and equipment and operating procedures with emphasis on shop safety are also presented.

ACT 220 Structural Repair II
4 credits
Designed as a continuation of ACT 219. Students continue practice in structural damage analysis and measuring procedures on both unitized and body-over-frame type vehicles. Proper methods for straightening, as well as replacing structural, mechanical, and electronic components, are covered.

ACT 226 Production
4 credits
Simulates the actual working procedures of an auto collision repair technician. The student performs a variety of structural and non-structural repairs, as well as refinishing operations in accordance with industry procedures, and in compliance with estimates and flat-rate times from collision estimating guides. Students will also develop leadership abilities and time-management skills.

ACT 231 Advanced Structural Damage Diagnosis and Repair
3 credits
Covers major automotive body repair in vehicles with major damage on conventional structures and unibody structures. Student learns the operation of equipment and techniques used to straighten and align damaged frames. Identification and analysis of frames, hot and cold stress relieving, servicing, and sectioning of structural frames is also included. Liability issues and the importance of making these corrections according to the manufacturer's recommendations and industry standards are emphasized.

ACT 232 Fixed Glass Repair
2 credits
Covers the removal and replacement of fixed glass using manufacturer's specifications, proper tools, and recommended materials. Application of skills is demonstrated and used for the removal and replacement of modular glass using manufacturer's specifications and procedures.

ACT 241 Paint Defects
3 credits
Covers paint defects. Emphasizes the causes of paint defects with methods to cure problems during and after refinishing procedures. Students will learn to identify the proper surface preparations to apply prior to refinishing. Training includes using paint equipment and determining paint film thickness with proper temperatures for refinishing.

ACT 242 Surface Preparation II
2 credits
Emphasizes surface preparation for refinishing, including cleaning, sanding, feather edging, chemical treatment of bare metals, and priming. The application of primers, including why and where to use them, is covered.

ACT 243 Refinishing II
2 credits
In this advanced course, students will learn the necessary skills used to tint and blend panels, working with the latest finishes and paints. Special coatings and procedures are covered in this course.

ACT 244 Final Detail
2 credits
Focuses on the detailing procedures in paint refinishing of vehicles. Methods and techniques are specialized to enhance painting skills. Transfers and tape methods with decals are demonstrated.

AEC – Architecture, Engineering and Construction Courses

AEC 101 Basic Architectural Drafting
4 credits
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.
Prerequisite: CAD 102 or permission of instructor.

AEC 102 Residential Construction Drawing
4 credits
Investigates light-frame construction techniques and the production of residential construction drawings. The course covers residential construction materials, components, and systems related to wood-frame structures. Students produce a professional set of construction drawings of a residential structure.
Prerequisite: AEC 101 or permission of instructor.

AEC 121 Construction Materials and Systems
3 credits
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 202 Architectural Design & Analysis
4 credits
Reviews conceptual design and architectural drafting techniques. The students will be introduced to site analysis through observation and sketching. Students will be required to present a design solution and evaluation of an assigned project through a combination of conceptual models, drawings, and sketches using various computer-aided design programs.
Prerequisite: AEC 102 or permission of instructor.

AEC 218 Sustainable Building Systems
3 credits
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.

AEC 221 Building Electrical/Mechanical Systems
3 credits
Acquaints the student with electrical and mechanical equipment and systems in buildings. Lectures cover the basic principles of electrical distribution, artificial lighting, fire protection, plumbing systems and heating, ventilating and air conditioning (HVAC) systems.

AEC 225 Architectural Design & Development
4 credits
Reviews conceptual design, site analysis, and architectural drafting techniques. Students will be introduced to the development of design ideas and theories and learn how to present those ideas visually. Students will be required to analyze a site and produce a design solution that responds to that particular site through a combination of research data, conceptual models, drawings, and sketches. The student will produce a final presentation of all relevant data, sketches, conceptual models, and drawings, using presentation boards produced in various graphical programs.
Prerequisite: AEC 202 or permission of instructor.

AGR – Agriculture Courses

AGR 260 World Interdependence-Population and Food: GT-SS3
3 credits
Covers the study of world population and food production and distribution. Problems and opportunities concerning population and food are discussed in a global context.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

ANT – Anthropology Courses

www.rrcc.edu/anthropology

ANT 101 Cultural Anthropology: GT-SS3
3 credits
Studies human cultural patterns and learned behavior. It includes linguistics, social and political organization, religion, culture and personality, culture change, and applied anthropology.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ANT 102 Cultural Anthropology Lab: GT-SS3
1 credit
Studies the art and science of ethnographic research methods. Students analyze classic ethnographies, conduct field research projects, write model ethnographies and ethnologies, and address ethical debates and controversies.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

ANT 103 Archeology Lab: GT-SS3
1 credit
Studies analytical methods in archeological, research including those employed both in the field and in the laboratory. Deals with practical exercises illustrating many of the theoretical principles of archeology, including methods of archeological survey, excavation, artifact analysis, collection strategies, mapping strategies, and field interpretation.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ANT 104 Physical Anthropology Lab: GT-SS3
1 credit
Investigates the principles of physical/biological anthropology. Includes 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: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ANT 107 Introduction to Archaeology: GT-SS3
3 credits
Introduces the science of recovering the human prehistoric and historic past through excavation, analysis and interpretation of material remains. The course includes a survey of the archaeology of different areas of the Old and New Worlds, and includes the works of selected archaeologists and discussions of major archaeological theories.
ANT 107 is generally offered in the late spring.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ANT 108 Archaeology of World Rock Art: GT-SS3
3 credits
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. Classification, recordation, dating, analysis, management and conservation, research ethics and protocols, and symbolic and ethnographic interpretation will be covered. Also addresses other formal approaches and established as well as emerging theory.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ANT 111 Biological Anthropology w/Lab: GT-SC1
4 credits
Focuses on the study of the human species and related organisms, and examines principles of genetics, evolution, anatomy, classification, and ecology, including a survey of human variation and adaptation, living primate biology and behavior, and primate and human fossil evolutionary history.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores and MAT 050 or MAT 090 (grade C or higher) or equivalent placement scores.

ANT 201 Introduction to Forensic Anthropology: GT-SS3
3 credits
Studies the basic principles of forensic anthropology, an applied field within the discipline of physical anthropology. 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: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ANT 215 Indians of North America: GT-SS3
3 credits
Studies the Indians of North America from the origins of native peoples in the New World, through the development of geographic culture areas, to European contact and subsequent contemporary Native American issues.
ANT 215 is generally offered in the fall.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ANT 221 Exploring Other Cultures I
3 credits
Provides an anthropological understanding of a selected culture. Areas of study include the culture's 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
3 credits
Explores the culturally universal phenomenon of religion. Cross-cultural varieties of beliefs in the supernatural and the religious rituals people employ to interpret and control their worlds are examined.

ANT 250 Medical Anthropology: GT-SS3
3 Credits
Studies the basic principles of medical anthropology, an applied field within the discipline of cultural anthropology. It includes 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: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ANT 255 Anthropology of Energy
3 Credits
Examines issues of energy production and consumption that occupy a central role in national and global debates. Where does the majority of our energy currently come from, and where should it come from in the future? What is at stake in our energy lifestyles on both local and global scales?

ANT 260 Sex, Gender, and Culture
3 Credits
Explores the anthropology of gender including the relationship between biology and culture in human evolution, archaeological evidence of gender distinctions in prehistory, cross-cultural constructions of masculinity, femininity, and sexuality, variations in the sexual division of labor and economic stratification, gender differences in ritual and religion, and the impact of gender issues in contemporary global culture change.

ANT 263 Anthropology of Folklore
3 Credits
Presents a cross-cultural examination of oral traditions and verbal arts and how they reflect and preserve cultural values and worldviews. Various narratives (myths, legends, and tales), dramas, poetry, and other structured sayings are considered.

ARA – Arabic Courses

www.rrcc.edu/foreign-languages

ARA 101 Conversational Arabic I
3 credits
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 credits
Continues the sequence for students who wish to understand and speak Arabic. Covers basic conversational patterns, expressions, and grammar.

ARM – Military Science Courses (U.S. Army ROTC)

ARM 111 Adventures in Leadership I
2 credits
Fall semester
Introduces the student to fundamentals of leadership and the United States Army. Includes Army leadership doctrine, team-building concepts, time and stress management, an introduction to cartography and land navigation, marksmanship, briefing techniques, and basic military tactics. Includes laboratory fee.

ARM 112 Adventures in Leadership II
2 credits
Spring semester
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 laboratory fee.

ARM 211 Methods of Leadership and Management I
3 credits
Fall semester
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 communication 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 midlevel leaders in the cadet organization. The course includes lecture and laboratory fee.

ARM 212 Methods of Leadership and Management II
3 credits
Spring semester
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 fee.

ART – Art Courses

www.rrcc.edu/visual-arts

ART 110 Art Appreciation: GT-AH1
3 credits
Introduces the cultural significance of the visual arts, including media, processes, techniques, traditions, and terminology.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ART 111 Art History Ancient to Medieval: GT-AH1
3 credits
Provides the knowledge base to understand the visual arts, especially as related to Western culture. The course surveys the visual arts from the Ancient through the Medieval periods.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ART 112 Art History Renaissance to Modern: GT-AH1
3 credits
Provides the knowledge base to understand the visual arts, especially as related to Western culture. The course surveys the visual arts from the Renaissance through the Modern periods.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ART 113 History of Photography
3 credits
Surveys the history of photography from its beginning to the present. Course emphasis is on individual photographers who have made significant contributions in the field. Students attain an overview of technical, artistic, commercial, and social development of photography as a form of visual communication. Students are required to have a basic knowledge of computers prior to taking this class. Students should be able to upload and download files from the Internet, external devices, and flash drives; use the Internet for basic research; be able to send email and attachments; and save information to CD/DVD, flash drive, and/or other external devices. Students without these skills are required to take MGD 101 Introduction to Computer Graphics either concurrently or prior to taking courses in digital photography.

ART 121 Drawing I
3 credits
Investigates the various approaches and media that students need in order to develop drawing skills and visual perception.

ART 124 Watercolor I
3 credits
Introduces 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.

ART 128 Figure Drawing I
3 credits
Introduces the basic techniques of drawing the human figure.

ART 129 Printmaking I
3 credits
Introduces the basic techniques and skills of printmaking as a fine art medium. Instruction includes an understanding of visual concepts as they relate to prints. The course may include introduction to relief, intaglio, lithography, and screen printing techniques.

ART 131 2-D Design
3 credits
Examines the basic elements of design, visual perception, and artistic form and composition as they relate to two-dimensional media.

ART 132 3D Design
3 credits
Focuses on learning to apply the elements and principles of design to three-dimensional problems.

ART 133 Jewelry and Metal Work I
3 credits
Introduces the construction of jewelry designs in metals and small casting techniques.

ART 138 Film Photography I
3 credits
Introduces black and white film photography as a fine art medium and develops skills necessary for basic camera and lab operations.
Degree seeking Candidates, see PHO 120.

ART 139 Digital Photography I
3 credits
Analyzes acquisition and manipulation of digital images. Students study traditional photography methods of weaving contrast, sharpness, color, and composition together within the limitations of computer technology. The practical aspects of setting up a shoot, equipment needs, and camera controls are discussed. Students examine color correction, restoration, colorizing, and archiving digital images. A digital SLR camera with manual settings is required for this class. Students are required to have a basic knowledge of computers prior to taking this class. Students should be able to upload and download files from the Internet, external devices, and flash drives; use the Internet for basic research; be able to send email and attachments; and save information to CD/DVD, flash drive, or other external devices. Students without these skills are required to take MGD 101 Introduction to Computer Graphics either concurrently or prior to taking courses in digital photography.
Recommended MGD 101. Degree seeking Candidates, see PHO 120.

ART 143 Figure Photography I
3 credits
Introduces students to the social, artistic, and photographic aspects of fine art figure studies in photography. The human figure is one of the most studied and practiced subjects in the field of creative visual expression. Students have the opportunity to photograph the figure using professional lighting equipment and professional models. Students are expected to push the limits of their artistic and creative abilities, as well as develop technical skills used in figure and other areas of fine art photography. Professional ethics, concerns, as well as group critiques are used throughout the course. Choice of camera, either digital or film, is left up to the student.

ART 144 Portrait Photography
3 credits
Teaches the technical and aesthetic aspects of studio and location portrait photography. This course explores the personal style of portraiture, the history of the field, and portraiture as a visual

language and creative expression. Also includes lighting, composition, posing, and equipment selection. Both film and/or digital SLR cameras with manual settings may be used for this class.

ART 149 Mixed Media I: Digital Art
3 credits
Introduces students to the design and creation of fine-art composites that involve the combinations of techniques, texture, drawing, painting, photography, and objects, and emphasizes the computer as an art tool. In addition to incorporating technology-based vocabulary as it relates to fine-art technique, vector and rastor applications are explored for the creation of montage and collage. No computer experience is necessary.

ART 151 Painting I
3 credits
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.

ART 154 Figure Painting I
3 credits
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 161 Ceramics I
3 credits
Introduces the basics of wheel throwing and hand building. Students learn about clay, slips, and glazes for high fire. Exposure to historical and contemporary ceramics.

ART 165 Sculpture I
3 credits
Introduces the fundamentals of sculpture, such as modeling, casting, carving, and the processes of assemblage.

ART 167 Sculpting the Figure
3 credits
Focuses on sculpting the human figure using modeling techniques in clay.

ART 175-177 Special Topics
1-6 credits
Covers specific topics in art. These courses are offered as needed for credit appropriate to the topic. Each offering includes a description of the topic(s).
Prerequisite: Permission of instructor.

ART 207 Art History – 1900 to Present: AH1
3 credits
Provides the knowledge base to understand the visual arts as related to Modern and Contemporary visual art. This course surveys world art of the twentieth century, including Modernism to Post-Modernism.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ART 209 Studio Art
3 credits
Designed for advanced students interested in further exploring an art discipline to develop a more comprehensive portfolio.
Prerequisite: Permission of instructor.

ART 210 Marketing for the Visual Artist
3 credits
Provides students with the framework, tools, and professional materials necessary for the practicing visual artist. Guidelines for writing proposals, artist's statements, and resumes are discussed and practiced. The course explores theoretical and practical considerations related to portfolio presentation and exhibiting artwork through hands-on activities, readings, and discussion.

ART 221 Drawing II
3 credits
Explores expressive drawing techniques with an emphasis on formal composition, color media, and content or thematic development.
Prerequisite: ART 121 or permission of instructor.

ART 222 Drawing III
3 credits
Offers a continued study of expressive drawing techniques and development of individual style, with an emphasis on composition and technique variation.
Prerequisite: ART 221 or permission of instructor.

ART 223 Drawing IV
3 credits
Explores advanced drawing problems with an emphasis on conceptual development and portfolio, and/or exhibition-quality presentation.
Prerequisite: ART 222 or permission of instructor.

ART 224 Watercolor II
3 credits
Continues the study of watercolor techniques, emphasizing original compositions and experimentation with materials. Color theory is included.
Prerequisite: ART 124, or permission of instructor.

ART 225 Watercolor III
3 credits
Concentrates on the advanced study of subject development, form, color, and theme in watercolor.
Prerequisite: ART 224 or permission of instructor.

ART 226 Watercolor IV
3 credits
Concentrates on the advanced study of techniques, individual style of expression, and consistency of compositional problem-solving in watercolor.
Prerequisite: ART 225 or permission of instructor.

ART 228 Advanced Figure Drawing
3 credits
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 credits
Introduces more advanced techniques and skills of printmaking as a fine art medium. Instruction includes an understanding of visual concepts as they relate to prints. The course may include introduction to relief, intaglio, lithography, and screen printing techniques.
Prerequisite: ART 129 or permission of instructor.

ART 230 Color Theory
3 credits
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 credits
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 credits
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 credits
Emphasizes conceptual design development, using casting and specialized techniques.
Prerequisite: ART 133, or permission of instructor.

ART 234 Jewelry and Metal Work III
3 credits
Focuses upon advanced work and emphasizes experimentation with materials

and techniques, individual designs, and superior craftsmanship.
Prerequisite: ART 233 or permission of instructor.

ART 235 Jewelry and Metal Work IV
3 credits
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 or permission of instructor.

ART 243 Figure Photography II
3 credits
Allows students to continue to explore the social, artistic and photographic aspects of fine art figure studies in photography. The human figure is one of the most studied and practiced subjects in the field of creative visual expression. Students continue at their own pace to photograph the figure using professional lighting equipment and professional models. Students are expected to push the limits of their artistic and creative abilities, as well as continue to develop technical skills used in figure and other areas of fine art photography. At the end of the course, students will present a series of images to add to their portfolio. Choice of camera, either digital or film, is left up to the student.
Prerequisite: ART 143 Figure Photography I.

ART 251 Painting II
3 credits
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 or permission of instructor.

ART 252 Painting III
3 credits
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 or permission of instructor.

ART 253 Painting IV
3 credits
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 or permission of instructor.

ART 254 Advanced Figure Painting
3 credits
Offers continued study of painting the human figure with advanced problem-solving in composition and experimentation with materials and techniques.
Prerequisite: ART 154.

ART 261 Ceramics II
3 credits
Introduces intermediate wheel throwing and hand building skills. Students begin to learn how to mix glazes, fire kilns, and learn the differences in a variety of atmospheric firings. Continued exposure to historical and contemporary ceramics.
Prerequisite: ART 161.

ART 262 Ceramics III
3 credits
Encourages students to develop an individual style of wheel-thrown and hand-built ceramic forms. Students continue to learn glaze calculation and a variety of firing skills and expand their knowledge of contemporary and historical ceramics.
Prerequisite: ART 261.

ART 263 Ceramics IV
3 credits
Develops a student's individual style of wheel-thrown and hand-built ceramic forms. Emphasis is on developing original ideas inspired by looking at historical and contemporary ceramics.
Prerequisite: ART 262.

ART 265 Sculpture II
3 credits
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 credits
Focuses on advanced individual sculpture projects, emphasizing experimentation with materials, accomplished technique, and conceptual significance.
Prerequisite: ART 265 or permission of instructor.

ART 275-277 Special Topics
1-6 credits
Covers specific topics in art. These courses are offered as needed for credit appropriate to the topic. Each offering includes a description of the topic(s).
Prerequisite: Permission of instructor.

ART 280 Internship
1-6 credits
Provides the opportunity for students to gain supervised occupational experience in any of the disciplines involving the visual arts, including, but not limited to, gallery or museum administration and graphic design. Instruction is coordinated by the on-site supervisor and instructor and is totally based on student's occupational experience plan.
Prerequisite: Permission of instructor.

ASE – Automotive Service Technology Courses

www.rrcc.edu/warrentech

ASE 101 Auto Shop Orientation
2 credits
Provides students with safety instruction in the shop and on the automobile. Emphasis is placed on the proper use and care of test equipment, precision measuring and machining equipment, gaskets, adhesives, tubing, wiring, jacks, presses, and cleaning equipment and techniques.

ASE 102 Introduction to the Automotive Shop
2 credits
Prepares the incoming automotive student to work in the shop safely and gain familiarity with the shop and common equipment.

ASE 110 Brakes I
3 credits
Covers basic operation of automotive braking systems. The course includes operation, diagnosis, and basic repair of disc brakes, drum brakes, and basic hydraulic systems.

ASE 111 Automotive Brake Service II
2 credits
Teaches skills to perform service checks and procedures to automotive foundation braking system and to identify components and types of ABS and traction control systems.

ASE 120 Basic Auto Electricity
2 credits
Introduces automotive electricity and includes basic electrical theory, circuit designs, and wiring methods. Focuses on multi-meter usage and wiring diagrams.

ASE 122 Automotive Electrical Safety Systems
1 credit
Teaches the student to identify operation of vehicle lighting systems, Supplemental Inflatable Restraints (SIR), windshield wiper, driver warning systems, and vehicle accessories.

ASE 123 Starting and Charging System
2 credits
Covers the operation, testing, and servicing of vehicle battery, starting and charging systems. Includes voltage testing of starter and generator, load testing, and maintenance of a battery.

ASE 130 General Engine Diagnosis
2 credits
Focuses on lecture and related laboratory experiences in the diagnosis and necessary corrective actions of automotive engine performance factors.

ASE 132 Ignition System Diagnosis and Repair
2 credits
Focuses on theory and related laboratory experiences in the diagnosis, service, adjustments, and repair of various automotive ignition systems.
Prerequisite: ASE 130.

ASE 134 Automotive Fuel and Emissions Systems I
2 credits
Focuses on lecture and laboratory experiences in the diagnosis and repair of automotive emission control systems.

ASE 140 Suspension and Steering I
2 credits
Focuses on theory and related experiences in the diagnosis and service of suspensions and steering systems and their components.

ASE 141 Suspension and Steering II
2 credits
Covers design, diagnosis, inspection, and service of suspension and steering systems used on light trucks and automobiles. Course includes power steering and SRS service.

ASE 151 Automotive Manual Transmission/Transaxles & Clutches
2 credits
Focuses on theory and related laboratory experiences in the diagnosis and repair of automotive manual transmissions, transaxles, clutches, and related components.

ASE 152 Manual Transmission, Transaxles and Clutches II
2 credits
Focuses on lecture and related laboratory experiences in the diagnosis and repair of automotive differentials, transfer cases, and four-wheel and all-wheel drive units.

ASE 160 Automotive Engine Repair
2 credits
Focuses on lecture and laboratory experiences in the service of cylinder head, valve-train components, and components of the cooling system. Course also includes engine removal and re-installation and re-mounting systems.

ASE 161 Engine Repair & Rebuild
5 credits
Focuses on theory and laboratory experiences in the disassembly, diagnosis, and reassembly of the automotive engine. Topics include the diagnostic and repair procedures for the engine block and head assemblies.

ASE 171 Auto Parts Laboratory Experience II
2 Credits
Continues to build upon the principles that are expected to be understood by students.

ASE 201 Automotive Parts Management I
1 credit
Familiarizes the student with the job requirements and responsibilities of an automotive parts specialist. Included is instruction in the proper completion of parts invoices, repair orders, sales receipts and tickets, and other forms that are utilized in a parts business.

ASE 203 Automotive Parts Management II
2 credits
Familiarizes the student with handling and pricing procedures utilized in parts management, including warehouse distribution, jobbing, retail, and wholesale pricing. Workplace safety, stocking, shipping, and receiving, and managing employees are also covered.

ASE 221 Automotive and Diesel Body Electrical
4 credits
Provides a comprehensive study of the theory, operation, diagnosis, and repair of vehicle accessories.

ASE 231 Automotive Computers and Ignition Systems
2 credits
Focuses on lecture and laboratory experiences in the inspection and testing of typical computerized engine control systems.

ASE 250 Automatic Transmission/Transaxle Service
1 credit
Focuses on practical methods of maintaining, servicing, and performing minor in-car adjustments on an automatic transmission and transaxle.

ASL – American Sign Language Courses

www.rrcc.edu/foreign-languages

ASL 121 American Sign Language I
5 credits
Exposes students to American Sign Language. Readiness activities are conducted, focusing on visual/receptive skills and basic communication. The course uses the direct experience method. Students must complete this course with a B or higher or pass the ASL proficiency test with a score of at least 80 percent or higher prior to registering for ASL 122, if planning to enroll in the Interpreter Preparation Program.

ASL 122 American Sign Language II
5 credits
Develops a basic syntactic knowledge of American Sign Language (ASL), basic vocabulary, and basic conversational skills. It 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 higher prior to acceptance into the Interpreting and Transliterating Preparation program.
Prerequisite: Successful completion of ASL 121 or passing the ASL 121 proficiency exam.
Corequisite: Permission of instructor.

AST – Astronomy Courses

AST 101 Astronomy I w/Lab: GT-SC1
4 credits
Focuses on the night sky, the history of astronomy, the tools of the astronomer, and the contents of the solar system, including the planets, moons, and small bodies.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

AST 102 Astronomy II w/Lab: GT-SC1
4 credits
Emphasizes the structure and life cycle of the stars, the sun, galaxies, and the universe as a whole, including cosmology and relativity.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

AST 108 Colorado Night Sky I
1 credit
Develops an appreciation of and competence in observational astronomy with the naked eye or binoculars, including knowledge of the seasonal and circumpolar

constellations and of the location of interesting objects in those constellations. Emphasis is on deep sky observing, including various types of stars, nebula, clusters, and galaxies. Basic tools of the astronomer are also covered. The focus is on observation rather than theory.

AST 109 Colorado Night Sky II
1 credit
Develops an appreciation of and competence in observational astronomy with the naked eye or small telescope, including knowledge of the seasonal and circumpolar constellations. Emphasis is on observing solar system objects, including planets and moons, comets and asteroids, meteor showers, and the sun. Basic tools of telescope astronomy are also covered. The emphasis is on observation, rather than theory.

AST 110 Colorado Night Sky III
1 credit
Develops an appreciation of and competence in observational astronomy with the naked eye or small telescope. Introduces the use of images from major telescopes and spacecraft as a tool for experiencing the night sky. Special emphasis will be placed on the World Wide Telescope and what it has to offer. Rare observations such as supernovae, comets, and solar activity will also be covered. Advanced tools of telescope astronomy and astrophotography may also be discussed. Emphasis is on observation rather than theory.

AST 150 Astrobiology: GT-SC2
3 credits
Introduces the interdisciplinary and scientific nature of the search for life in the universe, also known as astrobiology. Students will address the questions: "How does life begin and evolve?" and "Is there life elsewhere in the universe?" Students will examine life on Earth, its origin, and its evolution. The possibilities of other life in the solar system and throughout the universe will be examined. Students will investigate the current state of exploration and the search for extraterrestrial life.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

AST 155 Astronomy of Ancient Cultures: GT-SC2
3 credits
Introduces the study of archaeoastronomy and ethnoastronomy. Students will study the principles of naked-eye astronomy and examine how those principles have been used for timekeeping, navigation, religion and ritual, political power, cosmology and worldview. Methods of the ethnoastronomer will be covered, including measurement of alignments, analysis of written records, examination of art and architecture, and incorporation of general knowledge about the culture being studied.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

AST 160 Cosmology: GT-SC2
3 credits
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.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

AST 208 Field Studies: Astronomy
4 credits
Involves in-depth field studies of astronomical phenomenon of specific regions both within and outside the United States. Trips lasting from one to fourteen days in length to study the area 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.

AUT - Auto Motorsports Technology Courses

www.rrcc.edu/warrentech

AUT 109 Performance Suspension and Chassis
2 credits
Introduces the fundamentals of chassis types and components. Includes steering and suspension component theory, tire and wheel theory, chassis design, and geometry theory as applied to oval track, drag race, and road race vehicles.

AUT 110 High Performance Suspension and Chassis Setup
4 credits
Introduces chassis set-up based on vehicle purpose. Incorporates chassis measurement, including ride heights, caster, camber, steering toe, ackerman, control arm angles, roll centers, and weight distribution. All measurements are taken and adjustments completed to allow the vehicle to perform as desired.

AUT 116 High Performance Brake Systems
2 credits
Introduces high performance brake systems as applied to racing vehicles.

AUT 125 Engines I
4 credits
Provides for individual study, enabling self-paced instruction, and features an open entry, open exit system. Emphasizes video and computer technology. Includes operation and construction of the internal combustion engine, both domestic and foreign. Covers inspection, measuring, parts identification, and vehicle I.D. The student presents video and computer knowledge by use of mock-up engines with instructor supervision.

AUT 136 Introduction to Racecar Body Fabrication
2 credits
Introduces a variety of techniques used in the forming of racecar body panels made up of various types of materials. Emphasizes sheet steel, aluminum, and composite plastics. Students practice the fabrication and finishing of body panels. Tools and equipment typically used in the industry are also covered.

AUT 137 Introduction to Racecar Chassis Fabrication
2 credits
Introduces the student to various designs and methods for fabrication of racecar chassis and roll-cage components. Covers body mounting techniques and suspension pick-up points.

BIO – Biology Courses

www.rrcc.edu/biology

BIO 105 Science of Biology w/Lab: GT-SC1
4 credits
Examines the basis of biology in the modern world and surveys the current knowledge and conceptual framework of the discipline. BIO 105 explores biology as a science - a process of gaining new knowledge - and the impact of biological science on society. This course includes laboratory experiences and is designed for non-science majors.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores..

BIO 106 Basic Anatomy and Physiology
4 credits
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 Medical Office Technology Program.

BIO 111 General College Biology I w/Lab: GT-SC1
5 credits
Examines the fundamental molecular, cellular, and genetic principles characterizing plants and animals. This course includes cell structure and function and the metabolic processes of cellular respiration, photosynthesis, cell reproduction, and basic concepts of heredity. This course includes laboratory experience.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

BIO 112 General College Biology II w/Lab: GT-SC1
5 credits
A continuation of General College Biology I. This course includes ecology, evolution, classification, structure, and function in plants and animals. This course includes laboratory experience.
Prerequisite: ENG 090 or CCR 092 or CCR 094 and MAT 050, BIO 111 (grade C or higher) or equivalent placement scores.

BIO 116 Introduction to Human Disease: GT-SC2
3 credits
Focused analysis of the causes and mechanics of human illness and death will be presented for each of the major human body systems. Selected diseases will be studied in greater detail, including etiology, pathogenesis, epidemiology, sociology, and therapy.
Prerequisites: MAT 050 or equivalent, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

BIO 201 Human Anatomy and Physiology I w/Lab: GT-SC1
4 credits
Focuses on an integrated study of the human body, including the histology, anatomy, and physiology of each system. This course examines molecular, cellular, and tissue levels of organization, plus integuments, skeletal, articulations, muscular, nervous, and endocrine systems.
Prerequisites: MAT 050 or equivalent, BIO 111 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

BIO 202 Human Anatomy and Physiology II w/Lab: GT-SC1
4 credits
Focuses on the integrated study of the human body and the histology, anatomy, and physiology of the following systems and topics: cardiovascular, hematology, lymphatic and immune, urinary, fluid and electrolyte control, digestive, nutrition, respiratory, reproductive, and development.
Prerequisites: MAT 050 or equivalent, BIO 201, ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

BIO 204 Microbiology w/Lab: GT-SC1
4 credits
Designed for health science majors. This course examines microorganisms with an emphasis on their structure, development, physiology, classification, and identification. The laboratory experience includes culturing, identifying, and controlling microorganisms with an emphasis on their role in infectious disease.
Prerequisites: MAT 050 or equivalent, BIO 111, ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

BIO 216 Pathophysiology
4 credits
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 required.
Prerequisites: MAT 050 or equivalent, BIO 202, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

BIO 220 General Zoology w/Lab: GT-SC1
5 credits
Designed for biology majors. This course focuses on the study of invertebrate and vertebrate animals and examines structure, evolutionary development, ecology, classification, physiology, reproduction, and zoogeography. A survey of zoological diversity emphasizes the characteristics, zoological contributions, and classification of animal phyla and major classes. This course requires hands-on laboratory and field experience.
Prerequisites: MAT 050 or equivalent, BIO 111, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

BIO 221 Botany w/Lab: GT-SC1
5 credits
Designed for biology majors. This course is a study of nonvascular and vascular plants. It emphasizes photosynthetic pathways, form and function, reproduction, physiology, genetics, diversity, evolution, and ecology. This course requires mandatory hands-on laboratory and field experience.
Prerequisites: MAT 050 or equivalent, BIO 111, ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

BIO 228 Field Biology III
4 credits
Involves in-depth field study of natural environments within and outside of the United States. This course varies from seven to twenty-one days in length and focuses on the identification of organisms, as well as an examination of ecological concepts and principles. This course requires hands-on laboratory and field experience, including extensive hiking.

BTE– Business Technology Courses

www.rrcc.edu/business

BTE 100 Computer Keyboarding
1 credit
Designed for students who have minimal or no keyboarding skills. This course introduces the touch method of keyboarding, as well as the basic operation and functions of the equipment. It emphasizes learning the alphanumeric keyboard, proper technique, and speed control.

BTE 108 Ten-Key by Touch
1 credit
Introduces touch control of the PC ten-key pad. This class emphasizes the development of speed and accuracy using proper techniques.

BTE 125 Records Management
3 credits
Offers instruction on how records are created, stored, and retrieved. It covers the basic filing rules–classifying, indexing, coding, storing, and retrieving as applied to the basic methods–alphabetic, chronological, subject, numeric, and geographic. Emphasizes "hands-on" records management through the use of simulations, which include manual and/or computer software.
Prerequisite: Acceptable keyboarding proficiency.

BTE 166 Business Editing Skills
3 credits
Provides instruction in proofreading techniques and reviews spelling, punctuation, grammar, and formatting of various business documents and worksheets.

BUS – Business Courses

www.rrcc.edu/business

BUS 102 Entrepreneurial Operations
3 credits
Covers the major aspects of small business management to enable the entrepreneur to successfully begin his own business. This

course provides the basic concepts of marketing, principles of management, and finance needed to manage a small business. Further, students develop a business plan and explore methods of obtaining the financing required to launch the business.

BUS 115 Introduction to Business
3 credits
Focuses on the operation of the American business system. The course covers fundamentals of the economy, careers and opportunities, marketing, management, production, governmental regulations, tools of business, and social responsibilities.

BUS 116 Personal Finance
3 credits
Surveys the basic personal financial needs of most individuals. The course emphasizes the basics of budgeting and buying, saving and borrowing money, the intricacies of home ownership, income tax and investments, and the wise use of insurance, wills, and trusts.

BUS 118 Business Survival Skills
3 credits
Provides an overall perspective for the student to understand the current domestic and world business environment and how the student as an employee fits into that environment. Roles and responsibilities of the business and the employees will be studied, especially as they relate to alternatives for increasing positive impact in the workplace. The focus will be on practical skills application.

BUS 120 Introduction to E-Commerce
3 credits
Provides an introduction to electronic commerce—the business trend of the future. It covers definition of e-commerce, technology and software requirements, security issues, electronic payment, and marketing strategies. It focuses on what to expect when creating a dot com as well as the business-to-business use of e-commerce.
Prerequisite: BUS 115 suggested.

BUS 121 Basic Workplace Skills
1 credit
Examines techniques for communicating effectively on the job including both verbal and written communication; identifies the roles of individuals and companies and necessary critical thinking and problem solving skills; examines relationship skills, effective self-presentation, and workplace issues such as sexual harassment, stress, and substance abuse.

BUS 192 Service Learning
1-3 credits
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.
Prerequisite: Permission of instructor.

BUS 203 Intro to International Business
3 credits
Provides student with an understanding of the interdisciplinary nature of international business. 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; the effects of economic, political, and cultural environments on international business and trade; impact of geography in business transactions; legal aspects of international business; and developing an effective international marketing strategy.

BUS 216 Legal Environment of Business
3 credits
Emphasizes public law, regulation of business, ethical considerations, and various relationships existing within society, government, and business. Specific attention is devoted to economic regulation, social regulation, regulation and laws impacting labor-management issues, and environmental concerns. Students develop an understanding of the role of law in social, political, and, economic change.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or appropriate placement scores that indicates college reading and writing readiness, or permission of instructor. BUS 115 suggested.

BUS 217 Business Communication and Report Writing
3 credits
Emphasizes effective business writing, and covers letters, memoranda, reports, application letters, and resumes. The course includes the fundamentals of business communication and an introduction to international communication.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate Placement score that indicates college writing readiness, or permission of instructor.

BUS 226 Business Statistics
3 credits
Focuses on statistical study, descriptive statistics, probability, the binomial distribution, index numbers, time series, decision theory, confidence intervals, linear regression, and correlation. It is intended for business majors.
Prerequisite: MAT 050 (Intermediate Algebra) or equivalent.

BUS 275 Special Topics
1-3 credits
Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as needed basis to provide current, up-to-date information.

BUS 281 Internship
1-3 credits
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 location and with the direct guidance of the instructor.
Prerequisite: Permission of instructor.

BUS 285 Independent Study
1-3 credits
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

CAD – Computer-Aided Drafting Courses

www.rrcc.edu/engineering-graphics-technology

CAD 101 Computer Aided Drafting I
3 credits
Focuses on basic computer-aided drafting skills using the latest release of CAD software. The course includes file management, Cartesian coordinate system, drawing set-ups, drawing aids, layer usage, drawing geometric shapes, editing objects, array, text applications, basic dimensioning, and Help access.

CAD 102 Computer Aided Drafting II
3 credits
Focuses on advanced computer aided drafting skills using the latest release of CAD software. Includes blocks and wblocks, polylines, multilines, polyline editing, advanced editing, editing with grips, hatching, isometric drawings, dimensions and dimension variables, paper space and viewports, templates, external references, and printing/plotting.
Prerequisite: CAD 101.

CAD 202 Computer Aided Drafting 3D
3 credits
Focuses on construction of three-dimensional objects using the latest

release of CAD software. Includes mesh modeling, surface modeling, solid modeling, extrusions, Boolean operations, 3D editing, 3D views, rendering, materials and advanced lighting, walkthrough and flyby animations and 3D Solids to 2D Layouts.

CAD 224 Revit Architecture
3 credits
Provides students with the software application training in AutoDesk Revit necessary to produce 3D architectural models and 2D drawings using AIA standards.
Prerequisite: CAD 102 or permission of instructor.

CAD 227 Advanced Revit Architecture
3 credits
Focuses on the advanced applications of the Revit software. Includes Family Editing, Topographic Site Plans, Worksharing, Phases, Advanced Scheduling, Custom Annotation, and Presentation Techniques.
Prerequisite: CAD 224

CAD 233 Civil 3D (Software)
3 credits
Provides students with the basics of advanced software application necessary to produce 3D Civil models and 2D drawings using the latest release of the Civil 3D software. This course will cover topics including components and program interface, linework, geometry, and 2D to 3D civil CAD applications.
Prerequisite: CAD 101 or equivalent.

CAD 256 SolidWorks Basics
6 credits
Examines the basics of SolidWorks software to produce parametric models.

CAD 257 SolidWorks Intermediate
6 credits
Focuses on applying intermediate SolidWorks applications to produce parametric models of parts and assemblies.
Prerequisite: CAD 256.

CAD 258 SolidWorks Advanced
6 credits
Demonstrates the advanced applications of SolidWorks software.
Prerequisite CAD 257.

CAD 262 3D Printing
3 credits
Provides the student with the ability to blend the virtual and real design worlds together through the use of 3D Scanning, 3D CAD Modeling, and 3D Printing.

CAD 280 Internship
1-6 credits
Provides students with the opportunity to supplement course work 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: Permission of instructor.

CAD 289 Capstone
1-6 credits
Demonstrates a culmination of learning within a given program of study.
Prerequisite: EGT 231 related to discipline of study.

CAR – Carpentry Courses

www.rrcc.edu/carpentry

CAR 102 Hand and Power Tools
1 credit
Focuses on basic hand and power tools, including stationary tools. Emphasizes a hands-on approach to proper and safe use of these tools as it applies to the construction environment and is taught in conjunction with a lab or framing class.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

CAR 103 Carpentry Basics
4 credits
Provides a basic introduction to construction work for all crafts, safety concerns and procedures, and the safety and use of hand and power tools. This course specifically applies to construction work.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 115 Form and Foundation Systems
1 credit
Covers materials and methods for concrete forms and foundations. Includes various reinforcement methods such as re-bar and welded-wire fabric.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 122 Wall Framing
1 credit
Focuses on the procedures for laying out and framing walls and ceilings, including roughing-in door and window openings, construction corners and partition Ts, bracing walls and ceilings, and applying sheathing.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 123 Roof Framing
1 credit
Describes the various kinds of roofs and contains instructions for laying out rafters for gable roofs, hip roofs, and valley intersections. Coverage includes both stick-built and truss-built roofs.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 125 Roofing Materials & Methods
1 credit
Covers application techniques and estimation of asphalt and wood roofing products and accessories including gutters and flashing.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 130 Windows and Exterior Doors
1 credit
Describes the various types of windows, skylights, and exterior doors and provides instructions for installing them. Includes instructions for installing weather-stripping and locksets.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 134 Exterior Finishes and Trim
4 credits
Utilizes hands-on techniques to illustrate exterior moisture, trim, and exterior doors and window installation. Student will explore various residential materials and methods. Estimation of time and material will be discussed, as well as general business practices.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 135 Thermal/Moisture Methods/Materials
1 credit
Focuses on selection and installation of various types of insulating materials in walls, floors, and attics. Covers the uses and installation practices for vapor barriers and waterproofing materials.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 136 Remodeling, Renovation, and Additions
4 credits
Covers conversions of attic and basement spaces to usable living spaces and additions for renovation to existing residential structures, including kitchens and baths. The course examines materials scheduling, estimation, and construction methods.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 146 Interior Finish/Drywall Construction
1 credit
Covers the use of gypsum wall board and the techniques of concealing joints and fasteners, construction methods, estimation, and a variety of texture finishes.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 150 Interior Trim - General
1 credit
Covers material choices and installation techniques of various interior trim, including interior doors, baseboard, and casement. Includes an overview of additional interior trim choices.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 153 Interior Trim: Cabinet/Countertops
1 credit
Covers the selection, installation, and terminology of factory built cabinets and countertops. Includes various types and design and examines estimation of cost.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 155 Interior Trim and Built-ins
4 credits
Covers design and building processes for custom built-in cabinetry. Explores the variety of materials and methods of work to create custom building, from closet storage shelves to a built-in entertainment center.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 156 Shop Tools: Stationary, Hand, and Portable
4 credits
Covers the safe use and care of stationary, hand, and portable tools. This course is designed to help students develop skills through tool utilization to pass competency and safety tests for each tool. Students study standard practices for bench carpentry through the actual construction of a project.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 160 Floor Finishes
1 credit
Covers installation and finishing of hardwood floors, laminate/engineered floors, and tile. Includes discussion on advantages and disadvantages of various choices available.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 165 Shop Carpentry
4 credits
Focuses on the non-site, shop carpenter and includes jig and pattern making, stationary power tool maintenance and adjustment, machining of woods, and techniques unique to shops, cabinetmakers, and mill-workers.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications.

CAR 166 Stair Design & Construction
4 credits
Focuses on both site and off-site stair lay-out and construction. Students have a chance to explore various techniques for building the stairs and millwork involved in the construction and installation of handrail assemblies.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications. CAR 156 or permission of Instructor.

CAR 175 Special Topic: EPA Certified Lead Renovator/Dust Sampling
0.5 credits
Trains the workforce in proper handling and notification of local personnel of lead-based paint contamination and renovation. EPA is particularly concerned about dust lead hazards generated by renovations because children, especially younger children, are at risk for high exposures of lead-based paint dust via hand-to-mouth exposure.

CAR 253 Advanced Interior Trim - Cabinet/Countertops
4 credits
Emphasizes an in-depth/hands-on look at all components of cabinet-making, installation, and countertops. It includes construction of traditional (face-frame) and European cabinets. It covers hardware applications and installation, and countertop construction, ranging from laminates to solid surface.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications. CAR 156, or permission of instructor.

CAR 275 Special Topics
1-6 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications. CAR 156 or permission of Instructor.

CAR 280 Technical Project
4-12 credits
Enables students to participate in individual study on a special project which is related to the carpentry program. This technical project consists of a written and approved proposal and scheduled progress reports.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications, permission of instructor.

CAR 282 Internship
0.5-12 credits
Provides students with prior course work an opportunity to apply their course studies.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications, permission of instructor.

CAR 285 Independent Study
0.5-12 credits
Provides students the opportunity to work with the instructor on a specific area with specific objectives and a predetermined project completion date.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113, or proof of current certifications, permission of instructor.

CCR - College Composition and Reading Courses

CCR 092 College Composition and Reading
5 credits
Integrates and contextualizes college level reading and writing. Students will read and understand complex materials and respond to ideas and information through writing informative and/or persuasive texts.
Prerequisite: Equivalent placement scores.

CCR 094 College Composition and Reading: Studio 121
3 credits
Integrates and contextualized reading and writing strategies tailored to co-requisite ENG 121 coursework. Students will read and understand complex materials and respond to ideas and information through writing informative and/or persuasive texts.
Prerequisite: ENG 060 or equivalent placement scores.

CHE – Chemistry Courses

www.rrcc.edu/chemistry

CHE 101 Introduction to Chemistry I w/Lab: GT-SC1
5 credits
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 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

CHE 111 General College Chemistry I w/Lab: GT-SC1
5 credits
Focuses on basic chemistry and measurement, matter, chemical formulas, reactions and equations, stoichiometry, and thermochemistry. 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 and molecular orbital theory. The course includes gases, liquids, and solids, and problem-solving skills are emphasized through laboratory experiments.
Prerequisite: One year of High School Chemistry or CHE 101 and MAT 121.

CHE 112 General College Chemistry II w/Lab: GT-SC1
5 credits
Presents concepts in the areas of solution properties, chemical kinetics, chemical equilibrium, acid-base and ionic equilibrium, thermodynamics, electrochemistry, nuclear chemistry, and organic chemistry. This course emphasizes problem-solving skills and descriptive contents for these topics. Laboratory experiments demonstrate qualitative and quantitative analytical techniques.
Prerequisite: CHE 111.

CHE 211 Organic Chemistry I w/Lab
5 credits
Focuses on compounds associated with the element carbon. This course includes structure and reactions of aliphatic hydrocarbons, selected functional groups, and some unsaturated hydrocarbons. This course covers nomenclature of organic compounds, stereochemistry, reaction mechanisms, and an introduction to chemical synthesis.
Prerequisite: CHE 112.

CHE 212 Organic Chemistry II w/Lab
5 credits
Continues the investigation into the chemistry of carbon-based compounds, their reactions, and synthesis. This course includes the structure, reactivities, and synthesis of organic functional groups not covered in the first semester, as well as some analytical techniques. Explores functional groups including aromatics, hydrocarbons, aldehydes, ketones, amines, amides, esters, and carboxylic acids. An introduction to biochemical topics may be included if time permits
Prerequisite: CHE 211.

CIS – Computer Information Systems Courses

www.rrcc.edu/computer-technology

CIS 103 Learning Windows
1 credit
Provides foundational skills in Windows operating system for personal use. This course is designed for the more mature learner and/or those students who wish to advance at a slower pace. Credit does not apply toward a certificate or degree.

CIS 105 Learning Email and Internet
1 credit
Provides foundational skills in email and Internet applications for personal use. This course is designed for the more mature learner and/or the student who wishes to advance at a slower pace. Credit does not apply toward a certificate or degree.

CIS 106 Learning Word
1 credit
Provides foundational skills in Microsoft Word for personal use. This course is designed for the more mature learner and/or the student who wishes to advance at a slower pace. Credit does not apply toward a certificate or degree.

CIS 108 Learning Excel
1 credit
Provides foundational skills in Microsoft Excel for employment/personal development. This course is designed for the more mature learner and/or the student who wishes to advance at a slower pace. Credit does not apply toward a certificate or degree.

CIS 118 Introduction to PC Applications: MS Office
3 credits
Introduces basic computer terminology, file management, and PC system components. It provides an overview of the operating system and office application software, including word processing, spreadsheets, and databases. It includes the use of a Web browser to access the Internet.

CIS 128 Operating System: Windows
3 credits
Introduces the functions and capabilities of Microsoft Windows. Includes configuring and modifying the operating system environment.

CIS 130 Introduction to the Internet
1 credit
Enhances the student's knowledge of the Internet and its resources. Individuals learn terminology in dealing with the Internet. It includes privacy and copyright issues with information retrieved from the Internet. Students experience the use of e-commerce, multimedia, and email. It explores searching the Internet and credibility of information obtained with searches.
Prerequisite: A working knowledge of Windows.

CIS 131 Word Processing I: MS Word
1 credit
Gives the student an introductory working knowledge of word processing. Students will create, edit, format, save, and print documents, as well as use spell check, grammar check, and thesaurus features. Students will format text, paragraphs, and pages, change margins and use the find and replace feature, as well as create envelopes and labels.
Prerequisite: CIS 128 or a working knowledge of Windows.

CIS 132 Word Processing II: MS Word
1 credit
Increases the student's working knowledge of word processing. In this module, students will learn to use the merge function, create multiple-page reports using headers, footers, footnotes, endnotes, and page numbers, as well as create and format documents using columns and tables.
Prerequisite: CIS 131.

CIS 133 Word Processing III: MS Word
1 credit
Increases the student's working knowledge of word processing. In this module, students will learn to use borders, drawing, word art, and graphics. Students will create macros, charts, outlines, styles, fill-in forms, and will also sort and select records.
Prerequisite: CIS 132.

CIS 135 Complete PC Word Processing: MS Word
3 credits
Utilizes state-of-the-art software to explore a complete array of word processing skills. The skills needed to create, edit, format, and print documents are covered. Other topics include character, paragraph, and page formats, the use of the spelling checkers and thesaurus, hyphenation, tables, mail merge, document design, and graphics. This course is the equivalent of CIS 131, 132, and 133 taken separately.
Prerequisite: CIS 118 or CIS 128 or a working knowledge of Windows.

CIS 140 Microsoft Outlook
1 credit
Introduces the functions used in Microsoft Outlook, including email messages, calendaring, contacts, tasks, journals, and notes.

CIS 141 PC Databases I: MS Access
1 credit
Introduces the functions of a database. It includes skills such as file creation, searches, sorts, simple editing, and indexing.
Prerequisite: CIS 128 or a working knowledge of Windows.

CIS 142 PC Databases II: MS Access
1 credit
Continues to build on database application skills learned in CIS 141. Students will practice through hands-on exercise skills such as report writing and the creation of custom forms.
Prerequisite: CIS 141.

CIS 143 PC Databases III: MS Access
1 credit
Continues to build on database application skills learned in CIS 142. Course topics include creating a user interface, database, problem solving, and programming using macros to create automated user interfaces. Visual Basic for Applications is not covered.
Prerequisite: CIS 142.

CIS 145 Complete PC Database: MS Access
3 credits
Explores a complete array of database skills. It includes table, query, form, and report creation and modification. Other topics include application integration and automation of database tasks within the database. This course is the equivalent of CIS 141, 142, and 143 taken separately.
Prerequisite: CIS 118 or CIS 128 or a working knowledge of Windows.

CIS 151 PC Spreadsheets I: MS Excel
1 credit
Introduces the student to concepts and applications of an electronic spreadsheet. Topics include creating a worksheet, developing a professional looking worksheet, and creating charts.
Prerequisite: CIS 118 or CIS 128 or a working knowledge of Windows.

CIS 152 PC Spreadsheets II: MS Excel
1 credit
Continues to build on spreadsheet skills learned in CIS 151. Students will practice through hands-on exercises, skills such as design and report writing. Database features of filters, sorts, and special calculations are also covered. Other topics include working with lists, integrating with other Windows programs, and working with multiple worksheets and workbooks.
Prerequisite: CIS 151.

CIS 153 Advanced Spreadsheets: MS Excel
1 credit
Continues to build on spreadsheet skills learned in CIS 152. This course introduces the student to advanced concepts and applications of an electronic spreadsheet, the development and execution of macros to automate the spreadsheet, development of menu-driven macros, "what if" tables, advanced functions/commands for using a statistical database, and formatting.
Prerequisite: CIS 152.

CIS 155 PC Spreadsheet Concepts: MS Excel
3 credits
Exposes the student to a wide range of uses of the electronic spreadsheet with special emphasis on using it as a business tool. It includes fundamentals and terms, creating and saving workbooks, entering and using formulas, formatting, printing, working with multiple-page workbooks, creating charts, entering and using functions, managing lists, and creating simple macros. This course is the equivalent of CIS 151, 152, and 153 taken separately.
Prerequisite: CIS 118 or CIS 128 or a working knowledge of Windows.

CIS 165 Complete Presentation Graphics: MS PowerPoint
3 credits
Focuses on the development of presentations using graphs, charts, illustrations and, diagrams. Emphasis is on effective communication through computerized presentations. Covers features of the software and effective presentation techniques. Automated presentation with sound, video, and animation will also be covered.
Prerequisite: CIS 118 or CIS 128 or a working knowledge of Windows.

CIS 220 Fundamentals of UNIX
3 credits
Covers the structure and fundamentals of the UNIX operating system. Topics covered will include the files system and file processing, various utility programs, and shell, multi-user operation, text processing, and communications.
Prerequisites: CSC 119, equivalent experience, or permission of instructor.

CIS 222 UNIX Server Administration
3 credits
Provides students with knowledge and skills to configure, administer, and secure data, users, and services in a UNIX/Linux server environment.
Prerequisites: CIS 220, equivalent experience, or permission of instructor.

CIS 240 Database Design and Development
3 credits
Introduces the basic concepts of relational databases, data storage, and retrieval. It covers database design, data modeling, transaction processing, and introduces the Structured Query Language for databases.
Corequisite: CIS 243.

CIS 243 Introduction to Structured Query Language (SQL)
3 credits
Introduces students to Structured Query Language (SQL). Students learn to create database structures and store, retrieve, and manipulate data in a relational database. Students will create tables and views, use indexes, secure data, and develop stored procedures and triggers.
Prerequisite: CIS 240 or equivalent experience and/or permission of instructor.

CIS 252 Implement and Maintain SQL Server Database
3 credits
Provides students with the skills necessary to install and configure SQL Server, implement database mirroring, manage database snapshots, work with XML and flat files, manage replication, backup and restore a database, monitor and troubleshoot, and create and implement database objects.
Prerequisite: CIS 243, equivalent experience, or permission of instructor.

CIS 253 Develop a Microsoft Server SQL Database
3 credits
Provides students with the knowledge and skills to implement a Microsoft SQL Server database. The course focuses on teaching individuals how to use SQL Server product features and tools related to implementing a database.
Prerequisite: CIS 252, equivalent experience, or permission of instructor.

CIS 268 Systems Analysis and Design I
3 credits
Spring Only except Online
Introduces students to the materials, techniques, procedures and human interrelations involved in developing computer information systems. Topics include the systems approach, fact-gathering techniques, forms design, input/output, file design, file organization, various charting techniques, system audits and controls, project management, implementation, and evaluation.
Prerequisite: This course should be taken during the last semester of your certificate/degree program.

CIS 280 Internship
3-12 credits
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.

CIS 289 Capstone
3 credits
Spring Only
Allows students to complete computerized projects demonstrating their software and programming skills. Projects will be provided by industry and vary widely as to the time and skill required to successfully complete. Each student's specific outcomes will depend on the skills that they bring to the course, the type of project that they participate in, and the role they play on the project team.
Prerequisite: Last semester of your certificate/ degree program.

CMD – Communication Disorders Courses

www.rrcc.edu/communication

CMD 160 Introduction to Human Communication Disorders
3 credits
Surveys identifying characteristics, causes, diagnosis, and treatment of hearing disorders and speech-language problems, including stuttering, voice disorders, articulation/phonological disorders, child language disorders, and neurogenic disorders.

CMD 260 Introduction to Phonetics
2 credits
Introduces characteristics of American English speech sounds and the International Phonetic Alphabet symbols used to represent them. Normal phonological development is also covered.

CMD 265 Physiological and Biological Acoustics
2 credits
Introduces the physics of sound as it relates to speech and hearing, including the acoustic and physiologic information underlying the chain of events between speakers and listeners. This course includes linguistic organization, the physics of sound, speech production, sound measurement, acoustic characteristics of speech, and speech perception.
Prerequisite: College-level reading and math skills.

CMD 266 Normal Language Development
3 credits
Discusses the study of normal speech and language development and its relationship to other aspects of child development and childhood disabilities.

CMD 267 Anatomy and Physiology of the Speech and Hearing Mechanism
3 credits
Designed to introduce students to the systems, anatomical and functional, that enable us to speak and hear. This includes the respiration, phonation, resonance, articulation, and hearing systems. Within each functional system, the nervous, muscular (including ligament and cartilage), and skeletal involvement are discussed.
Prerequisite: CMD 160.

CNG – Computer Networking Courses

www.rrcc.edu/computer-technology

CNG 101 Networking Fundamentals
3 credits
Introduces network fundamentals using the OSI (Open Systems Interconnection) model and TCP/IP (Transmission Control Protocol/Internet Protocol) suite, fundamentals of Ethernet, IP addressing, and building simple LANs (Local Area Networks).

CNG 121 Computer Technician I: A+
4 credits
Introduces personal computer hardware to gain the skills and knowledge for a successful entry-level computer service technician. This course provides extensive hands-on work with computer systems. It includes PC setup and configuration, floppy and hard drive installation, and basic maintenance and troubleshooting. Successful completion prepares students for the core hardware service technician portion of the CompTIA A+ Certification Exam.

CNG 122 Computer Technician II: A+
4 credits
Focuses on operating systems as well as installation of modems, tape backups, CD-ROM drives, and SCSI subsystems. This course covers operating systems, Windows 9x, Windows NT and Windows 2000 installation, configuration, and upgrading. It includes laser printers and backup power systems. This course prepares students for the CompTIA A+ OS Technologies Exam.
Prerequisite: CNG 121.

CNG 124 Networking I: Network+
3 credits
Provides students with the knowledge necessary to understand, identify, and perform necessary tasks involved in supporting a network. This course 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.
Prerequisite: CNG 121, CNG 122.

CNG 125 Networking II: Network+
3 credits
Continues to provide students with the knowledge necessary to implement and support a network. This course 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: CNG 121, CNG 122 and CNG 124.

CNG 131 Principles of Information Assurance
3 credits
Provides students with the skills and knowledge required to survey key issues associated with protecting information assets, determine the levels of protection and response to security incidents, and design a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. Students will learn to inspect and protect information assets, detect and react to threats to information assets, and examine pre- and post-incident procedures, technical and managerial responses. Students will learn about information security planning and staffing function
Corequisite: CIS 132.

CNG 132 Network Security Fundamentals
3 credits
Delivers a comprehensive overview of network security, including general security concepts. Communication Security is studied, including remote access, email, 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: CIS 220, CNG 124, CNG 125, equivalent experience, or permission of instructor.
Corequisite: CIS 131.

CNG 133 Firewalls/Network Security
3 credits
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
Prerequisites: CNG 131, CNG 132, and CIS 220, equivalent experience, or permission of instructor.
Corequisite: CNG 136.

CNG 136 Guide to Information Technology Disaster Recovery
3 credits
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.
Prerequisites: CNG 131 and CNG 132, equivalent experience, or permission of instructor.
Corequisite: CNG 133.

CNG 211 Windows Configuration: WIN OS
3 credits
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 operating system in a variety of network operating system environments.

CNG 212 Configuring Windows Server
4 credits
Provides students with the knowledge and skills that are required to manage accounts and resources, maintain server resources, monitor server performance, and safeguard data in a Microsoft Windows Server environment.

CNG 213 Administering Windows Server
4 credits
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.
Prerequisites: CNG 212 or equivalent experience, or permission of instructor.

CNG 214 Advanced Server Administration
4 credits
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.
Prerequisites: CNG 213 or equivalent experience, or permission of instructor.

CNG 257 Network Defense and Counter Measures
3 credits
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.
Prerequisites: CNG 131, CNG 132, and CIS 222.

CNG 258 Digital Forensics
4 credits
Exposes the student to the field of digital Computer Forensics and investigation. Provides the student with methods to properly conduct a digital forensics investigation beginning with a discussion of ethics. Topics covered include fundamental concepts, history of computer forensics, file structures, data recovery techniques, computer forensic tools, and analysis.
Prerequisites: CNG 131, CNG 132, and CIS 222, equivalent experience, or permission of instructor.
Corequisite: CNG 257.

CNG 259 Enterprise Security
4 credits
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.
Prerequisites: CNG 131, CNG 132, and CNG 257, equivalent experience, or permission of instructor

CNG 260 Cisco Network Associate I
5 credits
(CCNA1: Networking Basics) is the first of the four courses leading to the Cisco Certified Network Associate (CCNA) certification. CCNA 1 introduces Cisco Networking Academy Program students to the networking field. The course focuses on network terminology and protocols, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards.

CNG 261 Cisco Network Associate II
5 credits
(CCNA2: Routers and Routing Basics) is the second of four CCNA courses leading to the Cisco Certified Network Associate (CCNA) certification. CCNA 2 focuses on initial router configuration, Cisco IOS software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Students will develop skills on how to configure a router, manage Cisco IOS Software, configure routing protocols, and create access lists controlling access to the router.
Prerequisite: CNG 260.

CNG 262 Cisco Network Associate III
5 credits
(CCNA3: Switching Basics and Intermediate Routing) is the third of four courses leading to the Cisco Certified Network Associate (CCNA) certification. The course focuses on advanced IP addressing techniques including Variable Length Subnet Masking (VLSM), Intermediate routing protocols (RIPv2), single-area OSPF, EIGRP, command-line interface configuration of switches, Ethernet switching, Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP).
Prerequisite: CNG 261.

CNG 263 Cisco Network Associate IV
5 credits
(CCNA4: WAN Technologies) is the last of four courses leading to the Cisco Certified Network Associate (CCNA) certification. The course focuses on advanced IP addressing techniques (Network Address Translation (NAT), Port Address Translation (PAT), and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, Network Management, and introduction to optical networking. In addition, students will prepare for taking the CCNA exam.
Prerequisite: CNG 262.

CNG 280 Internship
1-12 credits
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 Courses

www.rrcc.edu/communication

COM 105 Career Communication
3 credits
Develops skills needed in obtaining and keeping a job. It includes job searching, applications, resumes, interviews, and the dynamics of customer, peer, and managerial relationships. It emphasizes speaking, writing, listening, critical reading skills, and vocabulary development essential to the employment world.

COM 115 Public Speaking
3 credits
Combines the basic theory of communication with public speech performance skills. Emphasis is on speech preparation, organization, support, audience analysis, and delivery.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

COM 125 Interpersonal Communication
3 credits
Examines the communication involved in interpersonal relationships occurring in family, social, and career situations. Relevant concepts include self-concept, perception, listening, nonverbal communication, self-disclosure, and conflict.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

COM 126 Communication in Healthcare
3 credits
Familiarizes the student with interactive concerns in settings related to patient-client care. The course includes discussions of diverse cultures, client interaction, and family/caregiver issues. The student will also address the concerns of attitude, office politics, teamwork, self-initiative, and conflict management as specifically experienced in the patient as client setting.

COM 175 Special Topics
1-12 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

COM 185 Independent Study
1-12 credits
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

COM 202 Communication and Teamwork for Industry
3 credits
Explores the advantages and disadvantages of using teams as a valid method to promote learning, critical thinking, and problem solving skills for the manufacturing technician. The course focuses on the roles of design-team member, facilitator, and coach. It examines how teams really work while valuing individual differences. The course covers emotional intelligence, team dynamics, conflict resolution, and multi-rater assessment.

COM 205 Voice and Diction
3 credits
Studies the physiological production of the speaking voice and methods for improving the quality of the spoken word in general American speech.

COM 216 Principles of Speech Communication II
3 credits
Emphasizes the continued study of rhetorical theory and analysis as it relates to public speaking.
Prerequisite: COM 115.

COM 217 Group Communication
3 credits
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 credits
Explores the link between culture and communication. The course will develop and/or enhance communication skills and the abilities appropriate to a multicultural society. Emphasis will be on understanding diversity within and across cultures. Relevant concepts include perception, worldview context, ethics, language, and nonverbal communication.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

COM 225 Organizational Communication
3 credits
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 230 Argumentation and Debate
3 credits
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 or permission of the instructor.

COM 263 Conflict Resolution
1 credit
Focuses on handling conflict productively. Students gain insights into the roots of conflict and engage in skill practice in

mediating interpersonal conflicts. The emphasis is on conflict management.

COM 264 Negotiation
1 credit
Focuses on protecting your interests and those of others while preserving relationships. The course examines role playing and other dynamic techniques and incorporates negotiation skills for personal and professional situations.

COM 265 Effective Presentations
1 credit
Focuses on effective presentation skills used in professional settings, including conferences, briefings, training sessions, and sales presentations. The course emphasizes formats, strategies, and presentation tips and enables the student to develop and practice these skills.

COM 269 Leadership
1 credit
Emphasizes the essential skills and attributes of leadership. Through lectures, activities and readings, the students will understand the differences between leadership and management, how theory leads to practice, and the appropriate leadership style to use according to the situation.

COM 275 Special Topics
0.5-6 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

COM 285 Independent Study
0.5-6 credits
Meets the individual needs of students. Students will engage in intensive study or research under the direction of a qualified instructor.

CON - Construction Technology Courses

CON 105 Construction Technology
4 credits
Explores a variety of new software applications now available for the construction trade. Introduces computer applications such as CAD, scheduling, estimating, and accounting programs. Explores technology choices and compares them.

CON 130 Blueprint Reading
2 credits
Focuses on the techniques for reading and using blueprints and specifications with an emphasis placed on those drawings and types of information that are relevant to the building trades.

COS – Cosmetology Courses

www.rrcc.edu/warrentech

COS 103
Shampoo/Rinses/Conditioners I
1 credit
Introduces various types of scalp treatments and shampoos. Enables student to recognize and treat disorders of hair and scalp. Covers product knowledge and proper massage techniques to help control disorders and to cleanse the hair and scalp. Includes terminology dealing with hair structure, scalp, and hair disorders. Provides training in a lab or classroom setting.

COS 110 Introduction to Hair Coloring
2 credits
Provides theory pertaining to the law of color, theory of color, chemistry of color, product knowledge, and analysis of hair and scalp. Covers basic techniques and procedures for the application of hair coloring.

COS 111 Intermediate I: Hair Coloring
2 credits
Focuses on theory and practical application of color products, formulations of color, level and shades of color. Examines techniques in a specialized class or in a supervised salon setting.

COS 120 Introduction to Hair Cutting
2 credits
Introduction to the theory relevant to patron protection, angles, elevations, and the analysis of hair textures as related to hair cutting. Covers the proper use and care of hair cutting implements. Focuses on basic hair cutting techniques using all cutting implements. Disinfection, sanitation procedures as they relate to haircutting.

COS 121 Intermediate I: Hair Cutting
2 credits
Focuses on theory related to facial shapes, head, and body forms to determine the clients appropriate haircut. Incorporates practical applications of hair cutting techniques in specialized classes or in the supervised salon (clinical setting).

COS 130 Introduction to Hairstyling
2 credits
Combines theory with the practical application of roller placement, shaping, pincurls, finger waves, airforming iron curling, soft pressing, and hard pressing.

COS 131 Intermediate I: Hairstyling
2 credits
Focuses on the accepted methods of styling hair, air forming roller sets, finger waves, pin curls, braiding, and hair pressing.

COS 140 Intro to Chemical Texture
1 credit
Introduces a combination of theory and practice, focusing on the analysis of hair and scalp, proper equipment, and product knowledge. Includes basic techniques in permanent waving and chemical relaxing. Provides training in a classroom or lab setting on mannequins or live models.

COS 141 Intermediate I: Chemical Texture
1 credit
Emphasizes theory and practical application of permanent waves and chemical relaxers in specialized classes or a supervised salon setting. Enables the student to practice different wrapping techniques required by trend styles.

COS 150 Laws, Rules and Regulations
1 credit
Provides instruction on the laws, rules and regulations, and how they govern the cosmetology and barber industry. Discusses the effects these have on the student, licensed individual, salons, and school owners.

COS 160 Intro to Disinfection, Sanitation & Safety
2 credits
Introduces the various methods of disinfection, sanitation, and safety as used in the cosmetology industry. Includes classroom study of bacteriology and the terminology dealing with cosmetology.

COS 161 Intermediate I: Disinfection, Sanitation & Safety
1 credit
Focuses on the theory and daily practice of proper methods of disinfection, sanitation, and safety procedures as related to all phases of cosmetology. Covers terminology and training of disinfection, sanitation, and safety procedures. Also includes customer service in a supervised salon (clinical) setting or specialized class.

COS 203
Shampoo/Rinse/Conditioners II
1 credit
Provides theory and practical training in shampoos, rinses, and conditioners. Examines advanced techniques to prepare the student for employment. Includes preparation for the State Board Licensing Examination in shampoos, rinses, and conditioners.

COS 210 Intermediate II: Hair Coloring
2 credits
Provides continued instruction in the theory and practical application of color products, formulations of color, and level and shades of color. Enables students to practice techniques in a specialized class or in a supervised salon setting.

COS 211 Advanced Hair Coloring
2 credits
Provides continued instruction on advanced theory and practical techniques in hair coloring. Focuses on the recognition of color problems and color correction procedures. Covers advanced techniques and product knowledge to prepare the student for employment. Prepares the student for the State Board Licensing Examination pertaining to hair coloring.

COS 220 Intermediate II: Hair Cutting
2 credits
Provides continued instruction in the theory related to facial shapes, head, and body forms to determine the client's appropriate haircut. Incorporates practical applications of haircutting techniques.

COS 221 Advanced Hair Cutting
2 credits
Focuses on advanced cutting techniques using all the cutting tools. Emphasizes current fashion trends. Includes student preparation for the State Licensure examination.

COS 230 Intermediate II: Hair Styling
2 credits
Provides continued instruction on accepted methods of styling hair, air forming, roll set, finger waves, and hair pressing. Examines techniques in specialized classes or in a supervised salon setting.

COS 231 Advanced Hair Styling
1 credit
Focuses on theory and advanced techniques in all phases of hair styling to prepare the student for employment. Training is a combination of supervised salon (clinical) work and specialized classes. Includes student preparation for the State Board Licensing Examination relating to hairstyling.

COS 240 Intermediate II: Chemical Texture
1 credit
Provides continued instruction in the theory and practical application of permanent waves and chemical relaxers in specialized classes or a supervised salon setting. Enables students to practice different wrapping techniques required by trend styles.

COS 241 Advanced Chemical Texture
1 credit
Focuses on advanced techniques to prepare the student for employment and the changes in current industry standards. Instruction is provided in specialized classes or supervised salon (clinical) setting. Includes student preparation for the State Board Licensing Examination pertaining to permanent waves and chemical relaxers.

COS 250 Management, Ethics, Interpersonal Skills & Salesmanship
1 credit
Emphasizes the importance of salon management and the knowledge and skills necessary to build a successful business. Focuses on the importance of interpersonal skills and basic techniques in salesmanship and customer services. Integrates job readiness skills and professional ethics.

COS 260 Intermediate II: Disinfection, Sanitation & Safety
2 credits
Provides continued study of theory and practice of proper methods of sterilization, disinfection, sanitation, and safety procedures as related to all phases of the industry. Covers terminology and training of disinfection, sanitation, and safety procedures. The individual responsibility to provide a safe work environment is practiced.

COS 261 Advanced Disinfection, Sanitation & Safety
1 credit
Provides advanced training on decontamination and safety practices in a supervised salon and/or classroom setting. Examines advanced techniques that prepare the student for employment. Includes student preparation for the State Board Licensing Examination in decontamination and safety for all aspects of the industry. Study of OSHA requirements for schools and salon are done in a theory or practical setting.

COS 262 Advanced II: Disinfection, Sanitation & Safety
3 credits
Provides advanced training on decontamination and safety practices in a supervised salon and/or classroom setting. Examines advanced techniques that prepare the student for employment. Includes student preparation for the State Board Licensing Examination in decontamination and safety for all aspects of the industry. Study of OSHA requirements for schools and salon are done in a theory or practical setting. This course is the extra hours/credits required for the hairstylist program, per State Board of Colorado Barber/Cosmetology Board.

CRJ – Criminal Justice Courses

www.rrcc.edu/criminal-justice

CRJ 110 Introduction to Criminal Justice: GT-SS3
3 credits
Introduces a study of the agencies and processes involved in the criminal justice system: the legislature, the police, the prosecutor, the public defender, the courts, and corrections. It includes an analysis of the roles and problems of the criminal justice system in a democratic society, with an emphasis upon inter-component relations and checks and balances.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

CRJ 125 Policing Systems
3 credits
Examines the complexity and multidimensional aspects of the law enforcement role and career; law enforcement discretion; and law enforcement values and culture in modern America. It covers the role and functions of law enforcement in occupational, social, political, and organizational context.
Prerequisite: CRJ 110.

CRJ 127 Crime Scene Investigation
3 credits
Focuses on basic procedures 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.

CRJ 135 Judicial Function
3 credits
Examines the criminal process with an analysis of the major judicial decision makers, i.e., prosecutors, defense attorneys, judges, and the discretionary aspects of adjudication.
Prerequisite: CRJ 110.

CRJ 145 Correctional Process
3 credits
Focuses on the post-conviction corrections process; the development of a correctional philosophy, theory, and practice; a description of institutional operation, programming, and management; and community-based corrections, probation, and parole.
Prerequisite: CRJ 110.

CRJ 151 Domestic Violence
3 credits
Examines theories, issues, legal strategies, and intervention applicable to abuse in intimate relationships.
Prerequisites: CRJ 110 and CRJ 257.

CRJ 152 Sexual Assault
3 credits
Examines sexual assault, beginning with definitions and describing the degrees of sexual assault and the penalties and realities of punishment. It covers myths, statistics, services, treatment, and prevention. Both the rapist and the adolescent offender are profiled. The course emphasizes the pro-active approach with regard to prevention.
Prerequisites: CRJ 110 and CRJ 257.

CRJ 153 Violence Against Children
3 credits
Includes an in-depth study of physical, sexual, and emotional abuse and neglect of children. It focuses on identification and treatment of abusive families and victims of abuse and the response of the legal system, the community, and human service agencies.
Prerequisites: CRJ 110 and CRJ 257.

CRJ 190 Financial Investigation
3 credits
Introduces current perspectives dominant in the field of financial investigations. It includes concepts of law and evidence, sources of information, including financial institutions, business financial record keeping, tracing funds using a variety of methods, and interviewing as applied to detecting and resolving financial crimes. The course emphasizes theoretical principles and applications of financial investigative techniques.
Prerequisite: CRJ 110.

CRJ 205 Principles of Criminal Law
3 credits
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.

CRJ 209 Criminal Investigation I
3 credits
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 or permission from instructor

CRJ 210 Constitutional Law
3 credits
Focuses on the powers of government as they are allocated and defined by the United States Constitution. It includes intensive analysis of United States Supreme Court decisions.
Prerequisite: CRJ 110.

CRJ 211 Criminal Investigation II
3 credits
Builds on CRJ 209 with focus on follow-up investigation, including an examination of death in all its aspects.
Prerequisite: CRJ 110 or permission from the instructor

CRJ 212 Criminal Investigation III
3 credits
Focuses on an in-depth study of the principles of conducting a systematic interview and/or interrogation. Examines the psychological dynamics of persons falsifying information. Includes confessions, undercover operations, surveillance techniques, and survival skills unique to undercover operants.
Prerequisites: CRJ 110 or permission from the instructor

CRJ 220 Human Relations and Social Conflict
3 credits
Highlights the environmental, organizational, and socio-psychological dimensions of social control. It includes the study of individual attitudes, beliefs, and behavior involved in role conflicts, community relations, and conflict management in the social structure.
Prerequisite: CRJ 110.

CRJ 225 Crisis Intervention
3 credits
Provides information and application of crisis theories in working with diverse populations. It examines the interventionist role.
Prerequisites: CRJ 110 and CRJ 257.

CRJ 230 Criminology
3 credits
Examines the question of crime causation from legal, social, political, psychological, and theoretical perspectives. It covers the history and development of criminology.
Prerequisite: CRJ 110.

CRJ 231 Introduction to Forensic Science and Criminalistics
3 credits
Focuses on 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.

CRJ 235 Delinquent Behavior
3 credits
Focuses on the adolescent who violates social and legal norms and the consequences for the individual and society. Emphasized the social and psychological factors influencing individual delinquent patterns.
Prerequisites: CRJ 110.

CRJ 236 CRJ Research Methods
3 credits
Introduces and applies methods for criminal justice and criminology with an emphasis on the scientific method and the role of empirical inquiry into criminal justice and criminology. This course will include the study of methodologies of data collection and analysis; the logic of research; the role of theory; measurement, sampling, and research designs. Field research and the professional norms and ethics of criminal justice and criminology research will also be covered.
Prerequisite: CRJ 110.

CRJ 239 Managing Emergency Worker Stress
3 credits
Provides an understanding of trauma reaction and stress management for first line responders, i.e., police officers, victim advocates, paramedics, and firemen. It focuses on practical application of coping skills and stress management for first line responders.
Prerequisites: CRJ 110 and CRJ 257.

CRJ 257 Victimology
3 credits
Introduces students to the role the crime victim plays in the criminal justice system. The traditional response that a crime victim eceives from the system will be studied and the psychological, emotional, and financial impact these responses have on victimization will be analyzed.
Prerequisite: CRJ 110.

CRJ 268 Criminal Profiling
3 credits
Examines theories of crime causation with respect to crimes committed by the most violent offenders in society. Provides an analysis of the 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.
Prerequisites: CRJ 110 or permission from instructor

CRJ 275 Special Topics
1-6 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.
Prerequisite: Some topics may be restricted to criminal justice practitioners.

CRJ 280 Internship
1-6 credits
Provides placement in the criminal justice field to integrate theory with practice.
Prerequisite: Permission of internship and CRJ coordinators.

CRJ 285 Independent Study
1-6 credits
Meets the individual needs of students. Students will engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

CRJ 289 Capstone
1 credit
Provides a demonstrated culmination of learning within a given program of study.
Prerequisite: Permission of Instructor.

CSC – Computer Science Courses

www.rrcc.edu/computer-technology

CSC 119 Introduction to Programming: Language
3 credits
Emphasizes the design and implementation of structured and logically correct programs with good documentation. The course focuses on basic programming concepts, including numbering systems, control structures, modularization, and data processing. A structured programming language will be used to implement program designs.
Prerequisite: CIS 128, equivalent experience, or permission of instructor.

CSC 126 Game Design and Development
3 credits
Combines problem-solving techniques with computer game design and implementation to introduce students to basic gaming and computer science concepts. Students will design, implement, and test computer games using software that allows for basic game creation through a wide variety of game creation tools; no prior programming experience is required.

CSC 154 Visual Basic.net Programming
3 credits
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

CSC 160 Computer Science I: C++
4 credits
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.
Prerequisite: MAT 121, CSC 119, equivalent experience, or permission of instructor.

CSC 161 Computer Science II: C++
4 credits
Continues the structured algorithm development and problem-solving techniques begun in Computer Science I. Students will gain experience in the use of data structures and design of larger software projects. Intensive computer laboratory experience is required. Object-oriented techniques will also be emphasized.
Prerequisite: CSC 160 or equivalent experience or permission of instructor.

CSC 165 Discrete Structures
3 credits
Prepares students for a fundamental understanding of computing and computer science. Topics covered will include set theory, Boolean algebra, relations, functions, graph theory, and techniques for formal reasoning.
Prerequisite: CSC 160 or equivalent experience or permission of instructor.

CSC 200 Game Programming I
3 credits
Introduces the student to game programming techniques and how to use a game library. Skills developed include programming input devices, 2D game theory and design, bitmap handling, sprite programming, and threads.

CSC 217 Advanced Python Programming
3 credits
Continues program development and problem-solving not covered in CSC119 Introduction to Programming. Students are able to program larger programs in the areas of advanced expression, iterator objects, parsing, and GUI applications.
Prerequisite: CSC 119.

CSC 225 Computer Architecture/Assembly Language Programming
4 credits
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.
Prerequisite: CSC 160 or equivalent experience or permission of instructor.

CSC 228 Advanced 3D Game Programming
3 credits
Allows you to engage in advanced 3D Game Programming techniques by implementing a 3D Game. Topics include problem solving, 3D objects, file I/O, managing game states, advanced collision detection, physics basics and Artificial Intelligence (AI).
Prerequisites: CSC 217, or equivalent experience, or permission of instructor.

CSC 236 C# Programming
4 credits
Introduces the C# programming language and covers all syntactical components of the language including arrays, structures, functions, and classes. Content will focus on writing clear, properly structured, and well-documented programs using C# and object oriented methodology.
Prerequisite: CSC 119.

CSC 237 Advanced C# Programming
4 credits
Continues the structured algorithm development and problem-solving techniques begun in CSC 236. Introduces more advanced features of the C# programming language. Explores the relationships between C# and the .NET Framework and introduces important .NET services. Emphasizes collections, copying and comparing objects, and how the .NET framework interfaces to XML. Focuses on writing clear, properly structured, and well-documented programs using C# and object-oriented methodology.
Prerequisite: CSC 236, equivalent experience, or permission of instructor.

CSC 240 Java Programming
3 credits
Introduces the Java programming language and covers basic graphics, threads, events/procedures, user interface, and libraries. Students will write and execute a variety of Java programs. Java Applets will be incorporated into HTML pages, allowing for the use of real-time sound, graphics, animation, and user interaction.
Prerequisite: CSC 160, equivalent experience, or permission of instructor.

CSC 241 Advanced Java Programming
3 credits
Continues the study of the Java programming language. Covers advanced programming topics including multi-threading, network/Internet programming, database programming, and JavaBeans. Enables the student to write advanced, large, and complex programs.
Prerequisite: CSC 240, equivalent experience, or permission of instructor.

CSC 246 Mobile App Development: (iOS)
3 credits
Teaches 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.
Prerequisite: CSC 237, or equivalent experience and/or permission of instructor.

CSC 250 Develop Data Access with MS .NET Framework
3 credits
Teaches students to implement data access and data binding within their Web and/or Windows client applications. Students will learn to design and develop better performing data access code by using the ActiveX Data Objects (ADO) .NET Entity Framework, Language Integrated Query (LINQ), and Windows Communication Foundation (WCF) Data Services.
Prerequisite: CSC 237, or equivalent experience, or permission of instructor.

CSC 253 MS Web Development Fundamentals: (ASP.NET)
3 credits
Teaches programmers and beginning Web developers the fundamentals of Web application site implementation by using Microsoft ASP.NET and Microsoft Visual Basic .NET. This course focuses on using the Microsoft Visual Studio .NET environment and the Microsoft .NET Platform to create an ASP.NET Web application that delivers dynamic content to a website.
Prerequisite: CSC 237.

CSC 262 MS Windows Development Fundamentals: (C#)
3 credits
Provides C# programmers with the skills required to create Windows Forms applications by using the .NET Framework. The course will cover the major topics for Windows client application programming on the .NET Framework. These topics include Windows Forms, GDI+, simple data access, interoperating with unmanaged code, threading and asynchronous programming issues, simple remoting, Web access, Web Services consumption, debugging, security, and deployment issues for desktop applications.
Prerequisites: CSC 237, or equivalent experience, or permission of instructor.

CSC 280 Internship
1-12 credits
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.

CUA – Culinary Arts Courses

www.rrcc.edu/culinary

CUA 101 Food Safety and Sanitation
2 credits
Covers the basic rules of sanitation, food-borne illnesses, safe food temperatures, safe food-handling techniques, the HACCP Program, pest control procedures, and local/state health rules and regulations for food service operations. At the completion of the course, students will take a nationally recognized test from the Education Foundation of the National Restaurant Association. If passed with a score of 75% or more, the student will receive a Certificate of Completion from the Education Foundation.

CUA 105 Food Service Concepts and Management Skills
3 credits
Demonstrates the use of management skills training in the food service industry by use of student interaction research, and also demonstrates the various styles of menu development. The course includes basic responsibility for food service personnel in all kitchen positions, with emphasis on advertising vs. publicity, job analysis, description specifications, and duty list as related to the recruiting and hiring process. It covers application, interview techniques, training, and hiring processes. Incorporates preparation of menus for different styles of food service establishments.

CUA 121 Introduction to Food Production Principles and Practices
1 credit
Provides students with the fundamental principles of commercial kitchen operations, 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.

CUA 122 Introduction to Stocks, Soups, and Sauces
1 credit
Focuses on the fundamental principles of stocks, soups, sauces, gravies, and thickening agents. It enables students to produce a variety of these products in the commercial kitchen, incorporating practice in the use of tools, utensils, equipment, and application of safety and sanitation practices. Students will apply pre-preparation skills and efficient organization of work techniques.

CUA 123 Introduction to Garde Manger
1 credit
Provides fundamental principles of cold food and non-alcoholic beverage preparation and production in a commercial kitchen. The course enables students to produce a variety of cold food and non-alcoholic beverage products incorporating practice in the use of tools, utensils, equipment, and application of safety and sanitation methods. It introduces basic cold food decorative work, such as fruit and vegetable garnishes and carvings, terrines, and hors d'oeuvres. This course also focuses on pre-preparation procedures and efficient organization of work techniques.

CUA 124 Vegetable Preparation and Breakfast Cookery
1 credit
Introduces students to vegetable preparation and breakfast cookery in a commercial kitchen. The course focuses on the significance of a variety of breakfast items and the preparation of vegetable items using a variety of cooking methods. It emphasizes the effects of seasonings and cooking methods on vegetable products. Students will prepare, plate, and garnish breakfast orders similar to those ordered in restaurants, with egg cookery and dairy products emphasized.

CUA 127 Soups, Sauces, and Consommés
3 credits
Covers the preparation of the five mother sauces and small-derived sauces. The course enables students to prepare stocks, consommés, emulsified sauces, clear soups, pureed soups, chowders, national, and cream soups in a commercial kitchen. It introduces gravies and sauce garnishing.

CUA 131 Starches, Pastas, Casseroles, and Grain Products
1 credit
Provides the basics of preparing and/or cooking potatoes, starches, legumes, and pastas. The course enables students to prepare and cook a variety of casseroles

and grain products using a commercial kitchen for the preparation area. It allows students to apply pre-preparation skills and efficient organization of work techniques.

CUA 132 Center of the Plate: Meat
1 credit
Provides students with the basics of meat handling, including principles used for selecting meat products, their basic cuts, and cooking methods. It focuses on a variety of meat products in a commercial kitchen.

CUA 133 Center of the Plate: Poultry, Fish, and Seafood
1 credit
Provides the basics of handling poultry, fish, and seafood, including principles used for selection and the basic forms these products have, as well as the methods of cooking them. It focuses on preparation of poultry, fish, and seafood products in a commercial kitchen and incorporates practice in the use of these principles and methods. The course covers pre-preparation skills and efficient organization of work techniques.

CUA 141 Baking: Principles and Ingredients
1 credit
Provides students with the fundamentals of baking terminology, principles of baking, and the characteristics and functions of the main ingredients used in bakery production. It orients students to commercial equipment, tools, and utensils used in baking.

CUA 142 Basic Yeast-Raised Products and Quick Breads
1 credit
Provides students with the fundamentals of basic yeast-raised production and quick breads. The course enables students to produce white bread, rolls, variety grain breads, specialty breads, sweet yeast-raised products, and quickbreads in a commercial kitchen.

CUA 143 Baking: Cakes, Pies, Pastries, and Cookies
1 credit
Provides students with the fundamentals of basic cake, pie, pastry, and cookie production. The course enables students to produce a variety of cakes, pies, pastries, cookies, and assorted dessert items in a commercial kitchen.

CUA 144 Baking Applications
1 credit
Serves as the practical vehicle for students to apply basic baking principles and practices to the production of yeast breads, quick breads, cakes, icings, pastries, pies, and cookies. It focuses on the preparation of a variety of baked goods in a commercial kitchen according to a baking production schedule. The course enables students to demonstrate comprehensive knowledge of products as well as speed and efficiency in the production of quality baked goods.

CUA 150 Baking: Decorating and Presentation
3 credits
Examines the preparation and production of cakes, pastries, different styles of decorating, commercial equipment, and types of products used for decoration. It covers plate painting, national products, and designing show pieces.

CUA 151 Baking: Intermediate Bread Preparation
3 credits
Focuses on preparation of types of bread products, including French, rye, wheat, brioche, and croissants. The course enables students to demonstrate different styles of presentation, including rolling, braiding, cloverleaf, parker-house, single knot, butter-flake, comb, and wreath shape. It examines production steps, ingredients, and commercial equipment that apply to course training.

CUA 152 Individual Fancy Dessert Production
3 credits
Focuses on the preparation and decoration of individual dessert items in a commercial kitchen. It covers the preparation of cream horns, napoleons, éclairs, cream puffs, marzipan fruits, marzipan sculptures, tarts, flambéd desserts, international desserts, pastry shells, pulled sugar, spun sugar, and individual chocolate decorations. Students will research and locate dessert menus/recipes to be used in lab production.

CUA 156 Nutrition for the Hospitality Professional
3 credits
Provides students with the fundamentals of human nutrition. It focuses on the nutritional needs of humans throughout their life cycle as well as those with special dietary needs. Students may take a nationally recognized test from the Educational Foundation of the National Restaurant Association.

CUA 157 Menu Planning
3 credits
Introduces students to planning menus and integrating them into foodservice operations. Equips the student with a working knowledge of the function, mechanics, and results achieved by the menu, providing an overview of the existing and growing food service industry as seen through the menu.

CUA 180 Culinary Arts Internship I
5 credits
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.

CUA 182 Culinary Arts Internship II
5 credits
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.

CUA 210 Advanced Cuisine and Garde Manger
4 credits
Focuses on the preparation of food display items for buffets and banquets, such as fancy garnishes, fruit and vegetable carvings, canapés, and party trays. It includes patés, galantines, terrines, and choud froid items. It also incorporates the creation of food artistry show pieces, meeting competition guidelines developed by the American Culinary Federation, and covers the preparation of a regional, ethnic, or cultural culinary presentation based upon personal research.

CUA 242 Intermediate Garde Manger
1 credit
Focuses on producing a variety of garde manger items in the kitchen. It incorporates practice in the use of tools, utensils, and equipment and the application of safety and sanitation practices. This course emphasizes preparation skills and efficient organization of work skills.

CUA 255 Supervision in the Hospitality Industry
3 credits
Provides the current/future foodservice operator, manager, or supervisor with a solid foundation for developing communication skills, planning and decision-making skills, and skills for creating a goal-oriented environment, using management principles in the selection, training, evaluating, delegating, motivating, rewarding, and disciplining of employees. It stresses skills for success through people development.

CUA 261 Cost Controls
Credits: 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 281 Culinary Arts Internship III
5 credits
Places students in an actual work situation where they will 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 is determined by the number of credits the course carries.

CWB – Computer Web Courses

www.rrcc.edu/computer-technology

CWB 110 Complete Web Authoring: HTML
3 credits
Explores a complete set of Web authoring skills using HTML (Hypertext Markup Language). Topics include links, backgrounds, controlling text and graphic placement, tables, image maps, frames, forms, and CSS (Cascading Style Sheets).
Prerequisites: CIS 130 and CIS 128 or a working knowledge of Windows.
Corequisites: CWB 130.

CWB 130 Complete Web Editing Tools: Dreamweaver
3 credits
Explores the complete set of Web editing tools provided by the software specified. Topics include links, backgrounds, controlling text and graphic placement, tables, image maps, frames, and forms.
Prerequisites: CIS 130 and CIS 128 or a working knowledge of Windows.
Corequisites: CWB 110.

CWB 164 XML
3 credits
Designed to teach students how to create a well formed XML document, understand how DTDs impose structure, and how Style Sheets transform an XML document. Among the many topics that will be discussed are processing XML with application code, working with the DOM, recognizing common industry parsers, and the integration of XML into an infrastructure.
Prerequisite: CWB 110 or a working knowledge of HTML, including CSS.

CWB 204 Cascading Style Sheets
3 credits
Explores the use of the Cascading Style Sheets (CSS) style language as a means of separating content and design on Web pages. The class is intended for students having a working knowledge of XHTML and who are interested in learning to use style sheets to control display properties on a website or other application using XHTML. CSS or Cascading Style Sheets, is a language which is used to apply presentational and layout formatting to Web pages. This effectively separates the page content from the page design and is the new standard for the Web. Eventually, all presentational HTML tags will be deprecated in favor of CSS style sheets and the old tags won't work. Additionally, this improves cross-device application of Web content because the style sheet for a type of device can be applied specifically to it.
Prerequisites: CWB 110

CWB 205 Complete Web Scripting: JavaScript
3 credits
Explores the complete set of Web scripting skills needed to develop Web Applications. Topics include variables, data types, arithmetic operations, logical operations, looping, creating and reading cookies, creating an array, displacing data based on a cookie value, setting flags, working with frames, creating objects in a hidden frame, using the History Object, writing HTML to another window, determining browser, and directing keystrokes.
Prerequisites: CWB 110 and one programming language (CSC 154 or higher) or permission of instructor.

CWB 208 Web Application Development: PHP
3 credits
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 learn key application standards, such as source and revision control, coding standards, code optimization, and data integrity.
Prerequisite: CSC 160, CIS 243, and CWB 110, or permission of instructor.

CWB 209 Web Content Management Systems
3 credits
Explores the use of open source Content Management Systems to simplify the creation and maintenance of websites.
Prerequisite: CSC 160, CIS 243, and CWB 110, or permission of instructor.

CWB 280 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.

DAN – Dance Courses

www.rrcc.edu/dance

DAN 105 Hip Hop I
1 credit
Consists of basic traditional jazz and ballet movements. Warm-up exercises will include body toning and stretching. Students learn diagonal step combinations leading to hip-hop dance routines.

DAN 106 Hip Hop II
1 credit
Includes traditional jazz, ballet, and street dancing techniques as well as warm-up exercises, such as body toning and stretching. Students learn diagonal and center step combinations leading to hip-hop dance routines.
Prerequisite: DAN 105 or permission of instructor.

DAN 111 Modern Dance I
1 credit
Introduces basic concepts and skills of modern dance and focuses on technique work to increase strength, flexibility, endurance, coordination, rhythm, and spatial awareness. The course also explores dance as a tool for communication and dance as an art form.

DAN 112 Modern Dance II
2 credits
Includes a more in-depth study of modern dance concepts as well as more specific techniques of modern dance choreography. It focuses on more advanced technique work with more emphasis on improvisation.
Prerequisite: DAN 111 or permission of instructor.

DAN 113 Modern Dance III
2 Credits
Builds on the skills learned in DAN 112 with more advanced technique work. Enables students to increase knowledge of specific modern choreographers' techniques and develop more experience with movement improvisation.
Prerequisites: DAN 111, DAN 112.

DAN 114 Modern Dance IV
2 credits
Teaches a variety of modern dance techniques and experiments with movement styles. Attention is placed on

the performance elements of dance technique. This intermediate/advanced modern dance class is designed to challenge a dance student.
Prerequisite: DAN 113 or permission of instructor.

DAN 115 Country Swing I
1 credit
Includes many styles and various combinations of steps for Western dance music. Will also teach the students how to convert combinations of others dances of traditional and fad as they become popular.

DAN 116 Country Swing II
1 credit
Teaches advanced steps and dancing skills, which will enable to Student to enjoy the art of dancing for leisure time activity.
Prerequisite: DAN 115 or permission of instructor.

DAN 121 Jazz I
1 credit
Introduces the basic techniques and vocabulary of jazz dance and the basic elements of dance. The course focuses on movement-oriented dance, comprised of warm-up exercises, center combinations, traveling combinations, and cool down. May be repeated for a total of three credits.

DAN 122 Jazz II
2 credits
Continues Jazz I with an increased knowledge of jazz dance. The course enables students to work at an intermediate level with a basic understanding of body alignment, balance, and musicality.
Prerequisite: DAN 121 or permission of instructor.

DAN 123 Jazz III
2 Credits
Builds on skills learned in DAN 122 and incorporates work at an intermediate/advanced level. Expands on jazz dance technique through more challenging movement combinations. Requires knowledge of the learned basics of dance.
Prerequisites: DAN 121, DAN 122 or permission of instructor.

DAN 124 Jazz IV
2 credits
Builds on skills learned in DAN 123 and incorporates work at a more advanced level. Emphasizes more challenging movement combinations and performance techniques.
Prerequisites: DAN 121, DAN 122, DAN 123 or permission of instructor.

DAN 125 History of Dance I: GT-AH1
3 credits
Introduces the history of dance as a theatre or performing art. Examines dance from Classical Greece through the Renaissance, including court and classical ballet, to modern dance with African and Caribbean influences.
Prerequisite: ENG 090 or CCR 092 or CCR 094, (grade C or higher) or equivalent placement scores.

DAN 131 Ballet I
1 credit
Introduces the basic techniques of ballet, which are built upon knowledge of ballet terminology, fundamental exercises, and the basic elements of dance. It focuses on movement-oriented dance, comprised of stretching, barre warm-up exercises, simple terre-à-terre, jumping steps, and basic extended positions.

DAN 132 Ballet II
2 credits
Continues Ballet I and emphasizes ballet terminology, fundamental exercises, and the basic elements of dance. It focuses on an intermediate level within the basic structure of the ballet class.
Prerequisite: DAN 131 or permission of instructor.

DAN 133 Ballet III
1 credit
Builds on Ballet II at an intermediate/advanced level. Continues learning within the basic structure of a ballet class while increasing the level of skills through more experience with challenging movement combinations.
Prerequisites: DAN 131, DAN 132 or permission of instructor.

DAN 134 Ballet IV
2 credits
Consists of traditional and contemporary ballet technique with focus on correct body alignment and kinesiology for an increased physical performance. This is not a pointe class.
Prerequisites: DAN 131, DAN 132, DAN 133 or permission of instructor.

DAN 141 Ballroom Dance I
1 credit
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. A partner is not required for this course.

DAN 142 Ballroom Dance II
1 credit
Continues Dance 141, with focus on regional dances, customs, and rhythms. A partner is not required for this course.
Prerequisite: DAN 141 or permission of instructor.

DAN 143 Tap I
1 credit
Introduces basic tap dance movements and techniques. The shuffle, ball change, brush, flap heel drop, stomp, and stamp steps are covered.

DAN 144 Tap II
1 credit
Continues with the concepts introduced in Tap I, including more advanced versions of time steps, drawbacks, and bomber shays. Introduces wings and syncopated pull-backs. Focuses on intricate rhythm patterns.
Prerequisite: DAN 143 or permission of instructor.

DAN 150 Dance Appreciation
3 credits
Allows the student to discover, analyze, and evaluate the components of dance; including but not limited to music, choreography, dance styles, staging, history, criticism, and theory.

DAN 151 Belly Dance I
1 credit
Presents belly dance - the oldest dance form known to humankind - as a celebration of life. The course emphasizes developing balance and enables students to perform a belly dance and learn the history of belly dance and costuming techniques.

DAN 152 Belly Dance II
1 credit
Continues DAN 151, with emphasis on coordination and balance and additional techniques. It includes costume design.
Prerequisite: DAN 151 or permission of instructor.

DAN 175 Special topics
1-3 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

DAN 211 Dance Composition
3 credits
Focuses on principles of choreography and development of individual expressive style.
Prerequisites: DAN 111, DAN 121, DAN 131 or permission of instructor.

DAN 221 Dance Performance I
2 credits
Enables students to rehearse and perform dances for community concerts after

selection through audition. Covers warm-up/advanced technique, rehearsals, and cool down in a dance company atmosphere. Focuses on choreography for original ballet, modern dance, and jazz dance works.
Prerequisites: DAN 111, DAN 121, DAN 131 or permission of instructor.

DAN 222 Dance Performance II
2 credits
Continues Dance Performance I class, offering more opportunities for students to perform in different settings.
Prerequisite: DAN 221 or permission of instructor.

DAN 226 Pointe I
1 credit
Emphasizes elementary pointe technique. Most work will be done at the barre stressing the muscular development of the foot, which is necessary before more advanced work can be undertaken.

DAN 227 Pointe II
1 credit
Continues DAN 226 Pointe I, with emphasis on barre work to strengthen the foot and ankle. Students will gain knowledge and skill leading to the intermediate level.

DAN 251 Belly Dance III
1 credit
Continues DAN 152 Belly Dance II, with emphasis on coordination, balance and additional techniques. Includes costume design, fitness, and the emphasis of learning advanced dance techniques to perform professionally.

DAN 275 Special Topics
1-6 credits
Provides students with a vehicle for in-depth exploration of special topics of interest.

DAN 285 Independent Study
1-6 credits
Meets the individual needs of students. Students engage in intensive study or research under the direction of a qualified instructor.

DEA - Dental Assisting Courses

www.rrcc.edu/warrentech

DEA 102 Principles of Clinical Practice
3 credits
Includes techniques used in four-handed dentistry, instrument identification, and armamentarium for tray set-ups. Covers sterilization and aseptic procedures.

DEA 104 Specialties in Dentistry
2 credits
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.

DEA 120 Introduction to Dental Practices
1 credit
Includes roles and responsibilities of the dental health team; educational background for the various specialties, including general practitioner, hygienist, and dental assistant; history; legal implications; ethical responsibilities; and the role of professional organizations.

DEA 121 Dental Science I
3 credits
Includes fundamentals of the oral structures as they apply to oral histology, embryology, morphology, pathology, dental anatomy, and dental charting.

DEA 122 Dental Science II
3 credits
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.

DEA 123 Dental Materials I
3 credits
Includes fundamentals of dental materials as they apply to clinical and laboratory applications.

DEA 125 Dental Radiography
3 credits
Focuses on the science of radiography, the application of radiographic techniques, and aseptic techniques.

DEA 126 Infection Control
3 credits
Includes basic information concerning infection and disease transmission in the dental office. Emphasizes knowledge of microorganisms, with an emphasis on aseptic techniques, sterilization, and hazardous communication management.

DEA 131 Advanced Dental Radiography
3 credits
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 eighteen years of age.

DEA 132 Medical Emergencies in the Dental Office
3 credits
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 credits
Includes techniques in preventive dentistry, with an emphasis on fluoride application and oral home-care instruction. Includes nutrition as it applies to dental health and diet counseling. Covers techniques for coronal polishing.

DEA 175 Special Topics
1-12 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

DEA 176 Special Topics
1-12 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

DEA 181 Clinical Internship I
0.25-6 credits
Includes the opportunity for clinical application of dental assisting techniques in a dental office or clinical setting as part of the American Dental Association's requirement of 300 clinical internship hours.

DEA 275 Special Topics
1-12 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

DEA 276 Special Topics
1-12 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

DMS – Diagnostic Medical Sonography Courses

www.rrcc.edu/sonography
Students must be accepted into the Sonography Program to take any DMS course other than DMS 101 or RTE 255. Please visit the Sonography website for information regarding the application and admission process.

DMS 101 Introduction to Sonography
2 credits
Provides an overview of sonography for students interested in the Diagnostic Medical Sonography program with an introduction to pulse-echo imaging, general sonography, cardiac sonography, vascular technology and typical career opportunities.
Program prerequisite
Prerequisite: A grade of C or higher in ENG 121 and MAT 055 or placement scores that indicates college reading and math ability.

DMS 201 Survey of General Sonography
2 credits
Provides an overview of general sonography emphasizing normal abdomen, superficial structures, female pelvis and obstetrical ultrasound including common abnormalities and typical career opportunities.

DMS 202 Neurosonology
2 credits
Introduces students to gross anatomy, sectional anatomy, and pathology of the brain and spinal cord in addition to the sonographic appearances of normal and abnormal structures.

DMS 203 Cerebrovascular Sonography
2 credits
Provides an in-depth study of cerebrovascular disease and the ultrasonic evaluation of it. Students learn how to perform a complete B-mode and Doppler ultrasonic examination using all current industry standards. Transcranial Doppler techniques will also be presented. Pathological development and pathophysiology will be described. This course will also review techniques for patient assessment, obtaining patient histories, evaluating and correlating patient symptoms with diagnostic findings. Surgical and non-surgical corrective techniques will be discussed. Students will be introduced to correlating ultrasound test results with angiography, computed tomography, nuclear medicine, vascular procedures, and magnetic resonance imaging.

DMS 204 Venous Sonography
2 credits
Provides students with an in-depth study of the evaluation of peripheral venous disease using duplex ultrasound and plethysmographic techniques. Students learn to evaluate for venous thrombosis and insufficiency. Superficial venous mapping will be demonstrated. Students review techniques for evaluating the presence of venous disease. Students learn pathological mechanism and risk factors for venous disease. Surgical and non-surgical corrective procedures will be discussed. Correlation with other vascular procedures will be demonstrated.

DMS 205 Small Parts Ultrasound
2 credits
Teaches specific knowledge of anatomy of the breast, thyroid, scrotum, prostate, and the surrounding structures. The ability to identify pathology or to locate abnormalities is also an integral part of the class.

DMS 206 Vascular Ultrasound
2 credits
Covers basic positioning and scanning protocol of the vascular system. Review of the anatomy, hemodynamics, and terminology unique to the vascular system, with emphasis on the external carotid system, the upper and lower venous and arterial systems, and the abdominal vasculature will be included.

DMS 207 Advanced Obstetric Sonography
2 credits
Introduces students to the practice and concepts of advanced/high-risk obstetrical sonography. Students will study genetics and genetic testing, maternal and fetal conditions, fetal testing and interventions, and perinatal screening.

DMS 208 Survey of Echocardiography
2 credits
Provides an overview of echocardiography, emphasizing normal anatomy, including common abnormalities and typical career opportunities.

DMS 221 OB/GYN Ultrasound I
2 credits
Provides a systematic study of embryology to include development of the major organ systems with correlation to sonographic imaging at all stages of embryologic, fetal development and the surrounding environment. Students will master the foundations of obstetric and gynecologic sonography.

DMS 222 OB/GYN Ultrasound II
2 credits
Covers a detailed study of the high-risk pregnancy and the use of ultrasound in detection of fetal abnormalities in organ systems to include: neural, musculoskeletal, gastrointestinal, heart, multiple pregnancy. Maternal factors such as infertility, disease, and teratogens are also covered.

DMS 225 Fetal Echocardiography
2 credits
Provides an overview of fetal echocardiography, including fetal cardiac anatomy, physiology, normal fetal heart, and the abnormal fetal heart to, include congenital anomalies and an overview of scanning techniques.

DMS 231 Abdominal Ultrasound I
2 credits
Provides a systematic study of the abdomen to include the function and development of the major organ systems with correlation to sonographic imaging and the surrounding environment. Students will master the foundations of cross-sectional anatomy and abdominal sonography.

DMS 232 Abdominal Ultrasound II
2 credits
Provides a systematic study of the gastrointestinal tract, pediatric abdomen, neonatal brain, and transplanted organs. Students review the necessary sterile technique preceding invasive and intraoperative procedures and learn the applications of contrast agents in ultrasound. Other imaging techniques will be discussed, as well as the principles guiding the field of sonography. A mock registry examination will prepare the student for writing the national registry examination.

DMS 235 Pediatric Echocardiography
2 credits
Provides an overview of pediatric echocardiography, including cardiac anatomy, physiology, normal pediatric heart, and the abnormal pediatric heart, to include congenital anomalies and an overview of scanning techniques using the ASE guidelines.

DMS 241 Ultrasound Physics I
2 credits
Provides theoretical and practical approaches to understanding ultrasound physics fundamentals. Students learn the ergonomics of proper scanning, cart, chair, and room setup to aid in the prevention of musculoskeletal injury seen in many sonographers with improper technique.

DMS 242 Ultrasound Physics II
2 credits
Covers a detailed study of ultrasound physics and the application within the clinical setting. Manipulation of technique controls, basic mathematical concepts, various Doppler modalities, equipment artifacts, QC/QA procedures, 3D fundamentals, and bioeffects are covered.

DMS 244 Ultrasound Scanning Lab
6 credits
Prepares the sonography student for ultrasound internship with an emphasis on applied instrumentation, ergonomics, and image optimization.

DMS 245 Vascular Ultrasound Scan Lab
3 credits
Prepares the vascular sonography student for an ultrasound internship with an emphasis on arterial and venous scanning. Ergonomics, applied instrumentation, image optimization, and history for vascular scans integration will be covered as well.

DMS 246 Adult Echocardiography Scan Lab
3 credits
Prepares the adult echocardiography student for ultrasound internship with an emphasis on cardiac ultrasound scanning. Ergonomics, applied instrumentation, image optimization, and history for cardiac integration will be covered as well.

DMS 251 Cardiovascular Anatomy and Physiology
2 credits
Equips students with an understanding of the anatomy and physiology of the circulatory system. Students learn the anatomy of the veins and arteries of the human body from the great vessels to the microscopic structures at the capillary level. Students study the physiology of the circulatory system, including the effects of disease processes.

DMS 252 Abdominal Vascular Sonography
2 credits
Teaches students how to perform duplex exams of the renal, mesenteric, aorta, and iliac arteries, as well as the inferior vena cava, iliac, hepatic, and portal veins. Students identify risk factors and describe pathogenic mechanisms of these vessels. Surgical and interventional techniques will be discussed. Post interventional ultrasonic evaluation of these procedures will also be discussed and demonstrated. Correlation with other diagnostic procedures will be demonstrated.

DMS 255 Adult Echocardiography I
2 credits
Introduces the student to the field of echocardiography, to include echocardiographic anatomy, physiology, scanning technique with an emphasis on 2-D, M-mode, and Doppler imaging following ASE guidelines.

DMS 256 Adult Echocardiography II
2 credits
Expands echocardiographic imaging techniques with an emphasis on stress echocardiography, transesophageal, intraoperative, and advanced cardiac imaging. ECG techniques are introduced with an emphasis on normal and abnormal rhythms encountered in echocardiography.

DMS 257 Adult Echocardiography
3 credits
Introduces the student to normal adult echocardiography with an emphasis on echocardiographic anatomy, physiology, and scanning techniques. American Society of Echocardiography (ASE) guidelines are emphasized in 2-D, M-mode, Doppler, stress, 3-D, contrast, transesophageal, cardiac catheterization (cath) lab, and operative imaging. Other topics include electrocardiography (ECG) and pharmacology common to echocardiography.

DMS 261 Introduction to Vascular Testing
2 credits
Introduces students to the field of vascular technology. Students receive an introduction to vascular terminology, patient assessment, and the role of imaging and non-imaging procedures in the diagnosis of vascular disease.

DMS 262 Arterial Sonography
2 credits
Provides an in-depth study of peripheral arterial disease and non-invasive evaluation of it. Students learn how to perform B-mode and Doppler evaluation of the upper and lower extremities. Students also learn how to perform pulsed volume recording, segmental blood pressures, and plethysmography. Pathological and pathophysiologic states will be described. The course will review pertinent techniques for patient assessment, obtaining patient histories, and evaluating and correlating patient symptoms with diagnostic findings. The student will be introduced to correlating information with other diagnostic procedures. Surgical and non-surgical corrective techniques will be discussed. Techniques for evaluating post interventions or surgical techniques will also be explained.

DMS 265 Adult Echo Pathology I
2 credits
Introduces echocardiographic pathology with an emphasis on valvular heart disease, ventricular function, and hypertensive heart disease.

DMS 266 Adult Echo Pathology II
2 credits
Expands echocardiographic pathology with an emphasis on pericardial disease, cardiomyopathies, congenital heart disease, and diseases of the aorta.

DMS 267 Adult Echocardiographic Pathology
3 credits
Comprehensively covers echocardiographic pathology to include valvular, systemic, structural, functional, and ischemic diseases. Common congenital anomalies as well as pathology of the great vessels are covered as well.

DMS 270 Clinical Observation
2.5 credits
Prepares the beginning ultrasound student for clinical internship under the direct supervision of a registered sonographer with a focus on introductory skills necessary for clinical internship, to include instrumentation, scanning techniques, and image evaluation. The student will spend seven to eight hours per week at the clinical site for training in patient care and work efficiency in the clinical setting.

DMS 271 Clinical I
6 credits
Provides clinical experience for the beginning ultrasound student. Students master the foundations of instrumentation, scanning techniques, and image evaluation of sectional anatomy. The student will spend 30 hours per week at the clinical site to additionally provide sufficient time for training in appropriate patient care and work efficiency in the scanning lab.

DMS 272 Clinical II
6 credits
Continues the clinical experience for the ultrasound student. Application of the didactic lectures will be applied and will include image evaluation and cross-sectional anatomy. Students will spend 30 hours per week at the clinical site under the direct supervision of a registered sonographer.

DMS 273 Clinical III
6 credits
Continues the clinical experience for the ultrasound student. Application of the topics covered in advanced didactic lectures will include an introduction to invasive procedures using ultrasound guidance. Sterile technique and standard precautions will be reviewed. Students will spend 30 hours per week at the clinical site under the direct supervision of a registered sonographer.

DMS 274 Clinical IV
6 credits
Continues the clinical experience for the sonography student. Application of the didactic lectures to include image evaluation and sectional anatomy. The foundations of anatomy, instrumentation, scanning techniques, and image evaluation will be stressed.

DMS 275 Special Topics: Lower Extremity Doppler
2 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

DMS 281 Ultrasound Internship I
10 credits
Provides clinical experience for the beginning ultrasound student. Students master the foundations of instrumentation, scanning techniques and image evaluation of sectional anatomy. The student will spend 30 hours per week at the clinical site to additionally provide sufficient time for training in appropriate patient care and work efficiency in the scanning lab.

DMS 282 Ultrasound Internship II
10 credits
Continues the clinical experience for the ultrasound student. Application of the small parts didactic lectures will be applied and will include image evaluation and cross-sectional anatomy of the thyroid, breast, and scrotum. The foundations of vascular anatomy, instrumentation, scanning techniques, and image evaluation will be stressed. The student will spend 30 hours per week at the clinical site under the direct supervision of a registered sonographer.

DMS 283 Ultrasound Internship III
10 credits
Continues the clinical experience for the ultrasound student. Application of the topics covered in advanced didactic lectures will include an introduction to invasive procedures using ultrasound guidance. Sterile technique and standard precautions will be reviewed. The student will spend 30 hours per week at the clinical site under the direct supervision of a registered sonographer.

DMS 285 Independent Study
1 credit
Meets the individual needs of students. Students engage in intensive study or research in the field of medical ultrasound (sonography) under the direction of a qualified instructor.

DMS 288 Practicum
6 credits
Exposes students to their professional roles as sonographers. Students will apply skills and knowledge to perform procedures across all applications of sonography, including advanced procedures and examinations.

DMS 289 Ultrasound Capstone
3 credits
Prepares the sonography student to effectively search for a job and sit for the American Registry of Diagnostic Medical Sonographers examination in their specialty.

DPM – Diesel Power Mechanics Courses

www.rrcc.edu/warrentech

DPM 106 Diesel Fuel Systems
3 credits
Covers the theory of operation and repair of fuel injection systems. Provides laboratory assignments that involve disassembly, assembly, and service procedures on fuel system components.

ECE – Early Childhood Education Courses

www.rrcc.edu/early-childhood-education

ECE 101 Introduction to Early Childhood Education
3 credits
Provides an introduction to early childhood education. It includes the eight key areas of professional knowledge: child growth and development; health, nutrition, and safety; developmentally appropriate practices; guidance; family and community relationships; diversity; professionalism; and administration and supervision. This course focuses on birth through age eight.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ECE 102 Introduction to Early Childhood Lab Techniques
3 credits
Focuses on a classroom seminar and requires 60 hours of field-based experience in a child care setting. The supervised placement provides students with the opportunity to observe children, to practice appropriate interactions, and to develop effective guidance and management techniques. CBI background clearance is required for students to enter their field experience placement. This class addresses ages birth through eight.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores and prerequisite: ECE 101.

ECE 103 Guidance Strategies for Children
3 credits
Explores guidance theories, applications, goals, techniques, and factors that influence expectations, classroom management issues, and prosocial skills from birth through age eight.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ECE 111 Infant and Toddler Theory and Practice
3 credits
Presents an overview of theories, applications (including observations), and issues pertinent to infant and toddler development in group and/or family settings. It also includes the state mandated infant and toddler requirements for licensing, health, safety, and nutrition issues.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ECE 112 Introduction to Infant/Toddler Lab Techniques
3 credits
Includes a classroom seminar and 60 hour field placement in an infant and/or toddler setting. The supervised placement provides students with the opportunity to observe, to practice appropriate interactions, and to develop effective guidance and nurturing techniques with infants and/or toddlers. The class includes topics from prenatal development through age two.
Recommended corequisite: ECE 111.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement score.

ECE 125 Science/Math and the Young Child
3 credits
Examines theories of cognitive development as a framework for conceptualizing the way young children acquire scientific and mathematical skills, concepts, and abilities. It enables the student to research and develop appropriate individual and group scientific and mathematical activities for young children.
Prerequisite: ECE 101.

ECE 126 Art and the Young Child
2 credits
Prepares students to plan and implement a comprehensive and developmentally appropriate art program for young children. Additionally, students investigate the development of self-taught art techniques in young children.
Prerequisite: ECE 101.

ECE 127 Music/Movement for the Young Child
1 credit
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 in both subjects.
Prerequisite: ECE 101.

ECE 188 Practicum: Early Childhood Education
1-3 credits
Provides students with field experience and coaching in early childhood programs. One credit requires 60 hours of field-based experience; three credits requires 120 hours of field-based experience. Please see ECE advisor for more information on program completion requirements.
Prerequisite: ECE 101 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ECE 191 School Age Theory and Practice
3 credits
Emphasizes processes for planning and implementing developmentally appropriate environments and experiences and selection of appropriate materials in school age programs working with children ages 6 to 12 years of age. It also includes expression and problem-solving skills in school age children.

ECE 192 School Age Lab Techniques
3 credits
Incorporates lab experience in before/after school, summer camp, or elementary school programs. The class focuses on planning and implementing developmentally appropriate curriculum for school age children and includes assisting the supervising teacher in all activities.

ECE 205 Nutrition, Health and Safety
3 credits
Focuses on nutrition, health, and safety as key factors for optimal growth and development of young children. It includes nutrient knowledge, menu planning, food program participation, health practices, management and safety, appropriate activities, and communication with families around these issues. This course addresses information from before birth through age eight.
Prerequisite: ECE 101 and a grade of C or higher in ENG 090 or CCR 092 or CCR 094 or equivalent placement scores.

ECE 220 Curriculum Development: Methods and Techniques
3 credits
Provides an overview of early childhood curriculum development. It includes processes for planning and implementing developmentally appropriate environments and experiences, selection of appropriate materials, and quality in early childhood programs. Focuses on ages birth through eight.
Prerequisite: ECE 238 or PSY 238 or permission of instructor and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 225 Language and Cognition for the Young Child
3 credits
Examines theories of cognitive and language development as a framework for conceptualizing the way children acquire thinking skills. It addresses observation, planning, facilitation, creative representation, and evaluation strategies within the context of play with a focus on language, science, math, problem solving, and logical thinking. Ages addressed are birth through age eight.
Prerequisite: ECE 238 or PSY 238 or permission of instructor and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 226 Creativity and the Young Child
3 credits
Provides an emphasis on encouraging and supporting creative self expression and problem solving skills in young children. It explores creative learning theories and research and focuses on developmentally appropriate curriculum strategies in all developmental domains. Ages addressed are birth through eight.
Prerequisite: ECE 238 or PSY 238 or permission of instructor and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 228 Language and Literacy
3 credits
Presents strategies for optimum language development, literacy, and the social/emotional development which supports acquisition of these skills. It addresses children's language and literacy in home, classroom, and community settings and provides appropriate teacher/child verbal interactions, classroom environments, and activities. Ages addressed are birth through eight.
Prerequisite: ECE 101 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores that indicates college reading ability.

ECE 237 Theories and Techniques of Social and Emotional Growth
3 credits
Incorporates student specific techniques and strategies for guiding and enhancing the social and emotional growth of children 0-8 years. The class introduces and compares the theories and theorists underlying quality interactions and patterns of social and emotional progression.
Prerequisite: ECE 238 or PSY 238 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 238 Child Growth and Development
3 credits
Covers the growth and development of the child from conception through the elementary school years. It examines the physical, cognitive, language, social and emotional domains and the concept of the whole child. It also addresses how adults can provide a supportive environment for optimum growth and development. Ages addressed: prenatal through age 12.
Prerequisite or corequisite: ECE 101 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 240 Administration of Early Childhood Care and Education Programs
3 credits
Examines Colorado's minimal licensing requirements, as well as optimal standards pertaining to the operation of programs for young children ages birth to eight. The focus is on the director's administrative skills and role as a community advocate for young children. Addresses ages birth to 12.
Prerequisite: ECE 101 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores. This is the capstone course for director certification and it is recommended that students are in their final semester of director certification courses before taking this course.

ECE 241 Admin: Human Relations for Early Childhood Professions
3 credits
Focuses on the human relations component of an early childhood professional's responsibilities. Topics include director-staff relationships, staff development, leadership strategies, parent-professional partnerships, and community interaction.
Prerequisite: ECE 101 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 256 Working with Parents, Families, and Community Systems
3 credits
Examines attitudes and family values systems and how they affect parent-professional partnerships. It addresses communication, problem-solving, and conflict resolution strategies. Students learn how to plan effective activities and programs for parent involvement in facilities serving children birth to age eight.
Prerequisite: ECE 101 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 260 Exceptional Child
3 credits
Presents an overview of critical elements related to educating young children with

disabilities in the early childhood setting. Course includes planning techniques, learning strategies, legal requirements, and accommodations and adaptations that are necessary in order to create an integrated classroom environment for a child with a wide range of exceptionalities. Students will learn how a disability will impact a young child's learning process. This course focuses on birth through age eight.
Prerequisite: ECE 238 or PSY 238 or permission of instructor and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or appropriate placement scores.

ECE 275 Special Topics
1-6 credits
Explores current topics, issues, and activities related to one or more aspects of the early childhood care and education profession.

ECE 280 Internship in Early Childhood Education
1-12 credits
Focuses on work experience in a licensed child care and education program (30 contact hours per credit).

ECE 288 Practicum: Early Childhood Education
3 credits
Provides students with advanced field experience opportunities for applying ECE research in early childhood education programs that will promote executive function skills development in young children. Requires 120 hours of field-based experience. Please see ECE advisor for more Information.
Prerequisite: ECE 101 and ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.
Capstone course for AAS Degree.

ECO – Economics Courses

www.rrcc.edu/economics

ECO 101 Economics of Social Issues: GT-SS1
3 credits
Examines the major socio-economic issues of the past century. It covers poverty and growth, education, health care, pollution and discrimination.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

ECO 201 Principles of Macroeconomics: GT-SS1
3 credits
Focuses on the study of the American economy, stressing the interrelationships among household, business, and government sectors. The class explores saving and investment decisions, unemployment, inflation, national income accounting, taxing and spending policies, the limits of the market and government, public choice theory, the Federal Reserve System, money and banking, and international trade.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores. MAT 121 suggested.

ECO 202 Principles of Microeconomics: GT-SS1
3 credits
Studies the firm, the nature of cost, and how these relate to the economy as a whole. The class analyzes economic models of the consumer, perfect competition, monopoly, oligopoly and monopolistic competition. It explores economic issues including market power, population growth, positive and negative externalities, income distribution, poverty and welfare, discrimination, and international economic interdependence.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores. MAT 121 suggested.

ECO 245 Issues in Environmental Economics: GT-SS1
3 credits
Introduces students to contemporary environmental issues and policies meant to reduce environmental degradation. Includes market failures, analytical tools, government pollution reduction policies for air, water, and natural environments and their effectiveness.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

EDU – Education Courses

www.rrcc.edu/education

EDU 101 CRLA Tutor Certification–Regular
1 credit
Introduces tutors to effective tutoring strategies. Topics include guidelines for tutoring; how to plan, conduct, and evaluate a productive tutoring session; how to recognize needs of students; and how to develop effective learning strategies with students.

EDU 131 Introduction to Adult Education
3 credits
Introduces students to the basic concepts in the instruction of adults. Emphasis will be placed on understanding the adult learner and how individual backgrounds and experiences can affect the learning process. Additionally, the course will cover applicable federal and state legislation which affects adult learning programs and will provide information on the resources and associations in the field of adult education.

EDU 132 Planning, Organizing, and Delivering Adult Education Instruction
3 credits
Covers the basics of planning an adult education program, organizing instruction within the various content areas and delivering the material in a variety of ways, both in groups and individualized instruction. A wide variety of learning principles and theories will be addressed, showing their applicability to the adult learner and his/her education.

EDU 133 Adult Basic Education (ABE) and Adult Secondary Education (ASE/GED)
3 credits
Specifically addresses the different levels within an adult education program. Each level will be addressed in terms of appropriate assessment tools and instructional techniques. Emphasis will be placed on teaching ways that the adult education instructor can encourage the development of cognitive skills at each level, as a springboard to the next higher level.

EDU 134 Teaching English as a Second Language (ESL) to Adult Learners
3 credits
Introduces the development and implementation of a program to teach English to adults whose first language is not English. Topics will range widely from assessment and placement to the theories behind language acquisition. Students also cover a wide variety of methodologies, both group and individualized, that are aimed at teaching the non-English speaker the written and verbal skills necessary to successfully function in the U.S.

EDU 221 Introduction to Teacher Education
3 credits
Focuses on the historical, social, political, philosophical, cultural, legal, and economic forces that shape the United States public school system as students explore teaching as a career choice. Topics will include current issues of diversity in the classroom, educational reform, technology as it relates to education, and considerations related to becoming a teacher in the state of Colorado.
Corequisite: EDU 288.

EDU 222 Effective Teaching
1 credit
Focuses on strategies for becoming an effective teacher. Topics included are: 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 credits
Focuses on the need to recognize and understand the similarities and differences among people and to develop a respect for all individuals and groups. The course assists teachers who need to recognize the special learning needs of children from different racial, ethnic, cultural, and socio-economic groups and to encourage teachers to integrate multicultural/diversity teaching into the school curriculum. This class can also count toward teacher recertification.

EDU 240 Teaching the Exceptional Learner
3 credits
Focuses on the individual differences and modifications that are necessary in the educational practices of the exceptional learner. The course covers applicable law - IDEA, ADA and 504, discusses IEPs and IFSPs, and covers the major disability categories. The class also discusses the various challenges, problems and contradictions of the law and its application both in early childhood and the K-12 educational settings. Finally, the class discusses ways to work with the entire family, and not just the child.

EDU 250 CTE in Colorado
1 credit
Explores common elements of Career and Technical Education (CTE) philosophy and current practices. Topics will include 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 259 Outdoor Education Leadership
3 credits
Provides opportunities to explore teaching as a career choice in an outdoor setting. Topics covered from an outdoor educational perspective will include current educational issues, social trends, experiential learning. Students will explore multiple communication tools, as well as form and maintain relationships with the Outdoor Education staff, 6th graders, high school leaders, and visitors to the Jefferson County Outdoor Laboratory School. Students will teach hands-on lessons, based on the Colorado Content Standards, with an emphasis on science, history, and environmental education.

EDU 260 Adult Learning and Teaching
3 credits
Examines the philosophy of community colleges and/or secondary schools and the roles and responsibilities of the faculty member within the college/school community. This course introduces basic instructional theories and applications, with particular emphasis on adult learners. The course includes syllabus development, learning goals and outcomes, and lesson plan and emphasizes teaching to a diverse student body, classroom management, assessment and instructional technology.

EDU 261 Teaching, Learning, and Technology
3 credits
Prepares students to integrate technology into their teaching curriculum. It enables students to design educational and training materials by incorporating instructional technology. The course explores a variety of technologies, including the computer, Internet, Smartboards, multimedia, graphics, audio, and text with an emphasis on increasing learning through their use. It examines combining technology with a variety of instructional methodologies. This class can also count toward teacher recertification.

EDU 266 Advanced College Teaching Methods
1 credit
Explores current adult learning theory, and relates this theory to the practice of teaching. The course 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 credit
Provides students with the opportunity to supplement coursework with 30 hours of practical field experience related to their educational program. Students work under the immediate supervision of experienced teachers at an education facility and with the direct guidance of an RRCC faculty member. CBI background clearance is required for students to enter their field experience placement.
Corequisite: EDU 221.

EGT – Engineering Graphics Technology Courses

www.rrcc.edu/engineering-graphics-technology

(See CAD on page 137 for more listings)

EGT 140 IDEA: Introduction to Design and Engineering Applications
3 Credits
Provides students with opportunities to engage with an industry client on a real-world, open-ended engineering design problem. Students will develop professional skills and knowledge in Computer Aided Drafting (CAD). The course covers human-centered design and the role of engineering in a sustainable society. Students will cultivate an understanding of the differences in engineering disciplines while working in interdisciplinary teams. Written and verbal communication skills will also be covered.

EGT 143 Civil/Survey Drafting I
3 credits
Focuses on Civil and Survey drafting skills necessary to produce document sets of land surveys/plats, legal descriptions, site layout, plan, profile & alignments, pipe layouts, contour maps and earthwork.

EGT 205 Geometric Dimension & Tolerance
3 credits
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.

EGT 243 Civil/Survey Drafting II
3 credits
Focuses on advanced Civil and Survey drafting skills. Students will create computer aided drawings using traverses, legal descriptions, horizontal and vertical curves, land sections, and coordinates. Emphasizes field note interpretation.

EGT 275 Special Topics
1-12 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

EIC – Electricity Industrial/Commercial/Residentia I Courses

www.rrcc.edu/electrical

EIC 100 Electrical Constructions and Planning
4 credits
Introduces the planning of electrical system installations from blueprints to the completed job and preparation of material lists, job sheets, and time schedules for various phases of construction. The course emphasizes the National Electrical Code requirements For building industry standards.

EIC 102 Electrical Print Reading
4 credits
Teaches the skills needed to interpret electrical drawings properly. This course utilizes standard symbol as well as utilizing different scale measuring techniques, understanding elevation sections and plan view drawings. This 16 week course is critical for anyone involved in the design, construction, or maintenance of electrical systems.

EIC 105 Basics of AC & DC Electricity
4 credits
This course teaches the understanding of resistance, current, voltage and power in AC and DC circuits, the student will use electrical instruments, to make computations of series & parallel circuits, as well as analysis & troubleshooting with basic test equipment.

EIC 110 Electrical Installations I
4 credits
Covers basic residential building wiring in conformance with the current National Electrical Code and local codes using non-metallic cable. The course emphasizes hands on installation of various electrical products with the proper use of tools and safety.

EIC 120 Electrical Installation II
4 credits
Explores commercial and industrial building wiring in conformance with the current National Electrical Code and local codes using electric metallic tubing and other industry approved raceway methods. The emphasis is on proper use of tools and safety.
Prerequisite: EIC 110 or permission of instructor.

EIC 124 Electrical Safety Requirements
1 credit
Focuses on training that is 100% practical and deals with every important aspect of OSHA's electrical safety-related work practices and how they apply. The course teaches the safe installation and maintenance of electrical equipment and covers the use of personal protective equipment.

EIC 125 Electrical Principles and Applied Calculations
3 credits
Provides the fundamental principles of OHMS Law that are involved with all electrical calculations and operations as well as practical applications of various concepts.

EIC 130 National Electrical Code I
4 credits
Focuses on the National Electrical Code and local code requirements for electrical installation. This course covers requirements, Definitions ,wiring methods and utilization of equipment. The basic chapters to be covered will be chapters one through four of the National Electrical Code.

EIC 131 National Electric Code 2011
1.5 credits
Focuses on the National Electrical Code and local code requirements for electrical installation.

EIC 135 National Electrical Code II
4 credits
Builds on course EIC 130 and covers chapters five through nine of the National Electrical Code, including hazardous locations, special occupancies, conditions, and equipment.

EIC 144 Grounding and Bonding
1.5 credits
Prepares students for the latest technology and techniques available for code and standards-compliant grounding and bonding systems. This course focuses on grounding and bonding requirements as they relate to Article 250 and other articles of the NEC. The course covers installation, testing and inspection procedures for eleven power systems. This course includes rules to minimize the risk of electricity as a source of electric shock and as an ignition source for fires.

EIC 150 DC Circuit Fundamentals
4 credits
Covers the principles of DC electricity and magnetism with emphasis on Ohm's, Kirchoff's and Watt's laws to analyze circuits voltage current and power. It addresses common measuring instruments and safety.
Prerequisite: EIC 125 or MAT 107 or equivalent.

EIC 155 AC Circuit Fundamentals
4 credits
Emphasizes resistance, current, voltage, and power in AC, measurements, computations of series and parallel circuits, circuit analysis, and troubleshooting with basic test equipment. It covers the principles of AC electricity, magnetism, inductive and capacitive circuits; use of phasors to represent AC quantities; the concept of reactive volt-amperes and power factor; and use of instruments, including VOM's and oscilloscopes. The course explores the principles of polyphase alternating current systems, Wye and Delta circuit configurations; safety procedures will be explored.
Prerequisites: EIC 150 or permission of instructor.

EIC 160 Electrical Instruments and Measurements
4 credits
Covers the proper techniques for using electrical instruments, including volt/ohm, amp, phase- rotation, oscilloscopes, and recording meters. The course focuses on OSHA proper personal equipment with respect to instrumentation transformers motors and control circuits.for journeymen and in-plant electricians.
Prerequisite: EIC 150 or permission of instructor.

EIC 165 Solid State Devices and Circuits
4 credits
Explores the basic properties of diodes, transistors, triacs, SCRs, and other solid state devices. It covers applications of solid state devices in control and power conversion and the circuits in equipment likely to be encountered in power installations.
Prerequisites: EIC 150, EIC 155, or permission of instructor.

EIC 167 Electrical Maintenance
4 credits
This course introduces the student to the technologies of electrical maintenance for industrial, commercial and residential situations. The class will address electrical safety, code applications, troubleshooting problems, electrical system, and controls. The labs will include circuit analysis, part replacing and repair using test equipment and special tools.

EIC 169 Electrical Code Calculations
4 credits
Discusses calculations used in the application of the National Electrical Code. It emphasizes sizing of branch circuit and feeder conductors for commercial, industrial motor requirements and calculating ratings of protective overcurrent devices.

EIC 205 Advanced Electrical Planning
4 credits
Explores the planning and layout of large commercial and industrial electrical installations.

EIC 210 Advanced National Electrical Code
4 credits
An Advanced National Electrical Code course for the in-plant technician. The course emphasizes how to interpret NEC rules that apply to industrial/commercial installations. Maintenance electricians and residential wiremen desiring to upgrade their knowledge of these rules can benefit from this class.
Prerequisite: EIC 130, EIC 135, or permission of instructor.

EIC 211 IECC International Energy Conservation Code
4 credits
IECC International Energy Conservation Code encourages energy conservation through efficiency in envelope design, mechanical systems, lighting systems and the use of new materials and techniques. This class provides an overview of critical concepts of the latest edition of the IECC and provides a basis for the correct use of the code in the design, plan review, inspection, and analysis of projects. It provides a clear understanding and correct use of the requirements identified by these basic code provisions, tables and categorizations that allow code users to apply the code in clear-cut situations, and helps to build their understanding of the intent of the code when asked to make code compliance decisions.

EIC 215 Advanced Code Calculations
4 credits
An extension of EIC 169. The course emphasizes calculations for sizing conductors, conduits, fittings, protective devices, relays related to branch circuits, and feeders for motor loads. Other loads as they apply to industrial/commercial situations are also explored. Sizing of transformers and power factor correction calculations is discussed as well.
Prerequisite: EIC 169 or permission of instructor.

EIC 217 Electrical Estimating/Costing
4 credits
Focuses on the fundamentals of electrical estimating, material takeoffs from prints, required labor hours, material loss allowances, and scheduling to ensure orderly work progress.

EIC 220 Industrial Electrical Controls I
4 credits
Studies the application of electrical and electromechanical sensing/ control devices; heating, ventilating, and air conditioning applications; motor control; conveyor drives; and other industrial applications. Students design control systems to meet assigned conditions, use principles of relay logic to prepare correct ladder diagrams and wire up, and test and trouble-shoot systems in the laboratory. The course stresses accuracy, safety, and National Electric Code requirements.
Prerequisite: EIC 150 or permission of instructor.

EIC 223 Advanced Industrial Controls
4 credits
Builds on the student's previous knowledge and understanding of electrical, including installation, maintenance and modification of motor control. This class provides students with the knowledge and skill set levels in reading relay ladder logic diagrams and in the layout, mounting and terminating of equipment in control panels used in industry. The program builds a basic foundation in electrical theory, the operating characteristics of electrical controls and the connection and troubleshooting of control circuits.
Prerequisite: EIC 220 or permission of instructor

EIC 225 Programmable Controllers
4 credits
Studies the use of solid-state control equipment, primarily the programmable controller and associated solid-state sensors to control equipment, machinery, or complete processes. The course includes concepts of solid-state logic, characteristics of solid-state sensors, conversions of relay logic control systems to programmable control systems, and microprocessor-based systems and remote control of processes. It enables students to design, implement, and test control systems in the laboratory to meet specifically-assigned control problems and also emphasizes accuracy, safety and National Electrical Code requirements.
Prerequisites: EIC 150 and EIC 220 or permission of instructor.

EIC 226 PLC Controllers II
4 credits
Studies the advanced uses and applications of programmable logic controllers toward automated equipment, machines, and processes. The course includes understanding the functions of PLC hardware components, converting relay logic to ladder logic, comprehending ladder logic instruction functionality, and identifying the PLC's data structure. It enables students to create, implement, and troubleshoot ladder logic programs that simulate automated machine control and processes.
Prerequisite: EIC 225 or permission of instructor.

EIC 229 AC & DC Variable Speed Drive
1.5 credits
Teaches variable speed drive technology that offers a cost effective method to match driver speed to load demands and represents a state-of-the-art opportunity to reduce operating costs and improve overall productivity. Focuses on variable speed drive technology including operation, set-up, troubleshooting, maintenance, proper selection and application for drives and basic drive overview and comparison.

EIC 230 IND Instrumentation & Control II
4 credits
Introduces the advanced concepts, principles, equipment, and components of instrumentation and control systems found in the process and energy supply industries. Controllers, control schemes and advanced control schemes are covered at a level appropriate for the process technician. The function and operation of a proportional-integral-derivative (PID) controller will be explored. Students assemble and operate advanced control loops in a laboratory setting.

EIC 233 Electric Motors
1.5 credits
Teaches the basic operational theory to the actual operation of various types of AC and DC motors in an interactive environment that encourages participant interaction, as well as hands-on lab exercises. All phases of this course are taught in simple and easy-to-understand terms. This course is presented using the latest technological equipment.

EIC 240 Fire Alarm Fundamentals
4 credits
Covers terminology, symbols, diagrams, devices, circuits, and wiring. The course focuses on basic layouts and principles involved in fire alarm system design and construction.

EIC 241 Advanced Fire Alarm Systems
4 credits
Covers design, installation, documentation, testing, and codes. The course focuses on advanced layout and principles involved in fire alarm system design and construction, allowing students to test for NICET II certification.
Prerequisite: EIC 240.

EIC 242 National Fire Alarm Code
4 credits
Covers Fire Alarm Code (NFPA72) and local codes terminology, symbols, diagrams,

devices, circuits, and the wiring of fire alarm systems. The basic code layouts and principles involved in fire alarm design and construction also will be addressed. Students testing for NICET certifications can benefit from this class.

EIC 245 Supervisory Control and Data Acquisition
4 credits
Provides an in-depth overview of how remote sensing and actuation are combined with modern communication techniques to effectively monitor and control industrial processes. Supervisory Control & Data Acquisition (SCADA) refers to an industrial control system, a computer system that monitors and controls processes.

EIC 261 Project Management
4 credits
Focuses on electrical projects in the construction industry. This class teaches the skills necessary for goal setting, project planning, project scheduling, and motivating the work force. It introduces leadership techniques for improving jobsite relations for today's diversified labor force. Students review and analyze industry standards for compliance in production reporting and daily documentation for contract preparation.

EIC 269 Supervisory Control and Data Acquisition
4 credits
Provides an in-depth introduction of how a remote sensing and actuation are combined with modern communication techniques to effectively monitor and control industrial process. SCADA refers to an industrial control system, which is a computer system monitoring and controlling a process. This curriculum is designed to provide measureable knowledge of the protocols of the acquisition of data, and the processing of data and information in a industry of automation.

EIC 275 Special Topic
0.5-12 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.
Prerequisite: Permission of instructor.

EIC 282 Internship
0.5-12 credits
Provides students with the opportunity to supplement course work 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: Permission of instructor.

EIC 285 Independent Study
0.5-12 credits
Meets the individual needs of students. Students will engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

EMP – Emergency Management and Planning Courses

www.rrcc.edu/emergency-management-planning

EMP 101 Principles of Emergency Management
3 credits
Presents a broad overview of an emergency management system and the importance of an integrated approach to managing emergencies.

EMP 105 Emergency Planning
3 credits
Introduces a specialized type of community planning that identifies local government strategies, resources and responsibilities for protecting citizens from the effects of disasters and other major emergency events.

EMP 106 Exercise Design and Evaluation
3 credits
Provides knowledge and the development of skills that enables students to train a staff and to conduct an exercise that tests a community's plan and its operational response capability.

EMP 107 Emergency Operations Center and Communications
3 credits
Provides the knowledge and skills to manage and operate an EOC during crisis situations.

EMP 109 Incident Command System
3 credits
Explores the dynamics of managing major emergency incidents and examines the National Incident Management System.

EMP 240 Leadership and Influence
3 credits
Examines the dynamics of leadership techniques as they apply to emergency and disaster situations.

EMP 242 Effective Communication
3 credits
Sharpens presentation and media skills of emergency management officials when giving and receiving information in emergency management contexts.

EMP 244 Developing Volunteer Resources
3 credits
Improves skills in recognizing volunteer resources in the community, and enhances the ability to manage the involvement of volunteers in all phases of emergency management.

EMP 247 Decision Making in a Crisis
3 credits
Focuses on individual and group decisions based on a model problem-solving process.

EMP 250 Business Emergency Management
3 credits
Develops contingency planning and emergency response skills required by private sector companies.

EMP 291 Basic Public Information Officer
3 credits
Provides the student an opportunity to practice and expand on public information skills in a crisis environment. Incorporates a highly interactive course that includes workshops on writing, public speaking, media interviews, and awareness campaign development. Covers media relations and public information planning.

EMS – Emergency Medical Services Courses

www.rrcc.edu/emergency-medical-services

EMS 115 Emergency Medical Responder
3 credits
Provides students 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.

EMS 121 EMT Fundamentals
3 credits
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.
Prerequisites: High school diploma or GED, placement scores at the college level in reading and writing or equivalent.

EMS 122 EMT Medical Emergencies
4 credits
Introduces 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.
Prerequisite or Corequisite: EMS 121

EMS 123 EMT Trauma Emergencies
2 credits
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.
Prerequisite or Corequisites: EMS 121, EMS 122

EMS 124 EMT Special Considerations
2 credits
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 extrication, air medical support, hazardous materials, and terrorism.
Prerequisite or Corequisites: EMS 121, EMS 122, EMS 123, EMS 170

EMS 126 Emergency Medical Technician – Basic Refresher
2 credits
Provides required didactic and skills review for renewing EMT students.
Prerequisites: Current or less than 6 months expired Colorado or NREMT EMT Basic certification, or initial EMT course completion within the last 2 years.

EMS 127 Advanced EMT Special Considerations
2 credits
Introduces the Advanced Emergency Medical Technician (AEMT) student to the fundamental knowledge of growth, development and aging considerations in the emergency patient. The student will learn to use assessment findings to provide basic and selected advanced emergency care and transportation for a patient with special needs. These include the obstetric patient, neonatal patient, pediatric patient, geriatric patient, and patients with special challenges. Learners will apply this knowledge to patient assessment and the development of a treatment plan in a simulated setting. This course also provides an overview of the principles of safe ground ambulance operations, incident management, multiple casualty incidents, air medical responses, vehicle extrication, hazardous material awareness and terrorism and disaster response. Learners will apply critical thinking skills to ensuring the safety of a scene and a plan for safe patient care and transportation.
Prerequisite: Current Colorado State EMT Basic certification; permission of instructor.

EMS 129 Advanced Emergency Medical Technician Pharmacology
1 credit
Provides the Advanced Emergency Medical Technician (AEMT) student with a basis for making clinical decisions in the pharmacologic management of patients commonly encountered in the pre-hospital setting. Topics include the legal and ethical aspects of pharmacotherapy, roles, responsibilities and techniques associated with medication preparation and administration, the classification and naming of medications, pharmacokinetics, pharmacodymanics, and medication calculations. In addition the mechanism of action, dose, route(s) of administration, therapeutic effects, adverse effects, and therapeutic indications for medications within the Advanced Emergency Medical Technician scope of practice are discussed in detail.
Prerequisite: Current Colorado State EMT Basic certification; permission of instructor.

EMS 130 EMT Intravenous Therapy
2 credits
Focuses on cognitive and skill practice as required by Colorado Prehospital Care Program for EMT Basic level IV approval. It examines criteria, procedures and techniques for IV therapy, discusses fluid and electrolyte balance and principles and treatment for shock.
Prerequisite: Current Colorado State EMT Basic certification; permission of instructor.

EMS 131 Advanced Emergency Medical Technician Fundamentals
2 credits
Provides the Advanced Emergency Medical Technician (AEMT) student with instruction in EMS systems, communications and documentation, pathophysiology, airway management, and the role of EMS in public health.
Prerequisite: Current Colorado State EMT Basic certification; permission of instructor.

EMS 133 Advanced Emergency Medical Technician Medical Emergencies
2 credits
Introduces the Advanced Emergency Medical Technician (AEMT) student to a fundamental knowledge of emergency care for the medical patient. This course provides instruction in the integration of physical exam findings, history findings, and pathophysiology when assessing and treating the medical patient. Topics addressed include neurology, immunology, infectious diseases, endocrine disorders, cardiovascular disorders, toxicology, respiratory emergencies, hematology, and renal disorders.
Prerequisite: Current Colorado State EMT Basic certification; permission of instructor

EMS 135 Advanced Emergency Medical Technician Trauma Emergencies
2 credits
Introduces the Advanced Emergency Medical Technician (AEMT) student to a fundamental knowledge of emergency care for the trauma patient. The student will learn how to utilize assessment findings to provide basic and selected advanced emergency care and transportation for the trauma patient
Prerequisite: Current Colorado State EMT Basic certification; permission of instructor

EMS 138 Basic EMS Simulation Lab
3 credits
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 EMS Simulation Lab
3 credits
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 Education for Prehospital Professionals
1 credit
Provides the student with core knowledge and skills necessary to provide emergency care to the pediatric patient.
Prerequisite: EMT-Basic or higher certification.

EMS 154 Trauma Life Support
1 credit
Provides the student with information and skill practice to treat trauma patients in the prehospital environment.
Prerequisite: EMT-Basic or higher certification.

EMS 155 Medical Life Support
1 credit
Provides the student with information and skill practice to assess and treat medical patients in the prehospital environment.
Prerequisite: EMT-Basic or higher certification.

EMS 162 Wilderness EMT Upgrade
2 credits
Designed for currently certified EMT-Basics, Paramedics and RNs who want to enhance their assessment and treatment skills in a remote challenging environment. This course is part of a Wilderness EMS program and builds on the American Health and Safety Institutes (ASHI) Wilderness EMT upgrade course focusing on wilderness concepts and skills with many role-playing scenarios. Students will receive an ASHI Wilderness Upgrade Certification. Proof of current license or certification as an EMT-B, EMT-P, or RN is required. Must provide proof of current license or certification as an EMT-B, EMT-P, or RN.
Prerequisite: EMT-Basic or higher certification.

EMS 170 EMT-Basic Clinical
1 credit
Provides the EMT student with the clinical experience required.
Prerequisites or C requisites: EMS 121, EMS 122, EMS 123, EMS 124

EMS 171 Advanced Emergency Medical Technician Clinical Internship
2 credits
Builds on the Advanced Emergency Medical Technician (AEMT) student's fundamental knowledge of patient care in the clinical and field setting. The student will perform patient assessments through physical examination, and patient interviews of health history and current illness. The student will then use those assessment findings to develop and carry out a patient treatment plan. This will include pediatric, geriatric and adult patients with a variety of presentations. The student will also survey each field scene for safety considerations and scene management.
Prerequisite: EMS 127, 129, 130, 131, 133, 135 or Permission of instructor.

EMS 178 EMS Seminar
2 credits
Provides the student the opportunity to explore local interests and needs in a less formal setting

EMS 180 EMT-Clinical Internship
1-6 credits
Provides the Emergency Medical Technician (EMT) with supervised clinical learning experience that goes beyond the initial EMT requirements for the State of Colorado Department of Health. The course enables students to work with an assigned preceptor to develop an understanding of the role and responsibilities of the EMT-Basic.
Prerequisite: Current Colorado State EMT Basic certification; permission of instructor.

EMS 181 EMS Internship I
1-6 credits
Provides the learner with the opportunity to apply clinical concepts, strategies, and skills in a supervised field internship setting as a pre-hospital healthcare provider. Under the supervision of a preceptor, participants will be expected to manage all aspects of an emergency call 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. The course allows the learner to gain knowledge, skills, and experience that may be required for employment, or required as a pre-requisite for further Emergency Medical Services (EMS) education. The knowledge base for this course is based on current pre-hospital healthcare provider certification, and knowledge and skills acquired from EMS classes the participant has completed or is currently enrolled in.

EMS 182 EMS Internship II
1-6 credits
Serves as a continuation of EMS 181 and provides the learner with the opportunity to apply clinical concepts, strategies, and skills in a supervised field internship setting as a pre-hospital healthcare provider. Under the supervision of a preceptor participants will be expected to manage all aspects of an emergency call 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. The course allows the learner to gain knowledge, skills, and experience that may be required for employment, or required as a pre-requisite for further Emergency Medical Services (EMS) education. The knowledge base for this course is based on current pre-hospital healthcare provider certification, and knowledge and skills acquired from EMS classes the participant has completed or is currently enrolled in.

EMS 220 Paramedic Refresher
3 credits
Updates the Paramedic in four specific areas of prehospital emergency care. It includes trauma, medical, Advanced Life Support (ALS) and elective topics focused on ancillary issues in EMS.
Prerequisite: Current or less than 6 months expired Colorado or NREMT Paramedic certificate.

Hospital-based Paramedic Programs

The following courses are offered in conjunction with hospital-based paramedic programs.
Only students accepted into the Hospital-based Paramedic programs may register for them. Prerequisites for these programs normally include successful completion of an EMT Basic course, IV approval, Basic EKG interpretation, Anatomy and Physiology, and approximately one year of experience as an EMT-Basic. Contact an EMS faculty advisor for more information.

EMS 225 Fundamentals of Paramedic Practice
3 credits
Serves as the first course of the National Standard Paramedic Curriculum as approved by the Colorado State Department of Health and Environment.

EMS 226 Fundamentals of Paramedic Practice Lab
2 credits
Serves as the lab experience to coincide with EMS 225 topics.

EMS 227 Paramedic Special Considerations
3 credits
Focuses on a comprehensive study of Advanced Life Support Practice.

EMS 228 Paramedic Special Considerations Lab
2 credits
Serves as the lab experience for those students enrolled in EMS 227.

EMS 229 Paramedic Pharmacology
3 credits
Focuses on a comprehensive study of emergency pharmacology.

EMS 230 Paramedic Pharmacology Lab
2 credits
Serves as the required lab course in the paramedic education program.

EMS 231 Paramedic Cardiology
5 credits
Addresses cardiology topics as presented in the National Standard Curriculum for paramedics.

EMS 232 Paramedic Cardiology Lab
1 credit
Incorporates a hands-on application of principles of cardiac care in the pre-hospital environment.

EMS 233 Paramedic Medical Emergencies
4 credits
Focuses on a comprehensive study of adult and pediatric medical emergencies.

EMS 234 Paramedic Medical Emergencies Lab
1 credit
Focuses on a clinical study of adult and pediatric medical emergencies.

EMS 235 Paramedic Trauma Emergencies
4 credits
Focuses on a comprehensive study of adult and pediatric trauma emergencies.

EMS 236 Paramedic Trauma Emergencies Lab
1 credit
Serves as a lab presenting various acute trauma scenarios.

EMS 237 Paramedic Internship Preparatory
2 credits
Reviews concepts and techniques used in the pre-hospital setting.

EMS 279 Seminar
2 credits
Provides the student with an experiential learning opportunity

EMS 280 Paramedic Internship I
6 credits
Serves as the preceptor/internship program for paramedic students.

EMS 281 Paramedic Internship II
6 credits
Serves as the continuation of EMS 280, preceptor program for paramedic students.

ENG – English Courses

www.rrcc.edu/english

ENG 090 Basic Composition
3 credits
English 090 is no longer offered but if you have previously taken the course, you may use ENG 090 as a prerequisite where required. NOTE: CCR 092 or CCR 094 have replaced ENG 090.

ENG 121 English Composition I: GT-C01
3 credits
Emphasizes the planning, writing, and revising of compositions, including the development of critical and logical thinking skills. Composition assignments stress analytical, evaluative, and persuasive/argumentative writing.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores. An English score of 18 or above on the ACT also allows a student to enter ENG 121.

ENG 122 English Composition II: GT-C02
3 credits
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 persuasive compositions that incorporate research.
Prerequisite: ENG 121.

ENG 131 Technical Writing I
3 credits
Focuses on principles for organizing, writing, and revising clear, readable technical documents for industry, business, and government.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores. An English score of 18 or above on the ACT also allows a student to enter ENG 131.

ENG 221 Creative Writing I
3 credits
Focuses on techniques for creative writing. The course explores imaginative uses of language through creative genres (fiction, poetry, literary nonfiction) with emphasis on the student's own unique style, subject matter, and needs.
Prerequisites: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ENG 226 Fiction Writing
3 credits
Focuses on techniques for creating fiction, including the study and appreciation of the language and forms of the short story.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ENG 227 Poetry Writing
3 credits
Focuses on techniques for creating poems, including study of figurative language, forms, and sound patterns of poetry.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ENG 228 Writing for the Graphic Novel
3 credits
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 material 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.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ENG 230 Creative Nonfiction
3 credits
Focuses on blending the incorporation of literary techniques into factual writing. The course enables students to survey a wide range of readings and to analyze form and content. The course includes critical review, biographical profiles, travel writing, and memoirs. This course provides the opportunity for students to write and review their own nonfiction in a supportive, constructive setting.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ENG 231 Literary Magazine
3 credits
Focuses on the editorial process involved in preparing a literary magazine for publication. The course covers the process of selection of material (fiction, nonfiction, poetry, and visual art) to be published, as well as design, layout, and production, to prepare a manuscript for publication. The course enables the student to produce a literary magazine.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

ENT – Engineering Technology Courses

ENT 106 Print Reading for Manufacturing
3 credits
Focuses on blueprint reading techniques related to manufacturing operations. The course will covers basic drafting standards, sketching, machine shop math, symbol interpretation, tolerance, and dimensioning standards.

ENV – Environmental Science Courses

www.rrcc.edu/geology

ENV 101 Environmental Science w/Lab: GT-SC1
4 credits
Provides an introduction to 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. Using a holistic approach, students will study how the foundations of natural sciences interconnect with the environment. This course includes laboratory experience.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores, and MAT 050 (grade C or higher) or equivalent placement scores.

ENV 110 Natural Disasters: GT-SC2
3credits
Introduces the student to the different types of natural hazards, their causes, effects, and what can be done to reduce the risks to human populations. Scientific advances related to understanding, predicting, and preparing for natural disasters are discussed. This course also covers anthropogenic changes to Earth systems which may be increasing the frequency and severity of these events.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores, and MAT 050 (grade C or higher) or equivalent placement scores.

ENY – Energy Technology Courses

www.rrcc.edu/renewable-energy

ENY 101 Introduction to Energy Technologies
3 credits
Introduces the energy technologies in use today and those that are in the research stage as possible alternatives. The course presents technologies including active solar heating, passive solar heating, wind energy systems, biomass, photovoltaic, co-generation, low and high head hydro, hydrogen, geothermal, power towers and energy storage systems.

ENY 102 Building Energy Audit Techniques
3 credits
Teaches the principles of building energy audit techniques including the use of diagnostic software. During the course the student will perform an energy audit. As a result of the audit, the student will be able to recommend an application of the most appropriate energy-saving treatments such as insulation, windows, appliances and HVAC equipment.

ENY 120 Solar Thermal System Install
4 credits
Students explore solar thermal concepts, components, and installation techniques. The student will apply the principles of solar energy, site analysis, cost vs. payback, sizing, energy audit, and solar system design into a lab project.

ENY 130 Solar Photovoltaics Grid-Tie
2 credits
Students learn about current solar collection and conversion equipment, and how size a grid-tied system and to install for maximum performance. They will layout and orient these systems using standard industry tools such as a solar path finder. Conduit bending, wiring and roof attachments and penetrations are also part of the course.

ENY 131 Solar Stand-Alone Systems
2 credits
Exposes the student to additional labs having to do with panel racking and installation and testing. Sizing systems with battery storage and usage calculations for off-grid applications will be part of the course.

ENY 132 NABCEP Entry-level Prep Class
1 credit
Provides the student with a review of the material and concepts that might be on the NABCEP Entry-Level Test of Knowledge.

ENY 153 Renewable Energy Construction
4 credits
Introduces solar construction techniques, terminology and construction materials in detail. This course covers moisture and air quality in tight construction as well as an overview of the building shell and interior walls.

ENY 231 Solar Contracting
4 credits
Helps students to understand the PV electrical code (NEC 690). Permitting, Utility rebate forms and sample forms from local jurisdictions will be explored. Course details the entire installation aspect of the business from design through final inspection.

ENY 240 Estimating
4 credits
A capstone class for the student "bringing it all together". The student will learn how to, and be required to provide a bid package to include all materials properly priced with labor, subcontracting, taxes and all other required fees in a package that will provide a quality job to the customer while showing a profit.

ENY 275 Special Topic: Thermal Install II & Controls
4 credits
A continuation of the skills learned in ENY 120 with additional labs to help reinforce the learning process. The student will learn additional system control and operation techniques. System and equipment troubleshooting is also included.

ENY 236 Advanced PV Concepts and Commercial Applications
4 credits
Building on concepts learned earlier in the program, this course expands upon the use of photovoltaic commercial and utility scale systems. Included are troubleshooting and maintenance practices as well as battery back-up and off-grid applications. (Replaces ENY 230: PV Troubleshooting and Maintenance)

ENY 280 Internship
1-4 credits
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.

ESL – English as a Second Language Courses

www.rrcc.edu/international-student-services

ESL 033 Advanced Listening & Speaking
3 credits
Provides students with opportunities to increase the listening and speaking skills required in academic and work situations. It emphasizes vocabulary building, listening and note-taking strategies, as well as questioning, discussion, and presentation skills.
Prerequisite: appropriate placement score.

ESL 043 Advanced Reading
3 credits
Prepares students for academic reading assignments. It assists students to read more accurately and critically thought the development of vocabulary knowledge and reading skills. It introduces research skills.
Prerequisites: completion of Intensive English Program or appropriate placement score.

ESL 053 Advanced Composition
3 credits
Reviews paragraph organization and develops the skill of writing essays using selected rhetorical modes. It emphasizes accurate use of advanced grammatical structures. It includes summarizing, paraphrasing, and research writing.
Prerequisites: completion of Intensive English Program or appropriate placement scores.

ESL 091 Basic Intensive English
8 credits
Develops and strengthens oral and written communication in English for non-native speakers at the basic level by focusing on the four skills: grammar, reading, writing, and listening/speaking. It provides the first of six levels of intensive English as a second language.
Prerequisite: appropriate placement scores.

ESL 092 High Basic Intensive English
8 credits
Develops and strengthens oral and written communication in English for non-native speakers at the high basic level by focusing on the fours skills: grammar, reading, writing, and listening/speaking. It provides the second of six levels of intensive English as a second language.
Prerequisite: ESL 091 or appropriate placement score.

ESL 093 Low Intermediate Intensive English
8 credits
Develops and strengthens oral and written communication in English for non-native speakers at the low intermediate level by focusing on the four skills: grammar, reading, writing, and listening/speaking. It provides the third of six levels of intensive English as a second language.
Prerequisite: ESL 092 or appropriate placement scores.

ESL 094 Intermediate Intensive English
8 credits
Develops and strengthens oral and written communication in English for non-native speakers at the intermediate level by focusing on the fours skills: grammar, reading, writing, and listening/speaking. It provides the fourth of six levels of intensive English as a second language.
Prerequisite: ESL 093 or appropriate placement score.

ESL 095 High Intermediate Intensive English
8 credits
Develops and strengthens oral and written communication in English for non-native speakers at the high intermediate level by focusing on the four skills: grammar, reading, writing, and listening/speaking. It provides the fifth of six levels of intensive English as a second language.
Prerequisite: ESL 094 or appropriate placement score.

ESL 096 Low Advanced Intensive English
8 credits
Develops and strengthens oral and written communication in English for non-native speakers at the low advanced level by focusing on the four skills: grammar, reading, writing, and listening/speaking. It provides the sixth of six levels of intensive English as a second language.
Prerequisite: ESL 095 or appropriate placement score.

ESL 175 Special Topic: International Student Orientation
1 credit
Orientation for first semester international students. Content includes: Immigration regulations and compliance, US culture and customs, US educational system and classroom culture, US medical system, housing, driving, diversity and tolerance, study skills, and understanding RRCC support services.

EST – Esthetician Courses

www.rrcc.edu/warrentech

EST 110 Introduction to Facials and Skin Care
3 credits
Provides a basic understanding of massage manipulations when providing facials and the study of skin in both theory and practical applications. Benefits derived from proper facial and good skin care routines. Training is conducted in a classroom or lab setting using mannequins or models.

EST 111 Intermediate Facials & Skin Care
2 credits
Covers theory and practical application pertaining to anatomy, skin disorders, skin types and facial shapes. Students help patrons to select the proper skin care treatment. Practical and theory application can be done in specialized classes or supervised salon (clinical) setting using models or customer service.

EST 160 Introduction to Disinfection, Sanitation and Safety
2 credits
Introduces the various methods of disinfection, sanitation and safety as used today in the industry. Classroom study of bacteriology and the terminology dealing with disinfection, sanitation and safety.

EST 161 Intermediate Disinfection, Sanitation & Safety
2 credits
Presents theory and the daily utilization and practice of the proper methods of disinfection, sanitation, and safety. Procedures as related to all phases of the industry. Training is provided in a supervised (clinical) setting.

EST 210 Advanced Massage & Skin Care
2 credits
Provides the student with advanced techniques in massage, skin care, and lash/brow tinting. Theory and practical procedures ready the student for employment. Instruction is provided in specialized classes or in a supervised salon (clinical) setting. Student preparation for State Board Licensing Examination.

EST 211 Facial Makeup
1 credit
Provides instruction on cosmetics and their functions. The importance of color theory, facial types and skin tones as they relate to facial makeup. Instruction from the basic makeup application to the corrective makeup procedure is taught. Disinfection and sanitation is taught as it pertains to all aspects of makeup.

EST 212 Hair Removal
3 credits
Provides in-depth study and practice of hair removal and the practice of patron protection and safety. Training for general waxing and body waxing procedures are provided. Demonstration of disinfection and sanitation as it pertains to Colorado rules and regulations will be practiced.

EST 230 Preparation for State Board
2 credits
Provides preparation for State Boards. Allows the student the opportunity to gain knowledge in the practical and/or written examination required by the Colorado Board of Barber/Cosmetology.

EST 260 Advanced Disinfection, Sanitation & Safety
2 credits
Provides advanced training on disinfection, sanitation, and safety is incorporated in a supervised salon (clinical) setting. Advanced techniques will ready the student for employment. Student preparation for the State Board Licensing Examination in theory and practical procedures for disinfection, sanitation and safety.

FIW – Fine Woodworking Courses

www.rrcc.edu/fine-woodworking

FIW 100 Fundamentals of Woodworking
3 credits
Introduces students to the materials, drawings and tools used in the joinery, assembly, preparation and finishing of a woodworking project. The course uses a project that directs students to develop working drawings from which a furniture piece is built.

FIW 101 Introduction to Woodworking
6 credits
Provides an introduction to woodworking based on an old-world approach to the instruction of basic woodworking skills. This is an intense course intended for serious/professional students only. The course includes in-depth instruction of hand, power, and stationary tools and thorough instruction on the elements of design, shop drawings, and wood science.

FIW 102 Classical Guitar Construction
6 credits
Create a Spanish-style, nylon string classical guitar from scratch. Beginning with raw materials, the student is expected to build a classical guitar.
Prerequisite: FIW 101.

FIW 103 Steel String Guitar Construction
6 credits
Create a steel string guitar from scratch. Beginning with raw materials, the student is expected to build either an OM (Orchestra Model) or a dreadnaught style steel string guitar.
Prerequisite: FIW 101.

FIW 104 Elements of Design
2 credits
Guides students in developing an approach to furniture design that will help them with either a current or future project. The class covers sketches, shop drawings, and model making.

FIW 105 Guitar Setup and Repair
3 credits
Introduces students to instrument setup and repair. Students learn how to set up their instruments for optimal playability based on musical genres and playing styles. Crack repair, finish repair, fretwork and electronics are covered.
Prerequisite: FIW 101.

FIW 109 Introduction to Cabinetmaking
4 credits
Introduces the student to the various components of cabinetmaking. The course will teach the student basic shop drawing, material properties, joinery, and power and stationary tools as related to basic cabinet construction. Cabinet construction and safe and efficient use of machinery and materials are the essential goals of this course.

FIW 118 Introduction to Turning
3 credits
Explores the capacities of a lathe through spindle and faceplate turnings. The use of bead, cove, taper, cylindrical, v-cuts, proportion and curved line relationships are examined. Lathe components, tools, and sharpening are covered.
Prerequisite: FIW 100 or FIW 101.

FIW 119 Intermediate Turning I
3 credits
Expands on FIW 118 (Introduction to Turning) to include turning natural edge bowls, long stem goblets, spiral turning, end grain hollowing, open forms, and closed forms/internal hollowing techniques.
Prerequisite: FIW 118.

FIW 120 Intermediate Turning II
3 credits
Explores the lathe in turning large diameter platters, texturing, square bowls, triangular bowls, Saturn bowls, lidded boxes and sphere projects. This course is a continuation of FIW 119 Intermediate Turning I.
Prerequisite: FIW 119.

FIW 121 Advanced Turning
3 credits
Develops advanced turning techniques to create woodturning art. Students will learn the use of concentric chucks to do multi-access turning of spindles, bowls and hollow vessels. They will also learn to use grinders to create twisted hollow forms and carve on the exterior of bowls and vases. The students will also learn thread chasing, segmenting, and multi-sided box techniques. This class is an extension of FIW 120 Intermediate Turning II.
Prerequisite: FIW 120.

FIW 122 Wood Carving
3 credits
Allows student to experiment with hand and power-carving tools to discover the qualities of numerous materials and the many possibilities of wood shaping through carving. The student produces samples of relief and three dimensional carvings and learns proper sharpening procedures.

FIW 125 Wood Finishing
3 credits
Teaches students the wide variety of finishes available from the oldest formulations to the wide array of modern films and stains. Students experiment with a representative sampling of colorations and surface finishes on a variety of wood species using a selection of application techniques.

FIW 126 French Polish
1 credit
Introduces students to shellac as a wood finish. Students will learn a modern day approach to applying a traditional French polish shellac finish by hand.

FIW 128 Doormaking
4 credits
Involves the planning, design, selection and purchase of materials, construction, finishing and hanging of a door students have constructed. Assorted styles of door construction, joinery, glues and fabrication techniques are examined.
Prerequisites: FIW 100, FIW 101, FIW 109 or permission of instructor

FIW 130 Mandolin Construction
6 credits
Design and build a carved top/back mandolin from a set of plans.
Prerequisite: FIW 101.

FIW 131 Electric Guitar Construction
6 credits
Design and build an electric guitar from a set of plans. The class also teaches students the various parts of an electric guitar and how they work together to form a functioning instrument, as well as basic finishing and setup.
Prerequisite: FIW 101.

FIW 175 Special Topic: Advanced Instrument Finishing
3 credits
Assists students who are interested in individual topics within the normal curriculum. The student identifies and selects objectives needed for industry upgrades or special training to enter the workforce. The student may explore current topics, issues, or activities related to one or more aspects of the Fine Woodworking industry.

FIW 200 Veneering and Marquetry
3 credits
Design and create a marquetry project. The course covers the surface decoration of wood, both edge and face treatments, through the use of thin, often expensive, exotic or figured woods. Manmade and solid substrates for veneering as well as available patterns, styles, and marquetry techniques are explored.

FIW 201 Furniture I: Table Making
4 credits
Explores advanced wood joinery, using both hand and power tool techniques in constructing a table. This course will include two table projects. The first project will explore production style of building. The second project will be designed by the student and will focus on fine craft and design to create a table that incorporates curved elements and joinery.
Prerequisite: FIW 101.

FIW 202 Furniture II: Carcass Construction
4 credits
Explores advanced wood joinery, using both hand- and power-tool techniques in frame and carcass-style construction. Students will focus on fine craft and design to create a free-standing, solid-wood cabinet.
Prerequisite: FIW 201.

FIW 203 Furniture III: Chair Making
4 credits
Explores advanced wood joinery, using both hand and power tool techniques in constructing a chair.
Prerequisite: FIW 202.

FIW 207 Workbench Construction
6 credits
Design and fabricate a workbench to be used in woodworking, based on specific needs and from a complete set of drawings.
Prerequisite: FIW 201.

FIW 208 Furniture Restoration and Repair
3 credits
Teaches the student to repair and restore furniture. Students will learn how to determine the adhesive and finish used, repair veneer, replace broken pieces, reassemble reconditioned furniture repair, and restore finishes. Students will learn how to determine the original construction methods employed in order to repair furniture.
Prerequisites: FIW 100 or FIW 101 and FIW 125.

FIW 209 Intermediate Cabinetmaking
4 credits
Covers cabinet types, kitchen and cabinet design, layout, construction, hardware installation, materials, power tool use, accessories and estimation.
Prerequisites: FIW 109, FIW 100, FIW 101 or permission of instructor.

FIW 210 Bending and Laminations
4 credits
Involves the process of curving natural and manmade panels through a variety of methods including spaced kerfs, bent lamination and steam bending. Form construction, various qualities of different wood species and adhesive selection are studied.
Prerequisites: FIW 101, FIW 109 or permission of instructor.

FIW 212 Contemporary Furniture Making
4 credits
Introduces students to the business of studio furniture and directs their path in designing their style of contemporary furniture. Students will create unique and meaningful designs including prototypes leading to a final piece of furniture. This course builds upon the concepts and skills learned in FIW 104 Elements of Design and FIW 201 Furniture I.
Prerequisite: FIW 104 and FIW 201.

FIW 213 Advanced Contemporary Furniture Making
4 credits
Explores the creative possibilities of making contemporary furniture. Student will explore alternate forms and materials as they build a project that goes beyond conventional ideas of furniture making. This course builds upon skills learned in FIW 212 Contemporary Furniture Making.
Prerequisite: FIW 212.

FIW 217 Advanced Cabinetmaking
4 credits
Develop familiarity with various types and designs of cabinets used in residential and commercial construction, including curved/radius cabinets and door fabrication. Construct and install shop-built cabinets including a variety of door styles, application of plastic laminate and solid surface materials. The proper use of power tools is emphasized. This course expands the skills taught in FIW 109 – Intro to Cabinetmaking and FIW 209 – Intermediate Cabinetmaking.
Prerequisite: FIW 109 and FIW 209.

FIW 219 Woodworking Lab
4 credits
Provides the opportunity for the experienced woodworker to create a piece to expand their woodworking skills through the design and construction of a carefully selected woodworking project. In collaboration with the instructor students create drawings, choose materials, resolve joinery techniques, estimate and construct the proposal. Emulation of a profitable woodworking business is part of this class experience and the ability to anticipate, plan, complete, and work individually will be expected.
Prerequisite: FIW 201.

FIW 230 Advanced Mandolin Construction
6 credits
Design and build a carved top/back mandolin from a set of plans. This class is an extension of FIW 130 Mandolin Construction.
Prerequisite: FIW 130.

FIW 231 Advanced Electric Guitar Construction
6 credits
Design and build an electric guitar. The course introduces advanced techniques, teaching students to design their own electric guitar from scratch. Students build their guitar using hand tools, power tools, and stationary tools. The class furthers students' understanding of the various parts of an electric guitar and how they work together to form a functioning instrument, as well as basic finish and setup. This class builds on skills learned in FIW 131 Electric Guitar Construction.
Prerequisite: FIW 131.

FIW 232 Advanced Acoustic Guitar Construction
6 credits
Design and build a steel string or classical guitar using advanced techniques including material selection, inlay, scale lengths, cutaways, and composite materials. Advanced traditional and modern construction techniques are explored. This course expands upon techniques learned in FIW 102 Classical Guitar Construction or FIW 103 Steel String Guitar Construction.
Prerequisite: FIW 102 or FIW 103.

FIW 260 Woodworking Intensive I
credits
Focuses on traditional woodworking tools and techniques for creating furniture and utility objects while introducing students to technological advancements in the industry. Students will focus on design and professional practices to better prepare for entrepreneurial endeavors.

FIW 261 Woodworking Intensive II
credits
Focuses on traditional woodworking tools and techniques for creating furniture and utility objects while introducing students to technological advancements in the industry. Design and professional practices will be carefully considered for each project.

FIW 275 Special Topics
0 – 6 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest

FIW 285 Independent Study
0-12 credits
Students engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of the instructor.

FRE – French Courses

www.rrcc.edu/foreign-languages

FRE 101 Conversational French I
3 credits
Introduces beginning students to conversational French and focuses on understanding and speaking French. It covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

FRE 102 Conversational French II
3 credits
Continues the sequence for beginning students who wish to understand and speak French. It covers basic conversational patterns, expressions, and grammar.
Prerequisite: FRE 101 or instructor permission.

FRE 111 French Language I
5 credits
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 credits
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.
Prerequisite: FRE 111 or instructor permission.

FRE 211 French Language III: GT-AH4
3 credits
Continues French I and II in the development of increased functional proficiency in listening, speaking, reading and writing the French language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: FRE 112 or instructor permission, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FRE 212 French Language IV: GT-AH4
3 credits
Continues French I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the French language. Note: The order of the topics and the methodology will vary according to individual texts and instructors
Prerequisite: FRE 211 or instructor permission, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST – Fire Science Technology Courses

www.rrcc.edu/fire-science

FST 100 Firefighter I
9 credits
Addresses the requirements necessary to perform at the first level of progression as identified in National Fire Protection Association (NFPA) 1001, Firefighter Professional Qualifications. This course is a classroom section in which the IFSTA 200 Essentials of Firefighting Manual is taught.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores. Corequisite FST 107.

FST 102 Principles of Emergency Services
3 credits
Introduces the fire service organization and operation from past to present operations. It includes operation and organization of federal, state, local and private protection forces. The course emphasizes extinguishing methods and equipment, special extinguishing agents, and special hazard considerations. It serves as a prerequisite for students with no previous fire suppression training or experience.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST 103 Fire Behavior & Combustion
3 credits
Explores the theories and fundamentals of how and why fires start, spread, and are controlled.

FST 109 Occupational Safety and Health for Fire
3 credits
Focuses on on-scene and on-the-job firefighter health, safety and fitness, the safety officer, mental well-being, stress management, and standards related to health, safety, and fitness. This course parallels NFPA 1500 Standards.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST 105 Building Plans and Construction
3 credits
Covers various methods of building construction, the materials used in building construction, and their relationship to

methods of fire attack and extinguishments. The course includes types of building construction, principles of fire resistance, flame spread, smoke and fire containment, basic knowledge of plan review, and blueprint specifications.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST 106 Fire Prevention
3 credits
Introduces the organization of the fire prevention agency; inspections, surveying, mapping and company inspections; recognition of fire hazards; engineering a solution to the hazard; enforcement of the solution; and public relations as affected by fire prevention.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST 107 Hazardous Materials Awareness Operations
3 credits
Covers hazardous materials incidents, recognizing and identifying hazardous materials, planning response, implementing response procedures, decision making, and continued evaluation at the awareness and operation level.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST 110 Job Placement and Assessment
3 credits
Addresses all aspects of the fire service entrance examination process and emphasizes various components of the exam, including the written, physical abilities, and oral interview. The objective of this class is to help increase the entrance firefighter candidate's chance of obtaining a career in the fire service.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST 151 Driver-Operator
3 credits
Provides students with the basic knowledge and skills to safely operate fire apparatus according to the NFPA professional standard. The course enables students to display and demonstrate knowledge of fire apparatus, operation of apparatus, pumps and pumping, hydraulics calculations, maintenance, and testing.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

FST 160 Candidate Physical Abilities Test Prep Course
3 credits
Prepares students for the job of a firefighter as well as the testing requirements to test for CPAT. The tools for all classes will be fire service tools, such as, sledge hammer, hose, nozzle, ladders, pike pole, power saws, and rescue dummy. The course will include the basic fire skills of rescue, hose lay, equipment movement, ladder raise and extend, forcible entry, search, and ceiling breach. The course also includes aerobic and strength training to assist student in passing CPAT.

FST 170 Clinical I
1 credit
Provides the clinical practicum to apply the knowledge & skills related fire science technology. The clinical allows the student an inside view of the workings of a fire department and the day to day operations of a fire station. The student will be part of a crew and experience the teamwork involved in running the station and the emergency calls they may be involved in.
Prerequisites: FST 100, FST 107, or permission of instructor.

FST 175 Special Topic
1-6 credits
Provides foundational (100 level) and advanced (200 level) classes that are offered in the fire service field that do not fall under the standard curriculum. These may be seminar classes or may be prior-learning credit portfolio classes that apply to fire electives, including National Fire Academy courses, NFPA courses, and local seminars and other professional courses and certifications.
Prerequisite: Permission of instructor.

FST 180 Internship
1-6 credits
Allows students to gain experience and knowledge from on-the-job training. Positions are non-paid. This course must be arranged through the office of Job Placement/Cooperative Education and with approval of an advisor.
Prerequisite: Permission of program advisor.

FST 201 Instructional Methodology (Fire Instructor I)
3 credits
Covers the role and responsibility of the fire service instructor. It includes oral communication skills, concepts of learning, developing lesson plans, instructional materials and delivery methods, testing and evaluations, records, reports, and demonstration of instructional abilities.
Prerequisites: FST 100 and 102, or permission of instructor.

FST 202 Firefighting Strategy and Tactics
3 credits
Covers firefighting strategy and tactics, methods of fire attack, fire behavior, building construction, and pre-fire planning.
Prerequisites: FST 102, 104, and 107, or permission of instructor.

FST 203 Fire Science Hydraulics
3 credits
Covers hydraulic calculations that are necessary in water delivery and supply for fire suppression, hydraulic laws and formulas as applied to fire protection requirements, and fire apparatus UL requirements.
Prerequisites: FST 105 and MAT 107.

FST 204 Fire Codes and Ordinances
3 credits
Covers familiarization and interpretation of national, state, and local codes, ordinances, and laws which influence the field of fire prevention. Fire code and life safety code are reviewed and referred to throughout the course.
Prerequisites: FST 102, 104, 105, 106 or permission of instructor.

FST 205 Fire Cause Determination
3 credits
Covers the proper method(s) of conducting basic fire investigation, determining area and point of origin, cause and methods of fire spread, and recognition and preservation of evidence. The course includes arson law, Constitutional law, interviewing, court procedures, and testimony.

FST 206 Fire Company Supervision and Leadership
3 credits
Covers fire department organization, management philosophies, leadership traits, time management, group dynamics, communications, motivation counseling, conflict resolution, and employee discipline. The course meets the components of Fire Officer I State Certificate.
Prerequisites: ENG 121; FST 102, FST 202, or permission of instructor.

FST 207 Firefighting Strategy and Tactics II
3 credits
Focuses on tactics and strategies associated with transportation emergencies and fires, high-rise fires, below-ground incidents, confined space emergencies, and special rescue situations.
Prerequisite: FST 202, or permission of instructor.

FST 209 Fire Protection Systems
3 credits
Addresses principles and functions involved in the installation and use of sprinkler systems, special suppression systems, and fire detection and alarm systems. It covers portable fire extinguishing equipment requirements, sprinkler systems, installation, inspection and maintenance, special protection systems, and residential sprinklers.
Prerequisites: FST 100, ENG 090 (grade C or higher) or equivalent placement scores or permission of instructor.

FST 251 Fire Service and the Law
3 credits
Provides the professional fire officer with detailed information on federal, state, and local laws, ordinances, and civil and criminal liabilities that impact the fire service. It includes the OSHA and NFPA standards in-depth, as well as pensions, Workman's Compensation, drug testing, union bargaining agreements, and other topics.

FST 252 Fire Arson Investigation
3 credits
Studies cause and origin as related to arson fires, evidence preservation and chain of evidence, interviewing, giving testimony, and laws associated with fire and arson investigation, records, and reports.
Prerequisites: FST 100, 102, and 205, or permission of instructor.

FST 253 Fire Ground Organization and Command (National Incident Management System)
3 credits
Focuses on fire ground management, resource availability, management and deployment, National Incident Management System and all related components, communications, problem solving, and table top exercises.
Prerequisite: FST 202, or permission of instructor.

FST 254 Hazardous Materials Technician
3 credits
Focuses on techniques associated with hazardous materials mitigation, the use of monitoring devices, components of a mitigation team, and command and control of hazardous materials incidents.
Prerequisite: FST 107.

FST 255 Fire Service Management
3 credits
Serves as the basic management course for present and potential members of the fire service and for students and members of other fire science-related professions. It introduces students to current management practices and philosophies and real-world applications from the supervisor's point of view. The course covers decision-making/problem-solving, communication skills, conflict resolution, creativity and innovation, as well as the role of the manager in supervising personnel and programs, e.g., motivation, leadership, counseling, ethics, and handling discipline and grievances.
Prerequisites: FST 202 and FST 206, or permission of instructor.

FST 256 Fire Service EMS Management
3 credits
Addresses budgeting, staffing, training, and equipment issues; transportation, standard of care, and protocols; operations, communications, incident and disaster management; and legal issues associated with EMS operations.

FST 257 Fire Department Administration
3 credits
Focuses on the operations of volunteer and combination fire departments; compliance with standards and ordinances; funding and budgeting; recruiting, hiring, and retaining employees; organizational planning; and public relations.
Prerequisite: FST 206, or permission of instructor.

FST 258 Wildland Fire Incident Management and Organization
3 credits
Introduces and develops supervisory and decision-making skills for fireline management individuals. The course covers (1) First Attack Incident Commander, (2) Crew Supervisor, (3) Incident Commander Multi-Resource, and (4) Task Force/Strike Team Leader. All four courses are certifiable by the Incident Command System under NIIMS and recognized by the National Wildfire Coordinating Group. The course also covers fireline safety, size-up, incident planning, ordering, tactics, strategies, and administrative duties.
Prerequisite: FST 152 or previous certified red card training.

FST 259 Wildland Firefighting
3 credits
Focuses on management of uncontrolled fire burning, urban/wild land interface, strategy and tactics used in controlling wild land fires, prevention methods, and incident command practices.

FST 275 Special Topics– Fire Analysis Thesis
1-4 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest not previously offered. The course includes National Fire Academy courses, VFIS courses, NFPA certification courses, or other special subject classes that do not fall under the standard FST curriculum.
Prerequisite: Permission of instructor.

FST 285 Independent Study
1-6 credits
Meets the individual needs of students. The student will engage in intensive study or research under the direction of a qualified instructor. The product of this course is an applied research project that will not only benefit the student but the student's organizational skills as well.
Prerequisite: Permission of instructor.

FST 289 Capstone
1-12 credits
Evaluates the culmination of student learning within a given program of study. This course will include an evaluation process of an entire program of study based on individual program/discipline objectives.
Prerequisite: Permission of instructor.

FVT - Film & Video Technology Courses

FVT 217 Acting for the Screen
3 credits
Instructs the student in the use of on-set and on-camera environments and techniques unique to television and film productions. It is designed for students interested in becoming professional screen actors. Students will be trained in various acting techniques created for television and film production.

FVT 250 Scriptwriting for Film & Video
3 credits
Develops screen writing skills, focusing on the basic format of the craft, scene construction, genre conventions, three act structure, characterization and idea generation. Students complete a 30-minute script suitable for shooting.

GED – General Education Courses

www.rrcc.edu/ged

GED 011 GED Preparation
1 credit
GED 011 presents material for students who need to prepare for the GED tests: Language Arts, Writing; Language Arts, Reading; Mathematics; Science; and Social Studies.

GEO – Geography Courses

www.rrcc.edu/geography

GEO 105 World Regional Geography: GT-SS2
3 credits
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 and less developed regions.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

GEO 106 Human Geography: GT-SS2
3 credits
Introduces students to geographic perspectives and methods in the study of human societies by examining the spatial characteristics of populations, language, religion, ethnicity, politics, and economics. Examines relationships between physical environments and human societies.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

GEO 111 Physical Geography: Landforms w/Lab: GT-SC1
4 credits
Focuses on the study of the spatial relationships between humans and the natural environment. Five main themes are addressed: the atmosphere (weather and climate); the hydrosphere (water bodies and rivers); the lithosphere (Earth's crust and landforms); the biosphere (soil, plant, and animal relationships); and the impact of the human population on these environmental factors. This course is recommended for students interested in environmental studies, earth science, and geography.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

GEO 112 Physical Geography: Weather & Climate w/Lab: GT-SC1
4 credits
Introduces the principles of meteorology, climatology, world vegetation patterns, and world regional climate classification. The course includes investigation the geographic factors which influence climate such as topography, location, elevation, winds, and latitude.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

GEO 160 Global Climate Change
3 credits
Present 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 credits
Provides a current outlook for the global environment, describing the threats imposed on different natural ecological systems. The course enables the student to develop a set of intellectual tools and ways of thinking about the environment to evaluate for themselves how serious a given environmental problem will be.

GER – German Courses

www.rrcc.edu/foreign-languages

GER 101 Conversational German I
3 credits
Introduces beginning students to conversational German and focuses on understanding and speaking German. It covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

GER 102 Conversational German II
3 credits
Continues the sequence for students who wish to understand and speak German. It covers basic patterns, expressions, and grammar.
Prerequisite: GER 101 or permission of instructor.

GER 111 German Language I
5 credits
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 credits
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.
Prerequisite: GER 111 or instructor permission.

GER 211 German Language III: GT-AH4
3 credits
Continues German Language I and II in the development of increased functional proficiency in listening, speaking, reading, and writing the German language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisites: GER 112, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

GER 212 German Language IV: GT-AH4
3 credits
Continues German Language I, II, and III in the development of increased functional proficiency in listening, speaking, reading and writing the German language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: GER 211 or instructor permission, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

GEY – Geology Courses

www.rrcc.edu/geology
Note: General Oceanography is offered as a GT-SC1 lab science course, as NRE 251.

GEY 108 Geology of U.S. National Parks: GT-SC2
3 credits
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: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

GEY 111 Physical Geology w/Lab: GT-SC1
4 credits
Studies the materials of the earth, its structure, surface features, and the geologic processes involved in its development. This course includes laboratory experience.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

GEY 112 Historical Geology w/Lab: GT-SC1
4 credits
Studies the physical and biological development of the earth through the vast span of geologic time. The course emphasizes the investigation and interpretation of sedimentary rocks, the record of ancient environments, fossil life-forms, and physical events, all within the framework of shifting crustal plates. This course includes laboratory experience.
Prerequisites: GEY 111, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

GEY 116 Gems, Crystals, and Minerals
1 credit
Introduces basic information on the definition, formation, identification, and uses of gems, crystals, and minerals.

GEY 118 Rock and Mineral Identification
1 credit
Introduces basic information on the definition, formation, identification, and uses of rocks and minerals.

GEY 125 Plate Tectonics
1 credit
Presents the theory of plate tectonics and its relationship to continental movement, oceans, mountain building, earthquakes, and volcanoes.

GEY 127 Oil and Gas Geology
1 credit
Introduces basic concepts of oil and gas geology, including associated rock types, hydrocarbon formation mechanisms, stratigraphic relationships, permeability, and various types of "traps". Oil and gas exploration and production methods are also covered. Examples from within Colorado are given.

GEY 130 Dinosaurs of Colorado
2 credits
Introduces the evolutionary history of dinosaurs with special emphasis on the Mesozoic environment in Colorado, the dinosaurs that inhabited it, and the history of their discovery.

GEY 135 Environmental Geology w/Lab: GT-SC1
4 credits
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. This course includes laboratory experience.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

GEY 140 Introduction to Global Positioning Systems
1 credit
Provides instruction on the use and application of hand-held global positioning systems (GPS). The course includes navigation, using a GPS with a topographic map, mapping geologic and man-made features using a GPS, and exchanging information with computerized digital maps.

GEY 143 The Geology and Evolution of Caves
2 credits
Introduces the science of caves. The course includes cave formation and evolution, cave decorations (speleothems), and the adaptations of living organisms to life below ground. It incorporates a one-day field trip to a nearby cave system.

GEY 205 The Geology of Colorado
3 credits
Covers the geologic history of Colorado with emphasis on formation of mountain ranges; igneous, sedimentary, and metamorphic rock types; ore deposits; and landforms. It incorporates field experience and/or classroom lectures.
Prerequisites: Permission of Instructor.

GEY 206 Colorado Mines and Ores
2 credits
Presents the geology of the mines and ores of Colorado in the context of the mines, mills, and smelters of the historic mining camps and districts of Colorado. Emphasis is on the geology of the Colorado Mineral Belt, identification of rocks and ore minerals from these districts, and introduction to the processes which create ore deposits.

GEY 208 Geology Field Trip
3 credits
Involves in-depth field studies into the geology of specific regions both within and outside Colorado. Trips lasting from one to several days to study the area constitute the major activity of the course. The specific area of investigation is indicated in the schedule of classes each time the course is offered.
Prerequisites: Permission of Instructor.

GEY 228 Field Geology
4 credits
Provides students with the opportunity to experience geology in a field setting, apply geologic principles, and complete in-depth studies of the specific geologic features and history of an area of geologic interest. A field trip lasting between seven and fourteen days is the highlight of the course. The specific area of investigation is indicated in the schedule of classes each time the course is offered. Trips may be within or outside of the United States.

GIS – Geographic Information Systems Courses

www.rrcc.edu/geography

GIS 101 Introduction To Geographic Information Systems
3 credits
Surveys the development and operation of automated geographic information systems. The course focuses on the fundamentals of using computers to draw maps and incorporates the study of cartographic fundamentals such as map projections, map scales, selective display of data on maps, and various computer software applications in GIS.

GIS 110 Introduction To Cartography
3 credits
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 protocol resulting in the effective communication of both qualitative and quantitative information. The course is generally taught in the fall.

GIS 210 Intermediate GIS
3 credits
Builds upon the spatial analysis principles and concepts of GIS 101. Students work with more advanced analytical tools and

develop skills in spatial problem solving. The course is generally taught in the spring.

HEM – Heavy Equipment Mechanics Courses

www.rrcc.edu/warrentech

HEM 110 Gasoline and Power Plants and Electrical Systems
5 credits
Focuses on construction, operation, parts identification and service procedure for two and four cycle engines, cooling systems, lubrication, clutches, and electrical systems. Includes instruction on special equipment such as micrometers, cylinders gauges, valve grinding machines, electrical testing equipment, and various other necessary power tools.

HEM 113 Diesel Fuel Systems
3 credits
Focuses on the study of fuel injection systems of both gasoline and diesel engines. Covers diagnostics, service, and standard repair techniques.

HEM 161 Heavy Equipment Laboratory
4 credits
Incorporates work on equipment pertaining to the concurrent theory classes with practical application on available equipment.

HEM 210 Hydraulics and Transmissions
3 credits
Focuses on the study of hydraulic systems and power flow from the engine to the drive wheels or tracks. Provides the fundamentals of pumps, cylinders, valves, transmissions, clutches, and related components. Covers the proper uses of testing equipment and troubleshooting of systems.

HEM 211 Final Drives and Brakes
2 credits
Focuses on the study of single and double final drives and brake systems on both light and heavy duty equipment. Covers diagnostics, service and repair techniques.

HEM 268 Heavy Equipment Laboratory I
4 credits
Incorporates work on equipment pertaining to the concurrent theory classes with practical application of available equipment.

HEM 269 Heavy Equipment Laboratory II
4 credits
Incorporates actual work experience on equipment pertaining to the concurrent theory classes with practical application of available equipment.

HHP – Holistic Health Professional Courses

www.rrcc.edu/holistic-health
The prerequisite for all HHP courses is a grade of C or higher in ENG 090 or CCR 092 or CCR 094 or appropriate placement score, or a college degree of AA, AS or higher, or successful completion of ESL 053 and ESL 093.

HHP 100 Complementary Healing Methods
1 credit
Explores some of the more widely used alternative/complimentary healing methods. It expands the student's health horizons and enables the student to converse in a knowledgeable manner with patients and practitioners.

HHP 103 Introduction to Circle of Healing
1 credit
Enables students to synthesize different energy methods in order to work as part of a healing group using intuition and group consensus of imagery as the vehicle to create the healing environment.

HHP 104 The Healing Mind
0.5 credits
Explores the scientific research surrounding mind-healing as well as enhancing mind-body communication skills.

HHP 107 Managing Life`s Stresses
1 credit
Enables students to work with energy, confidence and enthusiasm in life by learning specific skills that will give control over stressful situations or people. This experiential class is designed for all who are interested in a higher quality of life and want to reach their full potential. Students learn how to relax quickly, improve self-image, improve concentration, and control worry. Students can experience freedom from old patterns that create stress, fatigue, and restricting beliefs.

HHP 108 Aromatherapy
1 credit
Informs students of the use of essential oils in health maintenance and the healing of disease. (Tantalizing data from the ancient Egyptians exists and has been verified by modern scientific research.) The course explores the pharmacokinetics and neurophysiology of essential oils, looking into their origins, extraction, storage, and use. This course enables students to observe a large number of essential oil remedies and their applications.

HHP 109 Jin Shin-Self Care
1 credit
Introduces Jin Shin Jyutsu, (the "Art of the Compassionate Person") a relatively simple way of restoring harmony by releasing energy congestion, tension, and stress. Jin Shin Jyutsu can achieve powerful results by applying nothing more than the hands. This art provides tools for the individual to actively participate in the balancing and maintenance of physical, mental and emotional health. This course primarily focuses on applying these tools for one's own self-care, with hands-on experience in class.

HHP 110 Neuro-Linguistic Programming (NLP) I
0.5 credits
Familiarizes students with the core presuppositions of NLP, explores conscious and unconscious communications on a structural level, and experientially teaches how verbal & non-verbal communications can allow each of us to effectively establish (and maintain) rapport with others. Students will discover how people get "stuck" and how they can get themselves and others "unstuck," culminating with an elegant change pattern; proven to be as useful with intrusive memories as it is with accessing new choices in the present.

HHP 111 Herbology I
1 credit
Explores the pharmacokinetics and composition of herbs and their effect on the body systems. The use of herbs in health maintenance and the healing of disease predates written history. Herbs have been found by archeologists in Paleolithic burials and throughout literature of the ancient Chinese and Egyptians verified by modern scientific research. The course focuses on the habitat, harvesting, storage, and usage of a select group of herbs.

HHP 113 Your Heart's Intention
1 credit
Looks at our heart's intention and what this means in our healing practice, work practice and everyday living. We will observe and discuss: intuition, knowing, seeing, different techniques for manifesting, the laws of attraction, and journaling growth as a healer or as you continue your chosen path. Discussion about self, self worth and how to accept success. The student will be exposed to different types of medications, journaling, and working on manifesting their personal goals.

HHP 130 Reiki Level One
1 credit
Explores the traditional Usui use of Reiki. The course covers the history and development of Reiki work, beginning in Japan, to Hawaii, to the U.S., and later Europe, and focuses on the fundamental beliefs and the dynamics of the Reiki process. It enables each student to receive Reiki attunements to prepare for the Reiki energy work. Each class member gives and receives a Reiki hands-on treatment session.

HHP 142 Introduction to Traditional Chinese Medicine
3 credits
Introduces the theories and practice of Traditional Chinese Medicine (TCM), an ancient medical art. Basic theories are discussed, differentiation skills are practiced and treatment modalities are demonstrated.

HHP 145 Digestive Wellness
1 credit
Provides students with information on nutritional and herbal self-care treatments. Digestive disorders will be discussed such as acid reflux, Crohns, heartburn, hernia, gas, and bloating.

HHP 153 Acupressure Tap Technique Level 1 (EFT)
1 credit
Introduces the theory and practical application of light finger tapping on meridian end points used in traditional Chinese acupuncture. This course offers hands-on instruction emphasizing identifying, assessing, balancing, and clearing the mind-body energy system in self and others.

HHP 154 Acupressure Tap Techniques Level II (EFT2)
1 credit
Allows the student who has completed Acupressure Tapping Techniques 1 (EFT 1) to gain advanced experience with light finger tapping on meridian end points used in traditional Chinese acupuncture. This course offers and expansion of Level 1 material including additional clearing points, gentle techniques for trauma, clearing limiting beliefs, finding core issues, surrogate tapping, and working with groups.

HHP 161 Meditation for Healing
1 credit
Incorporates the practice of fundamental techniques for training your mind to be quiet and peaceful; to focus your thoughts on what you choose; to stimulate the Mind-Body conversation to enhance your own health.

HHP 164 Introduction to Hand Reflexology
1 credit
Teaches hand anatomy, basic stroke techniques, and hand reflex points. Reflexology is a gentle art that holistically facilitates opening the channels for healing energy to circulate to all parts of the body. The benefits of reflexology include stress reduction and deep relaxation, improved circulation, cleansing of body toxins and impurities, energy revitalization, and preventative health care.

HHP 166 Introduction To Reflexology
1 credit
Provides students with knowledge and skill in foot anatomy, basic hand stroke, and foot reflex points. Reflexology is a gentle art that holistically facilitates opening the channels for healing energy to circulate to all parts of the body. Benefits include stress reduction and deep relaxation, improved circulation, cleansing of body toxins and impurities, revitalization of energy and preventative health care.

HHP 169 Introduction to Healing Hands and Feet
1 credit
Studies combining the gentle healing hand energy work and gentle foot massage of reflexology in order to bring harmony to the body, mind, spirit, and emotions. Students will be provided with the knowledge of how to combine these healing modalities into practice. Seven major energy charkas, how they affect one's own self-healing, and the four energy fields that surround people will be explored.
Prerequisite HHP 164 or 166. Corequisite HHP 188.

HHP 188 Reflexology Practicum
1 credit
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.
Corequisite: HHP 169.

HHP 190 Crystal and Mineral Usage in Health Care
1 credit
Introduces students to crystal and mineral types, their properties and how to clear, clean, and use for personal use or with clients. The course incorporates hands-on experience to feel the different energies of crystals and minerals.

HHP 204 Applied Aromatherapy
3 credits
Examination of aromatherapy will be implemented from a holistic view. How different practitioners use this healing art will also be studied, including aromatherapists, medical practitioners, nurses, counselors, psychologists, massage therapists, herbalists, and manufacturers of perfume. Current research on essential oils will be covered, and how this research is advancing the practical applications of aromatherapy. This course will also explore holistic factors in aromatherapy, among them the spiritual, biological, social, and environmental sectors.

HHP 208 Advanced Muscle Skeletal Anatomy
2 credits
Presents an intensive study of the musculoskeletal system. Focus will be on understanding the bony structures and the relationship of the muscular system to the skeletal system from a dynamic perspective. Classes include lecture and work with the Maniken system building muscles with clay on a scaled down and anatomically accurate skeleton. Clinical connections will be made to take the study of anatomy out of the purely technical arena, and into the practical. The other nine systems of the body will be touched on briefly, because to clinically understand the practical applications of anatomy, students have to be aware of the interconnectedness of all the systems of the body.
Prerequisite: HPR 117.

HHP 211 Herbology II
2 credits
Builds upon the information and skills obtained in HHP 111 and further explores the pharmacokinetics and composition of herbs and their effect on the body systems.
Prerequisite: HHP 111.

HHP 212 Neuro-Linguistic Programming (NLP) II
0.5 credits
Offers further integration of the rapport skills taught in NLP 1 and moves on toward setting "well-formed" outcomes for any and all contexts. Students will discover why many goals don't manifest and the factors that can make the difference. They'll also learn how the mind (literally) codes experience and how it can be recoded. Additionally, students will be taught a powerful change pattern, which will allow a person to either stop unwanted habits or create desired behaviors.

HHP 213 Spiritual Care
0.5 credits
Explores individual development through the life span. The course presents the healing aspects of various religions with correlation to the energy system with Florence Nightingale's thoughts. Spiritual assessment and interventions for client care are covered.

HHP 215 The Role of Art in Healing
1 credit
Provides an overview of the role of visual art in healing and includes both didactic information and experiential learning. This course enables students to learn how the role of art in healing has evolved over the years and how to explore different models, approaches, and focuses of healing through visual art. A secondary goal of the course is to help students discover, through art, things about themselves which can enhance their professional work.

HHP 221 High Level Wellness
1 credit
Explores the positive dimensions of healthy lifestyles and covers the techniques required to meet the basic needs of illness, prevention, and burnout.

HHP 224 Introduction to Massage Therapy
1 credit
Provides hands-on techniques to complete a full body massage along with integration of healing touch. Swedish massage techniques and basic foot reflexology combined with a complete energy balance are performed and experienced by each student.
Corequisite HHP 225.

HHP 225 Expanded Concepts of Massage
1 credit
Builds on techniques students have learned during HHP 224 Introduction to Massage. It includes application of massage techniques with special populations and it also examines related basic therapeutic approaches such as hydrotherapy and acupressure. Considerations for developing professional practice are also addressed.

HHP 227 Communication Skills
0.5 credits
Assists students in acquiring essential skills in communication, conflict resolution, negotiation, and team building.

HHP 228 Solution Focused Personal Coaching
0.5 credits
Explores the practice of the effective, quick, Emotional Freedom Technique (EFT), to allow themselves and others to become more focused.

HHP 229 Wellness Coaching
1 credit
Provides the tools to facilitate yourself and others in the movement toward wellness. It enables students to learn assessment and basic counseling skills to establish contacts and goals for change.

HHP 235 Mind, Body Healing and Health
3 credits
Focuses on the survey of the rapidly developing awareness of the inner-connectedness of mind and body and spirit. The course explores the dialog between eastern and western health care and the many choices which could enhance health and well-being.

HHP 237 Stress Reduction with Biofeedback
3 credits
Focuses on the biological and psychological basis of stress and the detrimental effects it may have on our health. Emphasizes learning and applying stress reduction skills which are monitored with simple biofeedback instruments.

HHP 239 Issues in Holistic Nutrition
1 credit
Examines the nutritional alternatives to traditional medical therapies. The discussions will focus on a more optimum level of health using various nutritional techniques.

HHP 241 Healing with Imagery
0.5 credits
Explores the ancient mysteries of shaman healers and the clinical research now validating this power. Learn effective techniques which accelerate healing and develop insight.

HHP 242 Healing Touch Level I
1 credit
Healing Touch is energy-based therapeutic approach to healing. The course enables students to develop and use touch as a means of assessing a client's/patient's state of wellness through the intentional use of touch. Participants are given specific instructions in developing touch sensitivity and practice the assessment and healing methods. Healing Touch is a multi-level program that moves from beginning to advanced practice. After completion of Level 3, students are eligible to apply for certification as a healing touch practitioner.

HHP 243 Healing Touch Level II
1 credit
Builds upon the knowledge and skills obtained in HHP 242. Students gain the specific skills necessary to become an advanced practitioner. The course emphasizes experiential learning and focuses on developing healing sequences for specific client needs. Back techniques are introduced, and the therapeutic interactions for specific emotional and physiological problems are discussed and practiced.
Prerequisite: HHP 242.

HHP 244 Holistic Health Level I
1 credit
Introduces holistic philosophy, theory and practice and how it integrates with nursing in the art and science of caring and healing. The course focuses on conscious application of self-responsibility, caring, human development, stress reduction, communication, problem-solving, teaching, learning, leadership, and change.

HHP 245 Healing Touch Level III
1 credit
Includes further development of Higher Sense Perception (HSP), sequencing of healing techniques, working with guidance, self-healing, self-development, learning about other healers, and advanced healing methods. Level III Healing Touch is for students who have completed Level I and Level II and desire more in-depth experience. (30 Continuing Education Contact Hours)
Prerequisite: HHP 243.

HHP 246 Reiki Level II
1 credit
Builds upon the knowledge and skills obtained in HHP 130. Students learn the meaning of the three traditional Usui symbols. It incorporates in-depth discussion about application of the three symbols. Students learn about the necessary preparation of a Reiki therapist in offering treatments. One attunement is given to each student. Each member gives and receives a Reiki treatment using the three Reiki symbols. Long Distance and Mental Reiki processes are learned. Reiki Therapist Certification is available at completion.
Prerequisite: HHP 130.

HHP 249 Healing and Spiritual Journaling
1 credit
Incorporates using a journal as an effective tool for looking at personal growth process, as well as for helping clients in their healing process. The course teaches journaling skills and how to focus specifically on healing through various techniques.

HHP 250 Yoga Teacher Training
10 credits
Covers the requirements to be a professional Hatha Yoga teacher. Enables participants to understand and practice Yoga and develop skills to teach a wide variety of people in various settings. On completion of the course students will able obtain certification from the Yoga Alliance.
Prerequisite: HPR 102 or HWE 113. It is highly recommended that you have taken a yoga course before enrolling in this course.

HHP 254 Holistic Health Level II
2 credits
Provides a more comprehensive study of modalities to strengthen the whole person in the process of facilitating and maintaining optimal health using the basic theory of Holistic Health Level I.
Prerequisite: HHP 244.

HHP 256 Holistic Health Level III
2 credits
Builds on the basic theory introduced in Holistic Health Level II and provides a more comprehensive study of modalities to strengthen the whole person in the process of facilitating and maintaining optimal health.
Prerequisites: HHP 244 and HHP 254.

HHP 260 Advanced Reflexology
1 credit
Incorporates a hands-on approach with an emphasis on developing techniques. It continues the basic reflexology class and allows students to work on hand positions while addressing specific techniques for specific issues.
Prerequisite: HHP 164 or HHP 166.

HHP 263 Creating a Holistic Business Practice
2 credits
Focuses on the necessary skills to start an independent practice. It includes self-assessment of professional skills, the business plan for marketing, finances, and the actual design of the practice.

HHP 265 Gift of Self-Esteem
1 credit
Explores self-talk, self-appreciation, self-responsibility, belief, expectations and provides tools for increasing personal power.

HHP 269 Healing Presence
1 credit
Provides the opportunity to explore the meaning of presence through the process of increased self-awareness and self-discovery, as well as development of essential skills for connecting on a higher level with yourself and others.

HHP 270 Clinical
2 credits
Continues to build upon the principles that are expected to be understood by students in the holistic health discipline.

HIS – History Courses

www.rrcc.edu/history

HIS 101 Western Civilization: Antiquity-1650: GT-HI1
3 credits
Explores a number of events, people, groups, ideas, institutions, and trends that have shaped Western Civilization from the prehistoric era to 1650. The course reflects the multiple perspectives of gender, class, religion, and ethnic groups. It focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 102 Western Civilization: 1650-Present: GT-HI1
3 credits
Explores a number of events, people, groups, ideas, institutions, and trends that have shaped Western Civilization from 1650 to the present. The course reflects the multiple perspectives of gender, class, religion, and ethnic groups. It focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in this discipline.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 111 The World: Antiquity-1500: GT-HI1
3 credits
Enables students to view history up to 1500 CE in a broad global sense. This course focuses on the common denominators among all people. This approach goes beyond political borders to provide a better appreciation for different cultures.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 112 The World: 1500-Present: GT-HI1
3 credits
Enables students to view history post-1500 CE in a broad global sense. This course focuses on the common denominators among all people. This approach goes beyond political borders to provide a better appreciation for different cultures.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 121 U.S. History to Reconstruction: GT-HI1
3 credits
HIS 121 is a new course number. The old course number was HIS 201.

Explores events, trends, people, 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. It focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

HIS 122 U.S. History Since Civil War: GT-HI1
3 credits
HIS 122 is a new course number. The old course number was HIS 202

Explores events, trends, people, groups, cultures, ideas, and institutions in United States history, including perspectives of gender, class, and ethnicity between the period of the American Civil War and the present. It focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade C or higher) or equivalent placement scores.

HIS 205 Women in World History-GT-HI1
3 credits
Examines the roles, experiences and contributions of women in world history. Further explores the ways in which women's history modifies the traditional interpretation of historic events across the globe. In terms of skill sets the course focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 207 American Environmental History
3 credits
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. It examines the development of conservation movements and environmental policies in modern America.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 208 American Indian History: GT-HI1
3 credits
Analyzes historical and socio-cultural change for Native Americans (Indians) from pre-colonial America to the present, emphasizing those processes and relations with non-Native Americans which have contributed to the current conditions.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 215 Women in U.S. History: GT-HI1
3 credits
Examines women's changing roles in American history from the pre-colonial native population to the present. The course 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: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 216 History and Hollywood
3 credits
Examines the role of film on informing the historical perspective of modern Americans. Focus on the status of film as historical document or evidence. Students are introduced to the methods and sources employed to critique historical films effectively while developing, practicing, and strengthening the skills historians use to construct knowledge in the discipline.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 225 Colorado History: GT-HI1
3 credits
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: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 235 History of the American West: GT-HI1
3 credits
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. The course emphasis is the northern and central parts of the West.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 236 U.S. History Since 1945: GT-HI1
3 credits
Focuses on the major political, economic, social, and cultural developments that have shaped modern America.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 243 History of Modern China: GT-HI1
3 credits
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.
Prerequisites: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 244 History of Latin America: GT-HI1
3 credits
Focuses on the political, social, cultural and economic developments that have shaped Latin America from Pre-European conquest to the present.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 247 20th Century World History: GT-HI1
3 credits
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. The course emphasizes the interactions of global regions and nation-states.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 248 History of Modern Russia
3 credits
Traces the major political, ideological, economic, religious, social, and cultural developments of Russia from the establishment of the Kievan State to the present. This course emphasizes the sources and development of the Soviet Union and the former Soviet Union states.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HIS 249 History of Islamic Civilization: GT-HI1
3 credits
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.

HIS 251 The History of Christianity in the World: GT-HI1
3 credits
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.

HIS 257 Introduction to Chinese History
3 credits
Introduces students to Chinese civilization and its historic evolution from the Qin dynasty to the present. Focuses on such subjects as social patterns, economic structure, intellectual trends, and political developments.

HIS 275 Special Topics
3 credits
Focuses on the exploration of current topics, issues, and activities related to one or more aspects of history.

HPR – Health Professional Courses

www.rrcc.edu/holistic-health
The prerequisite for all HPR courses is a grade of C or higher in ENG 090 or CCR 092 or CCR 094 or appropriate placement scores into ENG 121.

HPR 100 Introduction to Health
3 credits
Provides an exploratory course for students interested in a health career. Basic health skills such as vital signs and CPR will be included

HPR 102 CPR for Professionals
0.5 credits
Meets the requirement for the 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 and Ethics for Health Professions
2 credits
Advances your knowledge in the study and application of medico-legal concepts in medical careers and establishes a foundation for ethical behavior and decision-making.

HPR 108 Dietary Nutrition
1 credit
Studies the basic principles in clinical practice involved in the assistance of health care. The course will cover factors which influence the nutritional status of individuals, methods of nutritional assessment and support, and diet modification for specific disease states.

HPR 112 Phlebotomy
4 credits
Teaches the duties associated with the practice of venipuncture, capillary puncture, and special collection procedures. Students will have experience with quality control, infection control and safety procedures as well as waived laboratory tests. Those students who successfully complete this course may apply for a National Phlebotomy Registry Examination.
Co- or Prerequisite: HPR 178. Admission to the course is by application and permission of the instructor is needed.

HPR 117 Anatomical Kinesiology
3 credits
Studies the Anatomical Basis of Human Movement. The student will use anatomical terminology to describe and analyze movements of the body, identify individual bones, bony landmarks, joints, skeletal muscles, attachment sites, types of contraction, and actions. The student will also be able to describe anatomy and function of nerves in the body and be able to identify movements and analyze how they occur, and what structures are involved and responsible for the identified movement.

HPR 120 Advanced Cardiac Life Support (ACLS)
1 Credit
Presents the required material for ACLS completion. It will cover arrhythmias, medications, therapeutic modalities for life-threatening arrhythmias, airway management, and other treatment modalities used in cardiac and respiratory arrest.
Prerequisite: Current basic life-support health care provider card

HPR 125 Outdoor Emergency Care
4 credits
Prepares students without previous first aid training to handle the emergency care problems seen at alpine and nordic ski areas. The knowledge and skills are oriented toward the wilderness setting with special emphasis on ski and snowboard injuries, altitude and cold weather illnesses, wilderness extrications, and the special equipment ski patrollers need for emergency care and transportation in the outdoor environment. This is a National Ski Patrol course.

HPR 126 Outdoor Emergency Care Refresher
0.5 credits
Provides maintenance of a uniform skill level and acts as a means of national recertification for Outdoor Emergency Care.

HPR 130 Pediatric Advanced Life Support (PALS)
1 credit
Provides the needed information and skills required by health care agencies for pediatric emergencies.

HPR 178 Medical Terminology
2 credits
Introduces the structure of medical terms with emphasis on combining and using the most common prefixes, roots, and suffixes. It includes terms related to clinical laboratory, diagnostic imaging, nuclear medicine, and oncology as well as major body systems. Classroom structure provides accepted pronunciation of terms and relative use in the health care setting.

HPR 180 Phlebotomy Internship
3 credits
Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the internship coordinator. Documentation of immunizations, criminal background check/drug screen, and permission of instructor are required.
Prerequisite: HPR 112.

HPR 190 Basic EKG Interpretation
2 credits
Provides instruction for interpretation of EKG strips, and 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 credits
Focuses on each wave and interval of the complex, the axis, and the 12-lead presentation of some rhythm disturbances.
Prerequisite: HPR 190.

HPR 215 Phlebotomy Refresher
1 credit,
Covers collection procedures, and requirements for various laboratory tests, phlebotomy technique, and problem-solving. Basic review and practice of venipuncture techniques will be focused on.
Prerequisite: HPR 112 taken at RRCC. Permission of the instructor needed.

HPR 230 Trauma Assessment and Intervention
1 credit
Presents the steps for a systematic head-to-toe assessment and intervention in traumatic emergencies.

HPR 269 Stress Management
0.5 credits
Provides students with the specific skills that provide control over stressful situations or people. The class is designed for all who are interested in a higher quality of life and want to reach their full potential.

HUM – Humanities Courses

www.rrcc.edu/humanities

HUM 103 Introduction to Film Art: GT-AH2
3 credits
Studies the relationships among film's stylistic systems, narrative systems and audience reception. Students view, discuss and critically analyze a variety of films, which represent key historical and aesthetic periods as well as a variety of genres and themes. The course incorporates the vocabulary stylistic systems (for instance, cinematography, editing and art direction) and narrative systems (for instance, story structure and character motivation) as both relate to the kinds of meanings a film conveys.

HUM 115 World Mythology: GT-AH2
3 credits
Introduces students to the mythologies of various cultures. Common themes are illustrated and an interdisciplinary approach is used incorporating some of the following: religion, philosophy, art history, theater, literature, music, cultural studies, and history.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HUM 118 Religion in American Culture
3 credits
Investigates the various ways in which religion and American culture interact. The course begins with the religion of Native Americans, which existed in a pre-modern society where religion went unchallenged as the pre-eminent organizing principle, to the post-modern era, where religion competes with a multiplicity of other belief systems in a complex societal matrix. This course pays close attention to the sundry ways in which religion and American culture interface.

HUM 121 Humanities: Early Civilizations: GT-AH2
3 credits
Introduces students to the history of ideas that have defined cultures through a study of the visual arts, literature, drama, music, and philosophy. It emphasizes connections among the arts, values, and diverse cultures, including European and non-European, from the ancient world to 1000 C.E.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HUM 122 Humanities: From Medieval to Modern: GT-AH2
3 credits
Examines written texts, visual arts, and musical compositions to analyze and reflect the evolution and confluence of cultures in Europe, Asia, and the Americas from 800 C.E. to 1750. Any two of the three Survey of Humanities courses equal a sequence.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HUM 123 Humanities: The Modern World: GT-AH2
3 credits
Examines the cultures of the 17th through the 20th centuries by focusing on the inter-relationships of the arts, ideas, and history. The course considers the influences of industrialism, scientific development, and non-European people.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HVA – Heating Ventilation and Air Conditioning Courses

www.rrcc.edu/hvac

HVA 102 Basic Refrigeration
4 credits
Introduces the basic theory of refrigeration systems, components, charging, recycling, and evacuation of refrigeration units.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

HVA 105 Electricity for HVAC/R
4 credits
Teaches resistance, current, voltage and power in AC and DC circuits, measurements, computations of series and parallel circuits, circuit analysis, and troubleshooting with basic test equipment.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

HVA 107 Safety in the Workplace
2 credits
Introduces the need for safety in the workplace and the role that OSHA has in helping to prevent and eliminate work-related injuries. Introduces the need for emergency action plans, the proper use of personal protective equipment (PPE), and hand and power tool safety practices. Covers the use of stairway and ladders and electrical safety. Covers CPR, first aid, and AED use.

HVA 110 Fundamentals of Gas Heating
4 credits
Introduces students to the fundamentals of gas heating. Students will work in a classroom and shop environment. Topics include the basics of gas heating systems, operation of gas valves and burners, gas pipe system design, gas piping system code requirements and basic code requirements for heating systems.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 105 or permission of instructor.

HVA 111 Piping Skills
4 credits
Studies the installation of common piping materials in plumbing and HVAC/R systems. Pipe math, terminology, common piping materials and application, figuring offsets and common pipe joints are also covered. Shop projects including pipe support and hanging, center to center measurements and a variety of pipe joining methods are explored.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

HVA 113 Refrigerant Recovery Training
1 credit
Explains the laws regarding refrigerant recovery. The course includes hands-on use of recovery equipment. Upon successful completion of this course students will be prepared to take the EPA certification test. Test is offered following the class. Test fee is not included in course fee.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102 or permission of instructor.

HVA 132 Air Conditioning and Refrigeration Controls
4 credits
Applies the knowledge of basic electricity to controls related to air conditioning and refrigeration equipment. The course also works on reading and drawing schematic and ladder diagrams.
Prerequisites Starting summer 2014, HVA 107. If program started prior to summer 2014, then: OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, or permission of instructor.

HVA 134 Air Conditioning Systems
4 credits
Studies the basics of air conditioning system design, operation and installation. Students will learn how cooling systems can be designed with human comfort and efficient operation in mind. Time is spent in the shop installing components related to these systems.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, or permission of instructor.

HVA 140 Basic Sheet Metal
4 credits
Teaches the basic skills required to install duct systems for those entering the HVAC trade. Information covered includes: tools, safety, common materials, installation standards and practices. The course will cover fabrication of transitions and common fittings.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

HVA 141 Sheet Metal Fabrication
2 credits
Covers the basics of shop based sheet metal tools and hand tools and how they can be used to create fittings for residential ducting systems. Safety and operation of tools will be stressed. Students will learn to layout and fabricate a furnace plenum, a transition, square and radius elbows, and other fittings as time permits.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

HVA 162 Heating Controls
4 credits
Applies the knowledge of Basic Electricity to Controls related to heating equipment. This includes boilers and furnaces with emphasis on ignition and controls related to high efficiency heating equipment. Course work includes reading and drawing ladder and schematic wiring diagrams.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then HVA 110 and HVA 105, or permission of the instructor.

HVA 192 Refrigerant Retrofit Training
1.5 credits
Allows students to understand and gain knowledge to perform refrigerant retrofit. This course will provide students with a working knowledge of alternative refrigerants plus an understanding of retrofit procedures. A quick history of CFC ozone depletion will give students an understanding of EPA mandates. Students have an opportunity to become EPA certified.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102 or permission of instructor.

HVA 200 International Residential Code – Mechanical & Fuel Gas
2 credits
Covers the mechanical and fuel gas requirements of the IRC. 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 & VI of this code.

HVA 206 Mechanical Codes
4 credits
Reviews in detail the International Mechanical Code. The course is intended to give those entering the HVAC/R trade as well as experienced trades people taking certification examinations a solid knowledge of this code.

HVA 231 Pneumatic Controls
4 credits
Covers pneumatic controls and systems used in controlling commercial and industrial HVAC equipment. The course includes lab experimentation with pneumatic controls, rebuilding of valves and actuators and calibration of various types of controls. Students will work with controls from most of the major manufacturers.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, HVA 132 or permission of the instructor.

HVA 232 Advanced Air Conditioning and Refrigeration Controls
4 credits
Covers the advanced study of air conditioning and refrigeration controls.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, HVA 132.

HVA 233 Advanced Refrigeration
4 credits
Builds on the skills acquired in refrigeration fundamentals. Students have an opportunity to study and to work on rooftop units, ice machines, and commercial reach-in and walk-in coolers.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, HVA 132.

HVA 240 Servicing Forced Air Systems
4 credits
Covers the operation, repair and maintenance of forced air heating systems. The course studies the different types of furnaces, code requirements, common controls and mechanical problems. This course also explores the A.G.A. approved method of testing furnace heat exchangers. Customer relations and workplace behavior are discussed.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, HVA 132 or permission of the instructor.

HVA 247 Hot Water Heating Systems
4 credits
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.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 105, HVA 110, HVA 111 or PLU 101, HVA 162 or permission of the instructor.

HVA 257 Low-Pressure Steam Heating
4 credits
Examines low-pressure steam systems including boilers, piping, heat convectors. Repair and maintenance of these systems is covered as well as theory behind their operation. Boiler feed water and condensate systems are also discussed.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 105, HVA 110, HVA 162, HVA 206, HVA 247 or permission of the instructor.

HVA 261 A/C Systems Service and Repair
4 credits
Emphasizes the service of HVAC systems. Students develop a preventative maintenance program for various types of equipment; both commercial and residential. Troubleshooting techniques and equipment repair and rebuilding are discussed. Additional time is spent on equipment change outs, upgrading and retrofitting different refrigerants.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, HVA 113, HVA 132, or permission from instructor.

HVA 263 Chillers
4 credits
Introduces students to chillers and their operating parameters.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, HVA 113, HVA 132.

HVA 264 Evaporative Cooling Systems Water Treatment
4 credits
Covers aspects of commercial and residential evaporative cooling systems. Areas examined include maintenance to these systems, water treatment, sizing, pumps and piping.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 102, HVA 105, HVA 113, HVA 132, or permission from the instructor.

HVA 267 Radiant Heating Systems
4 credits
Covers the theory of operation, installation and maintenance of warm water radiant heating systems in a combination of lecture and lab. Different methods of zoning, controls, piping methods, piping types and system components are discussed. Upon successful completion, students will be able to design, install, document, maintain and trouble-shoot all conventional residential warm water, radiant panel heating systems.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 111 or PLU 101, HVA 110, HVA 105, HVA 162, HVA 247 or permission of the instructor.

HVA 268 Advanced Hydronic Controls
4 credits
Takes the operation of hydronic heating systems and allows students to apply the knowledge of advanced hydronic controls to them. Students must have a solid field background or education in hydronic heating, electricity and heating controls prior to enrollment.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. HVA 110, HVA 111 or PLU 101, HVA 162, HVA 247, HVA 267 or permission of the instructor.

HVA 269 Indoor Air Qualities and Ventilation
4 credits
Informs experienced HVAC contractors and service technicians of problems associated with indoor air quality and methods for improvement of the indoor environment. The Mechanical Code and other national standards are covered as well.

HVA 275 Special Topics
0.5-6 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

HVA 280 Internship
0.5-6 credits
Gives students an opportunity to apply their course studies in a specific area.
Prerequisite: Permission of the instructor.

HVA 285 Independent Study
0.5-6 credits
Students will work with the instructor on a specific area with specific objectives and a predetermined project completion date.
Prerequisite: Permission of instructor.

HWE – Health and Wellness Courses

www.rrcc.edu/holistic-health

HWE 100 Human Nutrition
3 credits
Introduces basic principles of nutrition with emphasis on personal nutrition. It satisfies the nutrition requirement of students entering health care professions.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HWE 113 First Aid and Adult CPR
0.5 credits
Teaches the recognition and care for breathing and cardiac emergencies for victims 8 years old and up. This course also teaches the student to identify and care for life-threatening bleeding, sudden illness, and injuries.

HWE 120 Wilderness First Aid
1 credit
Provides limited medical information to cope with basic wilderness emergencies.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HWE 129 Wilderness First Responder
4 credits
Provides students with those skills and emergency medical care techniques used by guides, trip leaders, and others providing primary care in backcountry setting. Students will be able to respond correctly to those medical and trauma situations commonly encountered when entry into the EMS system is delayed or unlikely.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HWE 130 WFR Refresher
1 credit
Meets the standards for recertification of a Wilderness First Responder certification. Topics to be included are CPR, patient assessment, trauma, medical, and environmental emergencies. This course is required to maintain a current Wilderness First Responder certification, which must be recertified every three years.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

HWE 255 Certified Personal Trainer Preparatory Course
3 credits
Provides students with theoretical knowledge and practical skills in preparation for the American Council on Exercise (ACE) national certification exam in personal training. Topics include guidelines for instructing safe, effective, and purposeful exercise; essentials of the client-trainer relationship; conducting health and fitness assessments; and designing and implementing appropriate exercise programs.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

IND – Interior Design Courses

www.rrcc.edu/engineering-graphics-technology

IND 100 Interior Design Fundamentals
4 credits
Introduces design elements, principles and theory. Application techniques, emphasizing design relationships and composition will be explored. Basic skills and techniques of both visual and oral presentations will be introduced.

IND 111 Drafting for Interiors
4 credits
Introduces the basic drafting tools and techniques, graphic references and symbols, use of pencil and technical pen. Student learns to draft floor plans and interior elevations. Course also covers basic interior dimensioning and lettering as well as isometric drawing construction for interior components.

IND 112 Graphics Communication
4 credits
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 231 Sustainable Design
3 credits
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 building for both residential and commercial property. Its emphases are to learn to conserve resources and to reduce the negative Impact on the environment.

ITA – Italian Courses

www.rrcc.edu/foreign-languages

ITA 101 Conversational Italian I
3 credits
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 102 Conversational Italian II
3 credits
Provides the second course in a sequence for students who wish to understand and speak Italian. The material continues to cover basic conversational patterns, expressions, and grammar.
Prerequisite: ITA 101 or permission of instructor.

ITA 111 Italian Language I
5 credits
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 credits
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.
Prerequisite: ITA 111 or instructor permission.

ITA 211 Italian Language III: GT - AH4
3 credits
Continues Italian Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Italian language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: ITA 112 or permission of instructor.

ITA 212 Italian Language IV: GT - AH4
3 credits
Continues Italian Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Italian language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: ITA 211 or permission of instructor.

JOU – Journalism Courses

www.rrcc.edu/multimedia

Journalism classes reside under both the JOU and MGD prefixes, and classes are held in the Multimedia Graphic Design Department.
Prerequisites: basic computer skills. Basic computer skills are defined as basic keyboarding; uploading and downloading files from the Internet and external devices; using the Web for basic research; sending email and attachments; basic file management; the ability to save information to a CD/DVD, flash drive, or external device; burning a CD/DVD; the ability to use the dock or start menu to open applications; create a new folder on the desktop or other location; and open files in an application. Students without these skills are required to take MGD 101 Introduction to Computer Graphics either concurrently or prior to taking other courses in the MGD/PHO/JOU department. If MGD 101 Introduction to Computer Graphics is not a requirement for your degree plan, it can be used as an elective

JOU 102 Introduction to Editing
3 credits
Focuses on the process of editing articles for publication in newspapers, newsletters, magazines and the Internet. The Associated Press style is emphasized.

JOU 105 Introduction to Mass Media: GT-SS3
3 credits
Places mass media in a historical and cultural perspective, considering the validity, integrity, and influence of media in a democracy.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

JOU 106 Fundamentals of Reporting
3 credits
Introduces newswriting, reporting and interviewing with an emphasis on clarity, accuracy, completeness, timeliness and fairness.

JOU 111 Principles of Advertising
3 credits
Employs design concepts, principles and practices for advertising management for the mass media.
Recommended Prerequisites: MGD 111, MGD 112, MGD 114 and MGD 104.

JOU 114 TV Production
3 credits
Covers principles and techniques of television production, as well as the role of the director/producer. Introduces the principles and techniques of video production, including camera operation, basic script writing, lighting, basic sound, and basic digital editing. Examination of pre-production, production, and post-production processes, as well as aesthetics, are included.

JOU 121 Photojournalism
3 credits
Students learn photojournalistic camera technique. Includes photography in various specialties as well as ethics and best practices. Students must have good basic photo skills to succeed in this course.

JOU 206 Intermediate Newswriting and Editing
3 credits
Presents how to gather information as an investigative reporter through research of local, state and federal government publications, how to cover police beat and city hall, how our courts and regulatory agencies function, and how to cover other challenges as the environment, religion, science, medical, public safety and business.
Recommended Prerequisites: JOU 102 and JOU 106.

JOU 215 Publications Production and Design
3 credits
A Capstone class which students should take in their final semester prior to graduation. Students will participate in the planning, writing, design, and production processes of a non-newspaper publication.

JOU 225 Internet Media
3 credits
Explores techniques and approaches to the latest delivery methods for internet-based journalism. Students explore digital media concepts such as blogs, microblogs, audio and video podcasting, e-zines and social networking. Students create journalistic pieces for internet based media, focusing on best journalistic practices, ethics of internet media, and technology emergence effecting digital journalism. Concepts in video production, photography, writing, sourcing, editing and additional relevant skills necessary for the citizen journalist are introduced. Students create all components for the online dissemination of news, documentary and infotainment.
Recommended Prerequisites: MGD 101, MGD 104, MGD 111, MGD 112, MGD 114 and MGD 141.

JOU 241 Magazine Article Writing
3 credits
Studies trade, consumer and technical markets; manuscript development with emphasis on nonfiction; submission techniques; and trends affecting the marketing of manuscripts.
Recommended prerequisites: JOU 102, JOU 106 and JOU 206.

JPN – Japanese Courses

www.rrcc.edu/foreign-languages

JPN 101 Conversational Japanese I
3 credits
Introduces beginning students to conversational Japanese and focuses on understanding and speaking Japanese. It covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

JPN 102 Conversational Japanese II
3 credits
Continues the sequence for beginning students who wish to understand and speak Japanese. It covers basic

conversational patterns, expressions, and grammar.
Prerequisite: JPN 101 or instructor permission.

JPN 111 Japanese Language I
5 credits
Introduces a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and methodology will vary according to individual texts and instructors.

JPN 112 Japanese Language II
5 credits
Continues Foreign Language I in the development of functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: JPN 111 or permission of instructor.

JPN 211 Japanese Language III: GT-AH4
3 credits
Continues Foreign Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: JPN 112 or permission of instructor, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

JPN 212 Japanese Language IV: GT-AH4
3 Credits
Continues Japanese Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Japanese language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: JPN 211 or permission of instructor, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LEA – Law Enforcement Academy Courses

www.rrcc.edu/law-enforcement-academy

LEA 101 Basic Police Academy I
6 credits
Conforms to P.O.S.T. 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 simulating actual situations utilizing a lecture and laboratory mode of learning.
Prerequisite: Permission of academy director.

LEA 102 Basic Police Academy II
12 credits
Conforms to P.O.S.T. 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.
Prerequisite: Permission of academy director.

LEA 103 Basic Law Enforcement Academy III
2 credits
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.

LEA 104 Basic Law Enforcement Academy IV
1 credit
Enhances the standards established by the 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 P.O.S.T. curriculum to create a unique learning experience.
Prerequisite: Permission of academy director.

LEA 105 Basic Law
8 credits
Conforms to P.O.S.T. 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 Traffic Code, Colorado Children's Code, Liquor Code and controlled substances.
Prerequisite: Permission of academy director.

LEA 106 Arrest Control Techniques
3 credits
Covers the skills, knowledge and abilities necessary to effectively maintain control of a suspect when making an arrest. The course emphasizes the continuum of force and de-escalation of force.
Prerequisite: Permission of academy director.

LEA 107 Law Enforcement Driving
3 credits
Covers the skills, knowledge and abilities required for operation of a law enforcement vehicle, emphasizes defensive driving, and enables students to demonstrate skills by driving a vehicle under simulated conditions.
Prerequisite: Permission of academy director.

LEA 108 Firearms
3 credits
Discusses the skills, knowledge and abilities necessary to safely use police firearms. Students will demonstrate skills by firing weapons on a firing range. Students will demonstrate basic safety techniques and will explain the firearms role within the continuum of force.
Prerequisite: Permission of academy director.

LEA 109 Culture and Conflict Resolution
2 credits
Explores the role culture plays in dispute resolution and ways that gender, race, ethnicity, national origin, age, religion, sexual orientation and language influence conflict resolution.
Prerequisite: POST certification

LEA 116 Civil Liability
3 credits
Covers the origin and jurisdiction of civil action, procedure and responsibility addressing the liability of criminal justice practitioners.
Prerequisite: POST certification

LEA 118 Report Writing
3 credits
Identifies the areas of concern in regards to proper documentation of police related activities. It focuses on report writing skills, proper structuring of interviews and chronological documentation of events. The course incorporates proper sentence structuring, the use of correct terminology and accuracy in written reports.
Prerequisite: POST certification

LEA 126 Patrol Procedures
3 credits
Focuses on an in-depth study of the basic knowledge and skills required of a peace officer to safely and effectively accomplish the patrol procedure.
Prerequisite: POST certification

LEA 130 Administration of Justice for the Reserve Officer
1 credit
Explains the statutory authority by which the student will function as a Colorado Reserve Peace Officer. Student will become familiar with the operations of the criminal justice system, concepts of ethics in policing and the relationship to the law enforcement profession, and elements of Colorado statutes necessary to function as a Reserve Peace Officer.
Prerequisite: POST certification

LEA 131 Basic Law for the Reserve Officer
2 credits
Includes the U.S. Constitution, rules of evidence, Colorado criminal code, victims' rights, and legal liability.
Prerequisite: POST certification

LEA 167 Fingerprinting
3 credits
An in-depth instruction of the interpretation, classifications, and presentation in court of the Henry System of classification of fingerprint patterns. Instruction includes the discussion of lifting and preserving fingerprints from crime scenes. The processing of a crime scene using basically powders and a magna brush. Students will be proficient in the Henry System and use of all kits and allied equipment in high level at the completion of the course.
Prerequisite: POST certification

LEA 175 Special Topic: Standard Field Sobriety Testing
1 credit
This course will train officers to become more skillful at detection of DUI offenses, make more arrests, and obtain more convictions.
Prerequisite: POST certification.

LEA 180 Internship
1-12 credits
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.

LEA 218 Drug Investigative Strategies
3 credits
Focuses on laws dealing with gambling, prostitution, sex crimes, and narcotics. It emphasizes special techniques employed in the detection, suppression, and apprehension of violators. It includes effects of drugs and narcotics, identification of narcotics, and terminology.
Prerequisite: POST certification

LEA 219 Police Intelligence
2 credits
Focuses on the fundamentals of how law enforcement agencies apply intelligence In police operations and combat organized crime. Explains the structure, training, staffing and security of intelligence units and demonstrates operating guidelines at a command level.
Prerequisite: POST certification

LEA 221 Community Problem Solving
3 credits
Explores community oriented policing and problem solving strategies. Emphasizes the development of skills and tools necessary to implement a program. Focuses on handling stress, problem solving, and verbal communication techniques. Examines special problems that affect the police and community including victim rights, ethics, crime prevention, gangs, ethnic intimidation and child abuse.
Prerequisite: POST certification

LEA 222 Law Enforcement Instructor Development Program
3 credits
Teaches the fundamentals of classroom instruction. It includes the practice and application of classroom skills that involve the preparation and presentation of law enforcement programs, principles of learning, constructing performance objectives and lesson plans, the use of audio-visual aids, test construction and evaluation, and training liability. This is a POST approved course.
Prerequisite: POST certification

LEA 223 Firearms Instructor Course
1 credit
Focuses on understanding and demonstration of safe handling and proper utilization of firearms. Learns safe and proper teaching necessary to instruct others in the safe use of firearms. Demonstrates knowledge in the management of a safe and realistic police firearms training program and the ability to safely and properly control a police firearms range.
Prerequisite: POST certification

LEA 224 Pressure Point Control Tactics Instructor (ACT)
1 credit
Prepares and certifies law enforcement personnel and PPCT instructors. Once certified, they are able to teach a program of Arrest Control Tactics.
Prerequisite: POST certification

LEA 226 Field Training Officer Development
2 credits
Covers the topic areas in law enforcement that are unique Field Training Officer (FTO). The instructional content of this program includes direct supervision, evaluation procedures, individual instruction, and individual on the spot correction.
Prerequisite: POST certification

LEA 227 L.E. Supervisory Training Program
2 credits
Develops the law enforcement supervisor. It provides an overview of police supervision and gives the student an understanding of the first-line supervisor's role from three perspectives: management expectations, first-line supervisor concept of the role, and subordinates expectations. This is a POST approved course.
Prerequisite: POST certification

LEA 240 Criminal Investigations
3 credits
Introduces investigation methods and procedures from preliminary through the follow-up stages.
Prerequisite: POST certification

LEA 241 Security of Specialized Facilities
2 credits
Covers areas within the security field that require special knowledge, such as airport security, nuclear and atomic site control, clearance control, military and civilian integrated security systems, civil demonstrations, strikes, and riot control. Includes specialized areas of accounting, computer control, foreign trade control, and industrial espionage.
Prerequisite: POST certification

LEA 242 Pressure Point Control Tactics (PPCT) Recertification Course (ACT)
1 credit
Updates the police officer on the changes of the law and any updates to the course. It is required that the instructor be a certified PPCT instructor. Once completed the officer will be endorsed by PPCT for one year.
Prerequisite: PPCT certification

LEA 243 County Sheriff Operations
1 credit
Covers the topic areas in law enforcement that are unique to the county sheriff's department. The content of this program includes prisoner transporting, booking procedures, courtroom security, civil process, and duties/responsibilities associated with a county sheriff's department as outlined in CRS 30-10-501 through 523 and CRS 30-2-106 and 107.
Prerequisite: POST certification

LEA 244 Detention Skills Refresher
2 credits
Covers the topic areas in law enforcement that are unique to the detention officers. The instructional content of this program includes prisoner transporting, booking procedures, security in the courtroom, and duties/responsibilities associated with a detention as outlined in CRS 30-10-501 through 523 and CRS 20-2-106 and 107.
Prerequisite: POST certification

LEA 246 Traffic Investigation
3 credits
Provides an overview of the skills and concepts necessary to complete an accurate investigation of a traffic collision. The course emphasizes traffic management concepts, selective traffic enforcement, and safety issues.
Prerequisite: POST certification

LEA 247 Street Survival Techniques
2 credits
Provides an in-depth study of the basic knowledge and skills required of a peace officer to safely and effectively accomplish the patrol function.
Prerequisite: POST certification

LEA 260 Police Photography
3 credits
Focuses on current methods and techniques of police photography. Includes the use, nomenclature, and operation of a 35mm and 4x4 cameras at simulated crime scenes and traffic accidents. Incorporates the development, printing, and enlargement of photos.
Prerequisite: POST certification

LIT – Literature Courses

www.rrcc.edu/english

LIT 115 Introduction to Literature I: GT-AH2
3 credits
Introduces fiction, poetry, and drama. The course emphasizes active and responsive reading and writing.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 127 Study of the Novel
3 credits
Focuses on careful reading and interpretation of selected novels representing types and periods of literature. Examines formal as well as thematic elements of longer fiction. Critical thinking, discussion, and writing about novels will enhance perceptive reading skills and heighten awareness of the human condition.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 201 World Literature to 1600: GT-AH2
3 credits
Examines significant writings in world literature from the ancients through the Renaissance. The course emphasizes careful readings and understanding of the works and their cultural backgrounds.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 202 World Literature after 1600: GT-AH2
3 credits
Examines significant writings in world literature from the seventeenth century to the present. The course emphasizes careful reading and understanding of the works and their cultural backgrounds.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 205 Ethnic Literature: GT-AH2
3 credits
Focuses on significant texts by ethnic Americans, including African-American, Native American, Latino/a, and Asian American. The course emphasizes careful reading and understanding of the cultural and literary elements of the works.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 211 American Literature to Civil War: GT-AH2
3 credits
Provides an overview of American literature from the Native American through the nineteenth-century Romantics and explores ideas, historical and social contexts, themes, and literary characteristics of works in various genres by major writers.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 212 American Literature after Civil War: GT-AH2
3 credits
Provides an overview of American literature from the mid-nineteenth century to the present and explores ideas, historical and social contexts, themes, and literary characteristics of works in various genres by major writers.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 221 British Literature to 1770: GT-AH2
3 credits
Provides an overview of British literature from the Anglo-Saxon period through the seventeenth century. The course explores ideas, historical and social contexts, themes, and literary characteristics of works in various genres by major writers.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 222 British Literature since 1770: GT-AH2
3 credits
Provides an overview of British literature from the eighteenth century to the present. The course explores ideas, historical and social contexts, themes, and literary characteristics of works in various genres by major writers.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 225 Introduction to Shakespeare: GT-AH2
3 credits
Explores a selection of works by William Shakespeare. The course focuses on careful reading and interpretation of the plays and poems, includes pertinent information about Elizabethan England, and examines formal as well as thematic elements of the selected works.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 230 Comics/Graphic Novels
3 credits
Survey and analyze a particular kind of visual literature – that art form known as the "Graphic Novel" or "Comic Art." This course serves as an introduction to critical methods in popular culture studies, with a focus on the graphic novel as cultural product and practice.

LIT 232 Gothic Literature
3 credits
Provides an overview of Gothic literature from the 1750s to the present. The course emphasizes careful reading, analysis, interpretation, and understanding of the

works and their cultural and historical backgrounds. Critical thinking, discussion, and writing about significant works of Gothic literature will be used as tools to develop discriminating reading skills for lifetime enjoyment of the genre.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 235 Science Fiction
3 credits
Examines the techniques and issues of science fiction through close readings of a variety of writers in the genre.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 246 Literature of Women: GT-AH2
3 credits
Examines the techniques and themes in literature by and about women by examining women`s issues form various genres.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 255 Children's Literature
3 credits
Evaluates the criteria for selecting appropriate literature for children through exploration of genres, age levels, and values taught through literature and the literary and artistic quality of various texts.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 257 Literature and Film
3 credits
Examines the relationship between literature and motion pictures, emphasizing the technique and interpretive function of filmmakers.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 268 Celtic Literature: GT-AH2
3 credits
Exposes the student to Irish literature. The course examines significant writings in Irish literature from the ancients through the twenty-first century. The course emphasizes the careful reading and understanding of the works of poetry, fiction, and drama, as well as their cultural backgrounds.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

LIT 285 Independent Study
0.25-6 credits
Explores particular authors, topics, genres, and themes in depth, such as Ibsen, Faulkner, or Twain, or, for example, great fiction of the nineteenth century.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAC – Machining Courses

www.rrcc.edu/warrentech

MAC 101 Introduction to Machine Shop
3 credits
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.

MAC 102 Blueprint Reading
3 credits
Teaches students to read blueprints and interpret symbols, notes, dimensions, and tolerances.

MAC 110 Introduction to Engine Lathe
3 credits
Introduces basic lathe applications which 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 also will be required to produce specified parts to a tolerance of +/- .004 in. and perform competencies set by manufacturing standards.

MAC 111 Intermediate Engine Lathe
3 credits
Teaches students to prepare single point external and internal unified screw threads to a Class 3 fit, generate angles with the compound rest within one degree, ream holes concentric within .001 inches, determine cutting speeds, and perform facing and turning operations.

MAC 120 Introduction to Milling Machine
3 credits
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.

MAC 121 Intermediate Milling Machine
3 credits
Prepares students to determine hole locations by coordinates and degrees, use a rotary table, use a jig bore to drill holes by the coordinate method, and work within plus or minus .001 inch tolerance.

MAC 145 Production Manufacturing
3 credits
Familiarizes the student to concepts related to manufacturing environments. Topics will consist of, but not be limited to Material Identification, Shop Floor Management, Just-In Time Manufacturing, Kan-Ban Systems, Statistical Quality Control, Total Quality Management. Various lectures and demonstrations of these processes will be delivered. Students may be required to re-search, explore, and report on particular manufacturing processes or topics.

MAC 201 Introduction to CNC Turning Operations
3 credits
Covers computer numerical control (CNC) lathe operations, control functions, the letter address system, the program format, and machine setup. G & M codes, control functions, the letter address system, and math issues related to CNC are included. This class is NOT offered on an open-entry, open-exit basis.

MAC 202 CNC Turning Operations II
3 credits
Prepares students to write basic computer numerical control (CNC) lathe part programs. G & M codes, math-related to CNC, setups, speeds and feeds, straight turning, spherical turning, threading, chamfering, tapering, drilling, tapping, boring, and grooving will be covered. Cutter compensations, sub-programming techniques, repetitive cycles, and both absolute and incremental will be incorporated into programs. Students will proof and edit the programs to make them valid. This class is NOT offered on an open-entry, open-exit basis.

MAC 205 Introduction to CNC Milling Operations
3 credits
Provides transitional information between conventional machining applications and the typical applications found in computer numerical control machining. Topics may consist of numerical control systems, the Cartesian coordinate system, high efficiency tooling applications, objectives of numerical control, calculating speed and feed rates, defining and calculating tool motion, fixturing requirements, basic program structure, programming codes, and basic conversational programming. Operation of NC machines will be required.

MAC 206 CNC Milling Operations II
3 credits
Covers the principle operations of both vertical and horizontal CNC milling machines via lecture instruction methods, multi-media instruction methods, and manufacturing hands-on methods. Students will be exposed to the basic CNC machining center, principle operations, manual controls, programming methods, tool-offsets, G54-G59 work offsets, cutter radius compensation, and tool selection methods. General operator skills and basic setup skills will be stressed.

MAC 245 CADCAM 3D
3 credits
Covers both the production and surfacing of three-dimensional geometry in a self-paced setting. Topics will be covered related to the production of wire frames, solids, surfaces, the joining of surfaces, joining of solids, managing construction planes, sweeping, rotating, and controlling parameter settings. A familiarity with Mastercam, CNC programming techniques, and CNC operations is recommended.

MAC 250 Advanced Inspection Techniques
3 credits
Addresses the principles of dimensional metrology. Students will learn how to use common measuring instruments relating to state-of-the-art manufacturing environments. Students also will learn the importance of Quality Control, TQM, and SPC processes as they relate to manufacturing environments. Use of a coordinate measuring machine will be addressed.

MAC 252 Practical Metallurgy
3 credits
Offers a study of metallurgical terms and definitions in an effort to understand both the behavior of metals and their service to industry. Characteristics during heating, cooling, shaping, forming, and the stresses related to their mechanical properties are covered. The theory behind the alloys, heat treatment processes, and the impact they have on strength, toughness, hardness, elasticity, ductility, malleability, wear resistance, and fatigue resistances is investigated.

MAN – Management Courses

www.rrcc.edu/business

MAN 116 Principles of Supervision
3 credits
Introduces the principles and techniques of supervising and motivating personnel. The course is designed for students who are interested in supervising others or for those currently in supervision. Course content focuses on the human interaction in supervision.
Prerequisite: BUS 115 suggested.

MAN 117 Time Management
1 credit
Provides students with the conceptual knowledge and tools to make better use of your time in the management function.

MAN 125 Team Building
1 credit
Introduces the concept of working as a team member. Activities and assignments will emphasize the ability to negotiate, work together, build consensus, and make quality decisions.

MAN 128 Human Relations in Organizations
3 credits
Explores the importance of effective communication in our personal lives as well as in the world of business. Practical business applications such as employee motivation, handling customer complaints, and effectively resolving conflict in the workplace will be a major part of the curriculum.

MAN 150 Change Through Challenge
3 credits
Develops key life disciplines (e.g. goal-setting, persistence) that are essential for success in school, business, and life through the transformative power of preparing for a significant challenge. Skills are acquired in class and in actual real-life conditions. By providing the student with supportive coaching and the accountability of teammates, students will acquire and apply the skills to overcome barriers, resulting in mental toughness that is essential for professional and personal achievement.

MAN 156 Problem Solving and Decision Making in a Business Environment
3 credits
Defines the problem solving and decision making processes. Those processes include: identifying decision elements, recognizing characteristics of good and bad decisions, practicing various approaches to decision making, utilizing a 9 step process for organizational decision making, exploring the nature of problems, understanding problem situation factors, identifying problems, considering the human side of problem solving and utilizing a 6 step problem solving process.

MAN 187 Cooperative Education/ Internship
1-12 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program and occupational objectives. Students are placed at approved work stations which are related to their program of study. They work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.

MAN 200 Human Resource Management I
3 credits
Provides a broad overview of the contemporary issues, theories, and principles used to effectively manage human resources. Topics include recruiting, hiring, compensation and benefits, training and development, employee relations, and legal issues.
Prerequisite: BUS 115 suggested.

MAN 210 Aligning Technology with Business Strategy
3 credits
Presents the student with background into how an information technology department works at the enterprise level. This course will discuss information technology topics of which every business leader should be aware. At the end of this course the student will have a better understanding of how information technology works and how to leverage information technology in business.

MAN 212 Negotiation and Conflict Resolution
3 credits
Presents proper techniques in negotiation and conflict resolution. Key practices that determine successful negotiation are explored. The course covers principles of conflict resolution, including business policies, accepted business practices, contracts, purchases, labor union contracts, pay raises, and starting salaries.
Prerequisite: BUS 115 suggested.

MAN 215 Organizational Behavior
3 credits
Examines the behaviors of groups and individual members of organizations and how behavior can be influenced. Emphasis is placed on the tools managers use to achieve organizational effectiveness.
Prerequisite: BUS 115 suggested.

MAN 224 Leadership
3 credits
Focuses on the leadership skills necessary to bring about change in an organization. Students will learn to develop and communicate a shared vision, to empower employees, to manage conflict, to negotiate, and to develop organizations so that all are working toward common goals.
Prerequisite: BUS 115 suggested.

MAN 226 Principles of Management
3 credits
Surveys the principles of management. Emphasis is placed on the primary functions of planning, organizing, leading, and controlling with a balance between the behavioral and operational approaches.
Prerequisite: BUS 115 suggested.

MAN 230 Corporate Ethics and Social Responsibility
3 credits
Examines the concept of corporate responsibility and the extent to which an organization's resources should be used to identify and respond to social problems. Included In the course will be topics of corporate and social responsibility, and the concept of servant leadership, and how this applies to business and management principles.
Prerequisite: BUS 115 suggested

MAN 240 Strategic Management

3 credits
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.
Prerequisite: BUS 115 suggested.

MAN 241 Project Management in Organizations
3 credits
Introduces students to the planning, implementation, and control activities of project management, including project and performance evaluation, quality control and work flow analysis. Emphasis will be on the initiating, planning, executing, controlling and closing activities of project management

MAN 275 Special Topics
1-3 credits
Provides a vehicle to pursue special topics of interest in business. The content of this course is designed on an as-needed basis to provide current, up-to-date information.

MAN 280 Internship
3 credits
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 location and with the direct guidance of the instructor.

MAN 285 Independent Study
1-3 credits
Meets the individual needs of students who will engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

MAN 287 Cooperative Education/Internship
1-3 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program and occupational objectives. Students will be placed at approved workstations which are related to their program of study. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.
Prerequisite: Permission of instructor.

MAR – Marketing Courses

www.rrcc.edu/business

MAR 106 Marketing Your Image
3 credits
Teaches students how to market themselves to prospective employers, clients, professional groups, and audiences of all types. Major emphasis will be placed on skills used to gain employment (resumes, interviewing, and professional appearance) and on skills used to achieve continued personal success (professional behavior and attitude). The course will include at least one simulated interview.

MAR 111 Principles of Sales
3 credits
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.
Prerequisite: BUS 115 suggested.

MAR 216 Principles of Marketing
3 credits
Presents the analysis of theoretical marketing processes and the strategies of product development, pricing, promotion and distribution, and their applications to usinesses and the individual consumer.
Prerequisite: BUS 115 suggested.

MAR 220 Principles of Advertising
3 credits
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.
Prerequisite: BUS 115 suggested.

MAR 240 International Marketing
3 credits
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.
Prerequisite: BUS 115 suggested.

MAR 275 Special Topics
1-3 credits
Provides students with a vehicle to pursue special topics of interest in business. The content of this course is designed on an as-needed basis to provide current information.

MAR 280 Internship
1-3 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.
Prerequisite: Permission of instructor.

MAR 285 Independent Study
1-3 credits
Meets the individual needs of students. The student will engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

MAT – Mathematics Courses

www.rrcc.edu/mathematics

MAT 050 Quantitative Literacy
4 credits
Develops number sense and critical thinking strategies, introduce algebraic thinking, and connect mathematics to real world applications. Topics in the course include ratios, proportions, percents, measurement, linear relationships, properties of exponents, polynomials, factoring, and math learning strategies.
Prerequisite: Appropriate math placement scores.

MAT 055 Algebraic Literacy
4 credits
Develops algebraic skills necessary for manipulating manipulating expressions and solving equations. Topics in the course include radicals, complex numbers, polynomials, factoring, rational expressions, quadratic equations, absolute value equations and inequalities, systems of linear equations, related applications, and math learning strategies. This course prepares students for College Algebra and Finite Math.
Prerequisite: MAT 050 or appropriate math placement score.

MAT 107 Career Math
3 credits
Covers material designed for career technical students or general studies students who need to study particular mathematical topics that may include arithmetic review, calculator usage, algebra, geometry, trigonometry, graphs, and finance. These are presented on an introductory level, and the emphasis is on applications.
Prerequisite: MAT 050 (grade C or higher) or appropriate math placement scores.

MAT 120 Mathematics for the Liberal Arts: GT-MA1
4 credits
Develops mathematical and problem-solving skills. Appropriate technological skills are included. Content is selected to highlight connections between mathematics and the society in which we live. Topics include set theory and/or logic, mathematical modeling, probability and statistical methods, and consumer mathematics. Additional content will include one topic in geometry, numeration systems, decision theory, or management science.
Prerequisite: MAT 050 (grade C or higher) or appropriate math placement score, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 121 College Algebra: GT-MA1
4 credits
Includes a brief review of intermediate algebra, equations and inequalities, functions and their graphs, exponential and logarithmic functions, and linear systems. Additional topics can include nonlinear systems, conic sections, introduction to sequences and series, permutations and combinations, the binomial theorem, and theory of equations. A graphing calculator is required for this course. Students cannot receive credit for both MAT 166 and MAT 121. Contact the math department chair with questions about these credits.
Prerequisite: MAT 055 (grade C or higher) or appropriate math placement scores, ENG 090 or CCR 092 or CCR 094 (grade of C higher) or equivalent placement scores.

MAT 122 College Trigonometry: GT-MA1
3 credits
Covers topics including trigonometric functions (with graphs and inverse functions), identities and equations, solutions of triangles, complex numbers, and other topics as time permits. This is a traditional prerequisite course to the calculus sequence. A graphing calculator is required for this course. Students cannot receive credit for both MAT 166 & MAT 122. Contact the math department chair with questions about this.
Prerequisite: MAT 121 (grade C or higher), ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 123 Finite Mathematics: GT-MA1
4 credits
Covers topics including functions, matrix algebra, linear programming, and an introduction to probability and counting techniques. Emphasis is on applications. This course may include other topics such as statistics when time permits. This course is primarily intended for business, life science, or social science majors. A graphing calculator is required for this course.
Prerequisite: MAT 055 (grade C or higher) or appropriate math placement score, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 125 Survey of Calculus: GT-MA1
4 credits
Includes derivatives, integrals, and their applications, with attention restricted to algebraic, exponential, and logarithmic functions for business, life science and/or social science majors. A graphing calculator is required for this course.
Prerequisite: MAT 121 or MAT 123 (grade C or higher), ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 135 Introduction to Statistics: GT-MA1
3 credits
Includes data presentation and summarization, introduction to probability concepts and distributions, statistical inference, estimation, hypothesis testing, and comparison of populations, correlation and regression. A graphing calculator is required for this course. Students cannot receive credit for both MAT 135 and BUS 226.
Prerequisite: MAT 050 (grade C or higher) or appropriate math placement scores, ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 155 Integrated Math I
3 credits
Covers topics including natural numbers, integers, rational numbers, relations, functions, and equations. This course is the first of a two course sequence particularly pertinent to prospective arithmetic teachers, presenting arithmetic and algebra from a modern approach.
Prerequisite: MAT 050 (grade C or higher) or appropriate math placement score.

MAT 156 Integrated Math II
3 credits
Continues MAT 155. The course includes the study of the fundamentals of probability, statistics, and informal Euclidean geometry suitable for K-8 curriculum, employing laboratory techniques where applicable.
Prerequisite: MAT 050 (grade C or higher).

MAT 166 Pre-Calculus
5 credits
Intended for those that need a fast paced review of College Algebra and College Trigonometry before taking calculus. Topics include algebraic manipulations, properties of algebraic and trigonometric functions and their graphs, trig identities and equations, conic sections, polar coordinates and parametric equations. A graphing calculator is required for this course. Students cannot receive credit for both MAT 166 and MAT 121/122. Contact the math department chair with questions about this.
Prerequisite: MAT 121 (grade C or higher) or by permission of Math Department Chair.

MAT 175 Special Topics
1-4 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.
Prerequisite: Permission of instructor.

MAT 185 Independent Study
1-4 credits
Provides an opportunity for the highly motivated student to engage in intensive study and research on a specified topic under direction of a faculty member.
Prerequisite: Permission of instructor.

MAT 201 Calculus I: GT-MA1
5 credits
Introduces single variable calculus and analytic geometry. Topics for this course include limits, continuity, derivatives, and applications of derivatives as well as indefinite and definite integrals and some applications. A graphing calculator is required for this course.
Prerequisites: MAT 121 and MAT 122 (grade C or higher) or Mat 166 (grade C or higher), ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 202 Calculus II: GT-MA1
5 credits
A continuation of single variable calculus, which will include techniques of integration, polar coordinates, analytic geometry, improper integrals, and infinite sequences and series. A graphing calculator is required for this course.
Prerequisite: MAT 201 (grade C or higher), ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 204 Calculus III with Engineering Applications: GT-MA1
5 credits
Includes all the topics of a traditional Calculus III course with an additional emphasis on word problems and problem solving. This is the third course in the three-course calculus sequence. This course will additionally contain a thorough examination of multiple integration. This will include double and triple integrals, line integrals, Stokes' and Green's Theorems, and their applications. A graphing calculator is required for this course.
Prerequisite: MAT 202 (grade C or higher), ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 261 Differential Equations with Engineering Applications: GT-MA1
4 credits
Introduces ordinary differential equations. The content of this course includes all the topics of a traditional Introduction of ODE's course with an additional emphasis on applications and problem solving. A graphing calculator is required for this course.
Prerequisite: MAT 204 (grade C or higher), ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

MAT 275 Special Topics
1-4 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.
Prerequisite: Permission of instructor.

MAT 285 Independent Study
1-3 credits
Provides an opportunity for the highly-motivated student to engage in intensive study and research on a specified topic under direction of a faculty member
Prerequisite: Permission of Instructor.

MET – Meteorology Courses

MET 150 General Meteorology w/Lab: GT-SC1
4 credits
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 stresses.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

MET 151 Introduction to Climatology
3 credits
To introduce the physical mechanisms responsible for the spatial and temporal variability in Earth's climate, and the human-climate relationship. This course is designed to help students gain a scientific understanding of the physical aspects of Earth's climate system, climate system dynamics and the factors that influence climate change. The course explores the global balance of energy and transfer of radiation in the atmosphere, major climatic controls, climatic classifications and comparisons of major climatic types and an overview of current climate issues such as global warming and El Niño.

MGD – Multimedia Graphic Design Courses

www.rrcc.edu/multimedia
Prerequisites: basic computer skills
Basic computer skills are defined as basic keyboarding; uploading and downloading files from the Internet and external devices; using the Web for basic research; sending email and attachments; basic file management; the ability to save information to a CD/DVD, flash drive, or external device; burning a CD/DVD; the ability to use the dock or start menu to open applications; create a new folder on the desktop or other location; and open files in an application. Students without these skills are required to take MGD 101 Introduction to Computer Graphics either concurrently or prior to taking other courses in the MGD/PHO department. If MGD 101 Introduction to Computer Graphics is not a requirement for your degree plan, it can be used as an elective.

MGD 101 Introduction to Computer Graphics
3 credits
Introduces computer systems developed for graphics. Students will learn hardware and software components used in multimedia production and explore basic computer operations, file management, scanning techniques, archiving capabilities, and utilization of the multimedia department server and Internet connection.

MGD 102 Introduction to Multimedia
3 credits
Introduces the equipment and software used in multimedia production and the multimedia professions focus on current technology and equipment, such as scanners, printers, digital cameras, and computers. Students will gain hands-on skills using today's technology for input and output in multimedia and design projects. Overview of software for multimedia will be explored.
Recommended Prerequisite: MGD 101 and basic computer skills.

MGD 103 Production Design
3 credits
Explores the use of tools, computer graphic techniques, and design principles to produce professional quality designs. Topics include printing basics, typography, and digital color systems. Students will use creative thinking to solve communication and design problems for the output process.
Recommended Prerequisites: MGD 101 or MGD 102 and basic computer skills.

MGD 104 Videography
3 credits
Introduces the principles and techniques of video production, including camera operation, basic script writing, lighting, basic sound, and basic digital editing. Examination of pre-production, production, and post-production processes, as well as aesthetics, are included.
Recommended Prerequisites: MGD 101 or MGD 102 and basic computer skills.

MGD 111 Adobe Photoshop I
3 credits
Concentrates on the high-end capabilities of Adobe's industry standard photo-editing software as an illustration, design, and photo retouching tool. Students will explore a wide range of selection and manipulation techniques applied to photos, graphics, and videos. Design concepts also are explored in this class.
Recommended Prerequisite: MGD 101 or MGD 102 and basic computer skills.

MGD 112 Adobe Illustrator I
3 credits
Acquaints students with the industry standard vector drawing program. Students will learn to use vector-based tools to create digital artwork used in Web design, print media, and digital screen design. Design concepts also are explored in this class.
Recommended Prerequisites: MGD 101 or MGD 102 and basic computer skills.

MGD 114 Adobe InDesign
3 credits
Introduces students to InDesign, an industry standard page layout program which integrates seamlessly with other Adobe Creative Suite programs. InDesign delivers creative freedom and productivity to page layout and production. Class discussions and independent projects supplement hands-on classroom work.
Recommended Prerequisites: MGD 111 and MGD 112 and basic computer skills.

MGD 116 Typography
3 credits
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.
Recommended Prerequisites: MGD 112 and basic computer skills.

MGD 118 Digital Color Theory
3 credits
Covers color theory as it relates to multimedia. The psychology of color is taught as well as effective design using color. Students will learn to correct color photographs and create color separations. Color scanning technology is also covered.
Recommended Prerequisites: MGD 111 and MGD 112 and basic computer skills.

MGD 121 Corel Painter for Digital Media
3 credits
Introduces to the digital illustration and paint software application Corel Painter. Color and relationships, repeat patterns, and fine art digitization are among the topics covered in the course as students explore the creation of visual fine art using computers. Assigned projects cover a wide range of visual approaches. Painter provides an extra competitive edge for students.
Recommended Prerequisites: MGD 101 or MGD 111 and basic computer skills.

MGD 163 Sound Design I: Apple Logic Pro
3 credits
Explores the use of sound in multimedia production and audio storytelling. Students will examine principles of recording and how sound enhances interactive productions and improves computer presentations. Students also will learn to use the computer as a full audio editing studio. This software is available only for the Mac Platform.
Recommended Prerequisites: MGD 101 and basic computer skills.

MGD 164 Digital Video Editing I: Apple Final Cut Studio Pro
3 credits
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. This software is available only for the Mac Platform.
Recommended Prerequisites: MGD 101 and/or MGD 104 and basic computer skills.

MGD 165 Adobe After Effects I
3 credits
Provides fundamental techniques for creating digital motion graphics, 2D animation, animated logos, video graphics, etc. This class covers relevant tools and techniques as well as industry standards, delivery methods, and output formats.
Recommended Prerequisites: MGD 111 and/or MGD 104 and basic computer skills.

MGD 202 Point of Purchase and Packaging Design
3 credits
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 also will be developed. Work layout stages and mock-ups will use various methods of cutting, folding, and assembly to explore the design concepts and their visual effects.
Recommended Prerequisites MGD 111 and MGD 112 and basic computer skills.

MGD 204 Videography II
3 credits
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.

MGD 211 Adobe Photoshop II
3 credits
Develops and reinforces image composition techniques learned in Adobe Photoshop I. Fundamentals are continuously reinforced as new design techniques are introduced.
Recommended Prerequisite: MGD 111 or permission of instructor.

MGD 212 Adobe Illustrator II
3 credits
Continues the development of digital drawing and design skills through practice and use of state-of-the-art illustration software acquired in MGD 112 Adobe Illustrator I.
Recommended Prerequisite: MGD 112 or permission of instructor.

MGD 213 Electronic Prepress
3 credits
Explores in detail the electronic prepress process. Students examine steps for preparing a digital file for trapping, output considerations and proofing techniques. Creating effective electronic designs and efficient use of today`s software programs are also covered.
Recommended Prerequisites: MGD 111, MGD 112, MGD 114, and/or MGD 113 or permission of instructor.

MGD 216 Adobe Acrobat Professional
3 credits
Concentrates on the high-end capabilities of Adobe Acrobat Professional software as a document conversion, presentation, form generation, secure document delivery, and press production tool. Students explore a wide range of techniques that can be applied to the Web, graphics, interactive and presentation multimedia, commenting workflows, and print media. Adobe Acrobat Professional allows students to bridge the paper-to-digital divide—simply, powerfully, and securely.

MGD 263 Sound Design II: Apple Logic Pro
3 credits
Focuses on the application of sound with various multimedia software applications. Principles and techniques include MIDI orchestration and sequencing, digital multitrack recording and production, working with musicians and other talent, sound effects layering, integrated audio system production, and advanced audio mixing/sweetening. Students will explore synchronization techniques of audio with moving pictures, graphics, and animation. This software is available only for the Mac platform.
Recommended Prerequisite: MGD 163 or permission of instructor.

MGD 264 Digital Video Editing II: Apple Final Cut Studio Pro
3 credits
Introduces complex and advanced techniques in digital video editing. Editing techniques such as masking, filtering, blue/green screening, track mattes, and image mattes are examined. Students will produce a movie project in this class and discuss practical ways to distribute projects to various audiences.
Recommended Prerequisite: MGD 164 or permission of instructor.

MGD 265 Adobe After Effects II
3 credits
Focuses on advanced skills and techniques in creating digital motion graphics. Relevant tools and techniques, industry standards, specialized techniques, and additional tools and resources are covered in this class.
Recommended Prerequisite: MGD 165 or permission of instructor.

MGD 268 Business for Creatives
3 credits
Business for Creatives in: Graphic Design, Photography, Animation, Web Design, and Multimedia 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 Internships
1-3 credits
Provides an opportunity to experience on-the-job shadowing and interacting with experts in a field of interest. Students will intern at local professional businesses to prepare for the transition from student to professional.
Prerequisite: Permission of MGD/PHO Department Advisor.

MGD 285 Independent Study
1-3 credits
Provides the opportunity to independently learn new technology skills not offered in the classroom. Qualified instructors provide one-on-one outcome objectives and review and oversee student progress.
Prerequisite: permission of instructor.

MGD 289 Capstone
1-3 credits
A demonstrated culmination of learning within a given program of study.

MIL – Milwright Courses

MIL 106 Millwright Lubrication
1.5 credits
Introduces the foundational principles and important considerations involved in properly lubricating industrial machines, including key components such as: maintenance strategies; principles of surface protection; lubricant construction; lubricant selection for a variety of components, including: rolling element bearings, plain bearings, gear drives, reciprocating engines, hydraulic systems, air compression systems, chains, cables and wire ropes; lubricant condition control; lubricant storage and handling.

MIL 107 Installing Belts Chain Drives and Bearings
4 credits
Covers the sizes, uses, and installation procedures of six types of drive belts and two types of chain drives. Methods to remove and troubleshoot, and install bearings will be explained.

MOT – Medical Office Technology Courses

www.rrcc.edu/medical-office-technology

MOT 110 Medical Office Administration
4 credits
Introduces the administrative duties specifically used in medical offices.
Prerequisite: A grade of C or higher in CCR 092, CCR 094 or appropriate placement scores.
Corequisite: MOT 120.

MOT 120 Medical Office Financial Management
3 credits
Covers the practical uses of accounts and records with emphasis on accounting principles and analysis for use in a medical office.
Prerequisite: CCR 092 or CCR 094 (grade of C or higher) or appropriate placement scores.

MOT 130 Insurance Billing and Coding
3 credits
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.
Prerequisite: MOT 120.

MOT 131 Advanced Insurance Billing/Coding
3 credits
Prepares the student to code (ICD, CPT, HCPCS) correctly, and optimize reimbursements for a full range of medical service by expanding coverage of diagnostic and therapeutic procedures, official coding guidelines, APG's, APC's, DRG's, Medicare fraud and abuse.
Prerequisite: MOT 120.

MOT 136 Introduction to Clinical Skills
2 credits
Provides hands on experience with the basic clinical skills required for assisting with patient care. The course delivers the theory behind each skill presented as well as proper technique for performing each skill. It includes knowledge and/or performance of blood borne pathogens/OSHA regulations, medical asepsis, procedural gloving, patient gowning, positioning measurement of vital signs and rooming of patients.
Pre or corequisites: HPR 178.

MOT 138 Medical Assisting Laboratory Skills
4 credits
Introduces students to basic routine laboratory skills and techniques for collection, handling, and examination of laboratory specimens often encountered in the ambulatory care setting. The course emphasizes hands-on experience. Hepatitis B immunizations will be required before taking this course. Wearing of appropriate scrubs or lab coat is required.
Prerequisites: HPR 178. Pre or corequisite MOT 136.

MOT 140 Medical Assisting Clinical Skills
4 credits
Provides hands on experience with the clinical skills required for assisting with patient care. The course delivers the theory behind each skill presented as well as proper technique for performing each skill. Immunizations will be required before taking this course.
Prerequisites: BIO 106 or BIO 201 and BIO 202, HPR 178, MAT 050 or higher/MAT 107 for AAS degree, MOT 136. Pre or corequiste MOT 150.

MOT 150 Pharmacology for Medical Assistants
3 credits
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. *Prerequisites: BIO 106 or BIO 201 and BIO 202, HPR 178, MAT 050 or higher/MAT 107 for AAS degree.*

MOT 181 Administrative Internship
2 credits
Provides supervised placement in contracted facility for guided experience in application of knowledge and skill acquired in the classroom. Positions are non-paid due to CAAHEP requirement.
Prerequisite: Successful completion of Medical Office program requirements with a C or higher in all core classes. Student must have completed the background check, drug screen, and have permission of program coordinator to begin internship.

MOT 182 Clinical Internship
3 credits
Provides supervised placement in contracted facility for guided experience in applications of knowledge and skills acquired in the classroom. Positions are non-paid due to CAAHEP requirement.
Prerequisite: Successful completion of M.A. program requirements with a grade of C or higher in all core classes. Students must have a completed background check, health check-drug screen, all immunizations, a CPR card, and permission of program coordinator to begin internship.

MOT 183 Medical Assistant Internship
5 credits
Provides supervised placement in a 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 due to CAAHEP requirement.
Prerequisite: successful completion of Medical Assisting program requirements with a grade of C or higher in all core classes. Students must have a completed background check, health check-drug screen, all immunizations, a CPR card and permission of program coordinator to begin internship.

MOT 184 Billing Specialist Internship
3 credits
Provides supervised placement in contracted facility for guided experience in application of knowledge and skill acquired in the classroom. Positions are non-paid due to CAAHEP requirement.
Prerequisite: Successful completion of Medical Billing program requirements with a C or higher in all core classes. Student must have completed the background check, health check-drug screen, and permission of program coordinator to begin internship.

MST - Massage Therapy Courses

www.rrcc.edu/holistic-health

MST 111 Basic Massage Therapy
4 credits
Introduces theory and techniques of therapeutic massage, including understanding of physiological benefits of massage as well as proper body mechanics and appropriate draping. Focuses on basic strokes of Swedish massage. Students also learn techniques of seated massage.
Prerequisites: BIO 106, HPR 178, HHP 224.

MST 113 Professional Massage
3 credits
Continues the study of Integrative Therapeutic Massage techniques with emphasis on assessing and meeting client's needs. Students give massage in supervised in-class clinicals, applying appropriate therapeutic intervention.

MST 178 Seminar
3 credits
Provides students with an experiential learning opportunity.
Prerequisites: MST 113.

MST 184 Clinical Massage I
2 credits
Applies skills in a clinical setting. Focuses on improvement of massage therapy skills, ethics, and communication.
Prerequisites: MST 113.

MST 216 Pathology for Massage Therapy
3 credits
Focuses on basic knowledge of disease and injury to assist the massage therapist to promote healing, ease pain and discomfort, and avoid complications during therapy. With a broad perspective of pathology and specific pathophysiology of diseases contributing to the need for massage therapy, this course provides the foundational science for safe practice.

MST 284 Clinical Massage II
2 credits
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.
Prerequisites: MST 184.

MUS – Music Courses

www.rrcc.edu/music

MUS 100 Introduction to Music Theory I
3 credits
Designed to help the beginning music student, or the student with a limited background in music theory, to study the basic elements of music, including notation, rhythm, scales, key signatures, intervals and chords. This course is for non-music majors.

MUS 101 Introduction to Music Theory II
3 credits
Presents music fundamentals, diatonic four-part harmony, analysis and keyboard harmony for non-music majors.
Prerequisite: MUS 100 or permission of the instructor.

MUS 105 Introduction to Computer Music Applications
3 credits
Explores the elements of electronic music and demonstrates some of the most popular music software for the MacIntosh and IBM computers, including music notation and music sequencing programs. Achieving a fundamental working knowledge of setup and recording procedures on a personal computer is stressed. Equipment is provided and beginner's knowledge on either the MacIntosh or IBM computer is helpful, but not essential.

MUS 106 Songwriting
3 credits
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 the student has written songs before or has just always wanted to see if one could. A basic knowledge of music reading for any instrument and elementary music theory is recommended, but not required.

MUS 108 Principles of Acoustics
3 credits
Provides students with simplified acoustic and psychoacoustic concepts to promote an intuitive understanding of sound, its relation to and interaction with physical environments, and the role of sensory perception in shaping the way humans hear.

MUS 110 Music Theory I
3 credits
Presents music fundamentals, diatonic four-part harmony, analysis, ear training, and keyboard harmony. For music majors transferring to a 4-year program.
Corequisite: MUS 112, MUS 131.

MUS 111 Music Theory II
3 credits
Presents chromatic four-part harmony, analysis, ear training, and keyboard harmony.
Prerequisites: MUS 110 or permission of instructor. Corequisite: MUS 113.

MUS 112 Ear Training/Sight-singing I Lab
1 credit
Presents exercises in sight-singing with melodic and rhythmic dictation.
Corequisite: MUS 110.

MUS 113 Ear Training/Sight-singing II Lab
1 credit
Presents exercises in sight-singing with melodic and rhythmic dictation.
Prerequisites: MUS 112 or permission of instructor. Corequisite: MUS 111.

MUS 120 Music Appreciation: GT-AH1
3 credits
Covers the basic materials of music, musical forms, media, genres and musical periods. This course emphasizes the development of tools for intelligent listening and appreciation.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

MUS 121 Music History Medieval through Classical Period: GT-AH1
3 credits
Studies the various periods of music history with regard to the composers, aesthetics, forms, and genres of each period. Music History I considers music from the Middle Ages through the Classical period.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

MUS 122 Music History Early Romantic Period to the Present: GT-AH1
3 credits
Studies the various periods of music history with regard to the composers, aesthetics, forms, and genres of each period. Music History II considers music from the early Romantic period to the present.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

MUS 123 Survey of World Music: GT-AH1
3 credits
Provides an overview of non-Western music from around the world. This course provides basic listening skills and the historical/cultural context for a variety of world music styles to enable an understanding and appreciation of non-Western musical expression.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

MUS 125 History of Jazz: GT-AH1
3 credits
Provides a survey of the basic materials of music and the forms, media, genres, historical, and cultural style periods of jazz. It emphasizes the development of tools for intelligent listening and appreciation.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores.

MUS 126 History of Rock and Pop
3 credits
Provides a survey of basic materials of music, musical forms, media, genres, and musical periods of Rock and Pop music. It emphasizes the development of tools for intelligent listening and appreciation.

MUS 127 Music in Film
3 credits
Provides an overview of cinema music from the origins of film to the present. This course covers basic listening skills, basics of how music is used in film, and a historical/cultural context for Western and world cinematic styles to enable an understanding and appreciation of musical expression in film.

MUS 131 Music Class I: Piano
2 credits
Applies the fundamentals of music to the piano. This course also introduces basic techniques, repertoire, and sight-reading. First year, first term.

MUS 141 Private Instruction I
1-2 credits
Offers private instruction consisting of a half-hour lesson (1 credit) or an hour lesson (2 credits, primarily for future music majors) each week. Participation in a student performance is required at least once each term. First year, first term. An additional fee is required.
Corequisite: MUS 178 Performance Seminar.

MUS 142 Private Instruction II
1-2 credits
Offers private instruction consisting of a half-hour lesson (1 credit) or an hour lesson (2 credits, primarily for future music majors) each week. Participation in a student performance is required at least once each term. First year, second term.
Prerequisite: MUS 141 in same instrument. An additional fee is required.
Corequisite: MUS 178 Performance Seminar.

MUS 143 Private Instruction III
1-2 credits
Offers private instruction consisting of a half-hour lesson (1 credit) or an hour lesson (2 credits, primarily for future music majors) each week. Participation in a student performance is required at least once each term. First year, third term.
Prerequisite: MUS 142 in same instrument. An additional fee is required.
Corequisite: MUS 178 Performance Seminar.

MUS 151 Ensemble I
1 credit
Rehearses and performs various types of musical literature. First year, first term.
Prerequisite: Permission of instructor.

MUS 152 Ensemble II
1 credit
Rehearses and performs various types of musical literature. First year, second term.
Prerequisite: MUS 151.

MUS 153 Ensemble III
1 credit
Rehearses and performs various types of musical literature. First year, third term.
Prerequisite: MUS 152.

MUS 161 Computer Music Applications I
3 credits
Introduces students to the Digital Audio Workstation, current practices with MIDI instruments, MIDI sequencing, MIDI editing, music notation programs.
Recommended Prerequisite: MUS 105.

MUS 163 Music Audio Production I
3 credits
Designed to give music majors and students with a strong interest in music a basic understanding of the Music Production process. This includes the basic knowledge of audio/music production, the fundamentals of sound and microphone, digital and analog technology, recording, and mixing.

MUS 165 MIDI I
2 credits
Considers the language of MIDI, computer skills necessary to learn music software applications, and the process of design and set-up of a music technology workstation. Project-oriented course covers the uses of computers in the music profession. Course projects provide instruction in basic computer skills, music sequencing and notation software skills, the language of MIDI, and operation of synthesizers.

MUS 167 Music Business
3 credits
Designed to give music students, or those students with a strong interest in business and music, a complete overview and in-depth examination of the current, historic, and projected business practices in the music industry.

MUS 168 Audio Post Production I
3 credits
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 175 Special Topics
1-6 credits
Covers specific topics in music. This course is offered as needed for credit appropriate to the topic. Each offering includes a description of the topic(s).
Prerequisite: Permission of instructor.

MUS 178 Performance Seminar
1 credit
Provides performance opportunities in voice and/or instruments before an audience; exposure to a variety of music literature for various instruments; observation of other performers; professional critiques to help develop the student's own evaluative abilities; and discussion of performance concerns common to all musicians.
Corequisite: MUS 141, MUS 142, and/or MUS 143.

MUS 184 Internship
1-3 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.
Prerequisite: Permission of instructor.

MUS 210 Music Theory III
3 credits
Continues study of four-part music, including extended harmonic progressions of ninth, eleventh, and thirteenth chords, extended alteration, non-chord tones, modulation and composition.
Prerequisites: MUS 111 or permission of instructor. Corequisite: MUS 212.

MUS 211 Music Theory IV
3 credits
Offers a continuation of chromatic harmony, analysis, ear-training, and keyboard harmony. New topics will include Impressionism and 20th Century styles of composition.
Prerequisites: MUS 210 or permission of instructor. Corequisite: MUS 213.

MUS 212 Advanced Ear Training/Sight-singing I Lab
1 credit
Presents modulating and chromatic exercises in sight-singing and dictation. Dictation includes four-part writing.
Prerequisites: MUS 113 or permission of instructor. Corequisite: MUS 210.

MUS 213 Advanced Ear Training/Sight-singing II Lab
1 credit
Presents modulating and chromatic exercises in sight-singing and dictation. Dictation includes four-part writing.
Prerequisites: MUS 212 or permission of instructor. Corequisite: MUS 211.

MUS 241 Private Instruction I
1-2 credits
Offers private instruction consisting of a half-hour lesson (1 credit) or an hour lesson (2 credits, primarily for future music majors) each week. Participation in a student performance is required at least once each term. Second year, first term.
Prerequisite: MUS 142 or MUS 143 in same instrument. An additional fee is required. Corequisite: MUS 278 Performance Seminar

MUS 242 Private Instruction II
1-2 credits
Offers private instruction consisting of a half-hour lesson (1 credit) or an hour lesson (2 credits, primarily for future music majors) each week. Participation in a student performance is required at least once each term. Second year, second term.
Prerequisite: MUS 241 in same instrument. An additional fee is required. Corequisite: MUS 278 Performance Seminar.

MUS 243 Private Instruction III
1-2 credits
Offers private instruction consisting of a half-hour lesson (1 credit) or an hour lesson (2 credits, primarily for future music majors) each week. Participation in a student performance is required at least once each term. Second year, third term.
Prerequisite: MUS 242 in same instrument. An additional fee is required. Corequisite: MUS 278 Performance Seminar

MUS 244 Continuing Private Instruction
1-2 credits
Offers private instruction consisting of a half-hour lesson (1 credit) or an hour lesson (2 credits, primarily for future music majors) each week. Participation in a student performance is required at least once each term. Third year and beyond.
Prerequisite: MUS 242 or MUS 243 in same instrument. An additional fee is required. Corequisite: MUS 278 Performance Seminar.

MUS 251 Ensemble I
1 credit
Rehearses and performs various types of musical literature. Second year, first term.
Prerequisite: MUS 152 or MUS 153.

MUS 252 Ensemble II
1 credit
Rehearses and performs various types of musical literature. Second year, second term.
Prerequisite: MUS 251.

MUS 253 Ensemble III
1 credit
Rehearses and performs various types of musical literature. Second year, third term.
Prerequisite: MUS 252.

MUS 261 Advanced Audio Production
3 credits
Designed to build upon earlier courses to give a well-structured and advanced knowledge of the various aspects of recording and production of music in a live and studio setting. This includes a working knowledge of microphones, mixing boards - analog and digital, recorders - analog and digital, sound-equalization and the fundamentals of acoustics in studio design.
Prerequisite: MUS 163.

MUS 265 Live Audio Engineering
3 credits
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.

MUS 266 Advanced MIDI
2 credits
Continues the study of MIDI. This course examines unassigned control change messages, explores parameter mapping, and employs real-time hardware and automated software control of extended synthesizer parameters. MIDI patch change messages, system real-time messages, and system exclusive messages are used for recall, synchronization, and offline backup

of synthesizer parameters. Real-world synchronization scenarios are explored.
Prerequisite: MUS 165.

MUS 268 Audio Post Production II
3 credits
Explores the steps in audio production following editing and mixing. Special attention will be paid to final equalization, audio level compression, multi-band audio compression, and "brick wall" limiting. Audio mastering is explored from an historic and practical perspective. Dithering, compression, and optimization for specific media types will also be discussed.
Prerequisite: MUS 168.

MUS 275 Special Topics
1-3 credits
Covers specific topics in music. This course is offered as needed for credit appropriate to the topic and each offering includes a description of the topic(s).
Prerequisite: Permission of instructor.

MUS 278 Performance Seminar
1 credit
Provides performance opportunities in voice and/or instruments before an audience; exposure to a variety of music literature for various instruments; observation of other performers; professional critiques to help develop the student's own evaluative abilities; and discussion of performance concerns common to all musicians.
Corequisite: MUS 241, MUS 242, MUS 243, and/or MUS 244.

MUS 284 Internship
1-3 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.
Prerequisite: Permission of instructor.

NAT – Nail Technician Courses

www.rrcc.edu/warrentech

NAT 110 Introduction to Manicures and Pedicures
3 credits
Provides a basic introduction in the proper use of implements used in manicures and pedicures. Theory and practical application of proper set-up, safety, sanitation, nail shapes, anatomy, product knowledge and terminology dealing with manicures and pedicures is covered. Training is done in a classroom or lab setting using models or other techniques.

NAT 111 Intermediate Manicures and Pedicures
2 credits
Presents theory and practical application dealing with different types of manicures, pedicures, nail art and massage techniques. Theory and practical application of procedures, products, nail shapes and maintenance of natural nails is covered. Students learn to recognize different nail disorders and their proper treatment. Training is done in a specialized class or in supervised salon (clinical) setting, using models or customer service. Proper sanitation and sterilization as it pertains to all aspect of manicures, pedicures and nail art is taught.

NAT 210 Advanced Manicures and Pedicures
2 credits
Presents theory and practical application dealing with different types of manicures, pedicures massage techniques and nail art. Theory and practical application of procedures, products, nail shapes and maintenance of the natural nails is covered. Students learn to recognize different nail disorders and their proper treatment. Training is done in a specialized class or in supervised salon (clinical) setting, using models or customer service.

NAT 211 Application of Artificial Nails
5 credits
Provides advanced theory and practical application of nail wraps, tip overlays, acrylics and product knowledge to ready the student for employment. Theory and practical application of removal techniques for artificial nails is covered. Instruction is provided in specialized classes or in supervised salon (clinical) setting using models or customer service. Student preparation for state board licensing examination pertaining to artificial nails is covered.

NAT 230 Nail Tech Prep-State Board
4 credits
Provides preparation for State Boards. Allows the student the opportunity to gain knowledge in the practical and/or written examination required by the Colorado Board of Barber/Cosmetology.

NRE – Natural Resources Courses

www.rrcc.edu/geology

NRE 251 General Oceanography w/Lab: GT-SC1
4 credits
Provides a comprehensive introduction to modern geological and chemical oceanography. Material includes earth history, plate tectonics, geophysics, geochemistry, marine sediments, the hydrosphere, physical properties of salt water, major and minor components of seawater, and ocean-atmosphere interactions. This course includes laboratory experience.
Prerequisite: ENG 090 (grade C or higher) CCR 092, CCR 094, or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

NUA – Nurse Aide Courses

www.rrcc.edu/health-careers

NUA 101 Certified Nurse Aide Health Care Skills
4 credits
Prepares the student to perform the fundamental skills of the nurse aide. Basic nursing skills, communication skills, 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 rights.
Prerequisite: HPR 102 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or appropriate placement scores.
Corequisite: NUA 170.

NUA 105 Home Health Aide Theory
2 credits
Introduces the student to the expanding field of Home Health Nursing. The student will discover the uniqueness of Home Health Care and the vital role that the nursing assistant plays as part of the home care team. The student will learn how to assist home care patients with activities of daily living and maintain a safe, clean, and comfortable environment. The student will also learn the differences and challenges of caring for patient in their natural home environment versus institutional settings.

NUA 120 Introduction to Hospice and Palliative Care (Hospice & Palliative Care)
1 credit
Introduces health care professionals to the fields of hospice and palliative care. Students will learn how to care for patients with serious and/or terminal illness and how to support their families. The course will address mandatory topics for all newly hired hospice employees in the state of Colorado.

NUA 121 Bereavement and Emotional/Spiritual Aspects of Hospice (Bereavement & Spiritual Care)
1 credit
Prepares health care professionals to work in the fields of hospice and/or palliative

care. The course addresses grief and bereavement, as well as cultural, emotional, and spiritual aspects of hospice care.

NUA 170 Nurse Aide Clinical Experience
1 credit
Applies knowledge and skill gained in NUA 101 to patient care.
Prerequisite: HPR 102.
Corequisite: NUA 101.

NUA 180 Home Health Aide Internship
0.5 credits
Prepares the nurse aide for entry-level into the home health care setting.
Prerequisite: NUA 101, NUA 170, and HPR 102 (or hold a current Colorado Nurse Aide Certification, and a CPR card.)
Corequisite: NUA 105

NUA 181 Hospice Care Internship
0.5 credits
Prepares the hospice health care professional to provide care for serious or terminally ill patients and their families in the hospice and/or palliative care setting.
Corequisites: NUA 120, NUA 121.

NUR – Nursing Courses

www.rrcc.edu/health-careers

NUR 170 Clinical I
1 credit
Applies the knowledge gained from NUR 290 in a clinical setting. This course is the additional clinical time for nurses who have been out of practice for 6-10 years with an inactive or expired license to meet the DORA requirements for licensure.
Prerequisite: HPR 102 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.
Corequisite: NUR 290 and NUR 291.

NUR 290 Registered Nurse Refresher
8 credits
Presents material that is designed for all RNs regardless of time absent from nursing practice, to explore avenues of employment. Clinical experience is held in the hospital to refresh and update basic nursing skills. Other opportunities for clinical experience may include long-term care and rehabilitation.
Prerequisite: HPR 102 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.
Corequisites: NUR 291 and HPR 210.

NUR 291 Registered Nurse Clinical Experience
2 credits
Applies the knowledge gained from NUR 290 in a clinical setting. Students will demonstrate skill attainment gained in NUR 290.
Prerequisite: HPR 102 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.
Corequisite: NUR 290.

OSH – Occupational Safety Technician Courses

OSH 127 10-HR Construction Industry Standards
1 credit
Provides a 10-Hour OSHA certification course for the construction industry and participants will review the current OSHA standards contained in 29 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 authorized by the Occupational Safety and Health Administration.

OUT - Outdoor Education Courses

www.rrcc.edu/outdoor-education

OUT 101 Mountaineering
3 credits
Provides students with a combination of skills and practical experience in the fundamentals of mountaineering. Emphasis is placed on basic climbing skills and techniques, equipment usage, safety systems, mountain travel and awareness, problem-solving and decision-making, high altitude climate and weather, wilderness ethics, and physical fitness.

OUT 107 Orienteering and Route Finding
2 credits
Combines the topics of using different topographical maps and compasses in order to safely plan a route in the wilderness with orienteering (organized competitive cross-country land navigation). Orienteering rules, symbols, clues, and clubs will also be addressed. Field trips may include student participation in a scheduled Orienteering meet.

OUT 108 Wilderness Survival Skills
3 credits
Emphasizes the physiological, psychological, and practical principles of survival. Survival equipment, wilderness improvising techniques, and wilderness dangers are included.

OUT 109 Winter Wilderness Survival Skills
2 credits
Emphasizes winter survival techniques in the nivean environment at or near timberline. Winter ecology, basic snow science, and avalanche safety and rescue will also be presented in a backcountry setting. This course includes field days and an overnight in a snow cave.

OUT 112 Mountain Orientation
2 credits
A concentrated field experience in the Colorado mountain environment is provided in this course. Emphasis is on backpacking skills, safety procedures, ecology, geology, geography and group dynamics.

OUT 113 Desert Orientation
2 credits
A concentrated field experience in a desert environment is provided in this course. Emphasis is on procedures for group travel and camping, ecology, geography and safety.

OUT 114 Canyon Orientation
2 credits
Encounters the environment of the Canyonlands, Colorado Plateau or the Grand Canyon, where students develop proficiency in canyon travel, group camping and will explore the geology, geography and ecology of the canyon country.

OUT 115 Snow Orientation
2 credits
A concentrated field experience in snow covered terrain and winter mountaineering is provided. Emphasis is on orienteering, natural shelter construction, site selection and survival first aid.

OUT 116 River Orientation
2 credits
Provides whitewater boat handling and water reading skills through experience on selected rivers. Students will learn river trip planning, river safety procedures, equipment, logistics, camp management, hazard evaluation, the natural history and archeology of river environments and minimum environmental impact on river environments.

OUT 119 Flyfishing I
1 credit
Enables the student to gain the knowledge and skill of the fine art of flyfishing, including the selection and use of appropriate equipment, fly-casting techniques, flyfishing entomology, and guiding techniques. This course includes several field trips to local flyfishing areas.

OUT 126 Mountain Biking
1 credit
Designed to introduce basic mountain biking skills and techniques. The primary emphasis is to gain an understanding of the basic principles of mountain biking. Students will develop skills and techniques for all riding situations and review bicycle anatomy and basic maintenance and repairs.

OUT 129 Ice Climbing I
1 credit
Introduces technical (roped) ice climbing, including equipment selection and safety, knots, belaying and climbing, rappelling and climbing safety.

OUT 130 Ice Climbing II
1 credit
This course continues to develop proficiency in technical ice climbing, including equipment selection and safety, knots, belaying and climbing, rappelling and climbing safety. Safe, fast and efficient ice climbing, leadership, ice climbing site management, and judgment development will be emphasized.
Prerequisite: OUT 129 or permission of instructor.

OUT 131 Rock Climbing I
2 credits
Designed to introduce basic rock climbing and to improve dexterity, problem-solving skills, and the physical work capacity of an individual. The primary emphasis will be to gain an understanding of the general principles of climbing, how equipment works and how it is used, basic climbing skills and techniques, and safety and climbing etiquette and terminology.

OUT 132 Rock Climbing II
2 credits
Designed to introduce lead climbing skills and techniques, problem-solving skills, and physical fitness. Emphasis is placed on the general principles of lead climbing, proper usage of climbing equipment, development of lead climbing skills and techniques, climbing ethics and safety, and terminology.
Prerequisite: OUT 131 or permission of instructor.

OUT 134 Wilderness Ethics
2 credits
Emphasizes the motivation, aesthetics, and ethics of wilderness. Viewpoints to be examined include Native American, Western, historic, and those of modern environmental writers.

OUT 135 Risk Management for Outdoor Professionals
1 credit
Introduces risk management in the outdoor environment. Students will gain a better understanding of the inherent risks associated with various outdoor activities. They will learn how to analyze and minimize those risks, how to establish emergency protocols to react to those risks, and how to take the proper steps to resolve the consequences from those risks. After learning to identify, assess and reduce the risk, students will write a risk management plan specific to their area of interest. This course will cover outdoor leadership skills and delve into backcountry emergency situations and scenarios.

OUT 136 Leave No Trace Trainer Cert.
2 credits
Introduces the student to the concepts of Leave No Trace and prepares students to teach Leave No Trace curriculum in a variety of settings-schools, camps, parks, wilderness and front country areas. Anyone attending this training will be considered a Leave No Trace Trainer at the national level with the Leave No Trace Center for Outdoor Ethics. Becoming a Leave No Trace Trainer enables each student to successfully conduct awareness workshops to their clients, friends, family and scouting badge workshops. Is a must for guides, outfitters, outdoor educators, agency employees, scout/youth group leaders, or anyone who cares about minimizing impact on the Colorado back country. This class is a great outdoor resume enhancer.

OUT 137 Kayaking
1 credit
Provides basic kayak and water reading skills. The students will learn boating safety, hazard evaluation, terminology, white water river reading skills, paddling strokes, bracing techniques, peel out and eddy turns, and rescue and self-rescue techniques including wet exits, Eskimo rescues and introduction to and practice of the Eskimo roll.

OUT 139 Whitewater Rafting Guide
2 credits
Meets the requirements of Colorado Statute 33-32-105.5 which provides for the minimum qualifications of professional whitewater rafting guides. The classroom portion includes a review of the logistics, equipment, clothing, safety considerations, risk management, outdoor ethics, river reading fundamentals, and leadership skills. The remainder of the course will be spent with a licensed outfitter.

OUT 140 Swift Water Rescue Tech I
1 credit
Trains and certifies river professionals and/or Recreational users how to handle emergencies and rescue situations on the river. Topics include shallow water crossing, river swims, swimming rescues, shore based rescues, boat handling and boat based rescues, related equipment and communication in a variety of rescue situations.

OUT 143 Backpacking
2 credits
Provides skills related to wilderness travel and outdoor adventure. This course will emphasize knowledge of backpacking skills, survival techniques, proper physical conditioning, route finding, equipment selection, and will encourage an understanding and respect for the environment. The course will involve lecture and discussion sessions followed by a weekend trip in the mountains.

OUT 144 Backcountry Cooking
1 credit
Covers menu planning, nutritional requirements for wilderness camping, and meal preparations. This course includes cooking a backcountry meal.

OUT 145 Introduction to Winter Sports
1 credit
Provides an overview of at least two of the following winter sports: alpine skiing, snowboarding, ice skating, telemark skiing, Nordic skiing, snowshoeing, or skate skiing. The primary emphasis is on gaining the knowledge and techniques necessary for winter sports on beginner to intermediate groomed or backcountry terrain. Multiple field trips to ski areas or other outdoor venues are required.

OUT 149 Alpine Skiing I
1 credit
Presents a basic Alpine skiing course designed for those who have had little or no prior downhill skiing experience. The course will consist of a combination of on the snow classes at an established ski area and classroom instruction at the college. For purposes of instruction, students will be assigned to small groups based on their present skiing ability. All on snow instruction will be by certified ski instructors employed by the ski area.

OUT 150 Alpine Skiing II
1 credit
Presents an advanced skiing course designed for students who are ready for advanced instruction in parallel skiing. The course will Consists of a combination of on the snow classes at an established ski area and classroom instruction at the college Students will be divided into small groups and assigned to instructors based on demonstrated skiing ability. All on snow instruction will be by certified ski instructors employed by the ski area.
Prerequisite: OUT 149 or permission of instructor.

OUT 151 Snowshoeing
1 credit
Emphasizes the basic skills, equipment, clothing and techniques of snowshoeing. The course includes the objective dangers involved with winter recreation.

OUT 152 Snowboarding I
1 credit
Serves as a basic snowboarding course designed for those who have had little or no prior snowboarding experience. Incorporates a combination of on the snow classes at an established ski area and classroom instruction at the college. For purposes of instruction, students are assigned to small groups based on their snowboarding ability. Snow instruction is taught by certified ski instructors.

OUT 153 Snowboarding II
1 credit
Introduces advanced snowboarding designed for those with prior snowboarding experience and can link skidded turns with good speed and control on green and blue terrain. Covers a combination of on the snow classes at an established ski area and classroom instruction at the college. Students are assigned to small groups based on their present snowboarding ability. Snow instruction is taught by certified ski instructors.
Prerequisite: OUT 152 or permission of instructor.

OUT 156 Survival Plants in the Summer I
2 credits
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 I
2 credits
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) in 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 the Spring I
2 credits
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) in 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 161 Survival Plants: Summer II
3 credits
Introduces the student to useful wild plants of summer not seen in earlier classes, as well as a review of botany and topics covered in previous classes. Students will learn wild food preparation, cooking and wild preservation methods. Students will experiment with wild salads, raw vs. cooked dishes and aquatic plant cooking. In addition, advanced cordage construction methods will be covered. The wet method of cordage construction will be practiced.

OUT 162 Survival Plants: Fall II
3 credits
Introduces the student to useful plants of the Fall season not seen in earlier Survival Plants classes, as well as a review of botany learned in earlier classes. Students will continue learning wild food preparation, cooking and preservation (dehydration). They will experiment with various wild plant food combinations, wild plant spices and flavorings. In addition, fire starters both primitive and modern will be discussed and practiced (weather permitting). Natural tenders, friction fires and fire bundles will be covered.

OUT 163 Survival Plants: Spring II
3 credits
Introduces the student to the useful wild plants of spring not seen in earlier classes, as well as a review of botany and topics covered in previous classes. Students will learn and practice harvesting methods such as winnowing grain from chaff using the wind. Wild food preparation, cooking and preservation will be expanded. Prepared food categories will be wild teas and coffees, wild sprouts and wild sweets and deserts.

OUT 168 Avalanche Awareness Level I
1 credit
Emphasizes the latest information available about the study of avalanches, snow science, rescue equipment, and rescue techniques. The course provides students with the knowledge and skills necessary to help instill good judgment and sound decision-making in day-to-day travel in the winter environment. This course fulfills the National Ski Patrol's Basic (Level 1) Avalanche course requirements.

OUT 169 Avalanche Awareness Level II
2 credits
Enhances students understanding of snow and avalanche phenomena, hazard evaluation, rescue, avalanche forecasting and avalanche hazard mitigation. Students will receive a certificate of completion stating that the course was taught following the guidelines of the American Avalanche Association.
Prerequisite: OUT 168 or permission of instructor.

OUT 175 Special Topics
1-4 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

OUT 187 Cooperative Education Internship
3 credits
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.

OUT 201 Scuba Diving
1 credit
Provides basic instruction in scuba diving. This course provides 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 (PADI) certification.

OUT 202 Open Water Diver
1 credit
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).

OUT 203 Advanced Open Water Diver
2 credits
Extends the students' 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 students' knowledge, while the pool sessions focus on further

developing the students' 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 201 and OUT 202 or permission of instructor.

OUT 204 Rescue Diver
2 credits
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 students' ability to handle different situations and prepares the student for the Divemaster course.
Prerequisite: OUT 201, OUT 202, and OUT 203 or permission of instructor.

OUT 205 Divemaster
3 credits
Introduces the student to leadership level diving. It trains the student in several areas of focus: dive theory, watermanship 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 201, OUT 202, OUT 203, OUT 204 or permission of instructor.

OUT 216 Challenge Course Facilitation
2 credits
Provides approaches to challenge course management including construction and maintenance of high and low elements, facilitation and group dynamics, risk management and safety, and challenge course philosophies.

OUT 237 Paddle Sports
2 credits
Focuses on the methods and skills of conducting and leading safe lake and river trips in various types of watercraft, such as canoes, kayaks, or rafts. Students will learn modern river paddling techniques, trip planning and organization, basic river rescue and safety skills, federal and local permit systems, and minimal impact camping and boating techniques for a river corridor. The course includes a multi-day river expedition.

OUT 275 Special Topics
1-4 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

OUT 289 Capstone
Emphasizes how outdoor recreation leadership can be integrated into future employment opportunities as well as future educational plans. Students will develop a professional portfolio and will take a comprehensive academic exit exam and a comprehensive skills exit exam.

PAP – Physician Assistant Program Courses

www.rrcc.edu/physician-assistant

PAP 201 Professional Seminar I
0.5 credit
Provides the physician assistant student with an Introduction to the profession. Topics include ethics, professional behavior, legal aspects of practice, medical decision making, evaluation of medical literature, and Issues important to the profession.

PAP 202 Professional Seminar II
1 credit
Provides the physician assistant student with an Introduction to the profession. Topics include ethics, professional behavior, legal aspects of practice, medical decision making, evaluation of medical literature, and Issues important to the profession. This course is a continuation of PAP 201.

PAP 203 Professional Seminar III
0.5 credit
Provides the physician assistant student with an Introduction to the profession. Topics include ethics, professional behavior, legal aspects of practice, medical decision making, evaluation of medical literature, and Issues important to the profession. This course is a continuation of PAP 202.

PAP 204 Problem-Based Learning I
1 credit
Requires students to identify the signs and symptoms of common disorders, to further evaluate those disorders through small group research and learning, and to prepare a treatment plan to preserve health or mitigate suffering. Students present the selected case studies in small groups either orally or in a written format. This course also presents evidence-based health care as it relates to clinical outcomes. Faculty facilitators act as coaches to direct the problem-based learning In the small groups.

PAP 205 Problem-Based Learning II
1 credit
Requires students to identify the signs and symptoms of common disorders, to further evaluate those disorders through small group research and learning, and to prepare a treatment plan to preserve health or mitigate suffering. Students present the selected case studies in small groups either orally or in a written format. This course also presents evidence-based health care as it relates to clinical outcomes. Faculty facilitators act as coaches to direct the problem-based learning In the small groups. This course is a continuation of PAP 204.

PAP 206 Problem-Based Learning III
0.5 credits
Requires physician assistant students to present clinical cases they have seen during clinical clerkships. Students will analyze and evaluate the cases and prepare case presentations. This course also examines evidence-based health care as it relates to clinical outcomes.

PAP 207 Clinical Medicine I
4 credits
Provides a beginning understanding of how clinicians approach the diagnosis and treatment of specific disease states in conjunction with Basic Science curriculum, Students learn to identify the signs and symptoms of common disorders, to further evaluate those disorders through appropriate testing, and to prepare a treatment plan that includes appropriate use of pharmacotherapeutics, referral sources, rehabilitation, and patient education. Includes otorhinolaryngology, ophthalmology, endocrinology, genitourinary and dermatology from a primary care perspective across the lifespan.

PAP 208 Clinical Medicine II
4 credits
Provides a beginning understanding of how clinicians approach the diagnosis and treatment of specific disease states in conjunction with Basic Science curriculum, Students learn to identify the signs and symptoms of common disorders, to further evaluate those disorders through appropriate testing, and to prepare a treatment plan that includes appropriate use of pharmacotherapeutics, referral sources, rehabilitation, and patient education. Includes pulmonology, cardiology, gastroenterology, nephrology, orthopedics, neurology, women's health, and dermatology from a primary care perspective across the lifespan. This course is a continuation of PAP 207.

PAP 209 Clinical Medicine III
3 credits
Students learn to identify the signs and symptoms of common disorders, to further evaluate those disorders through appropriate testing, and to prepare a treatment plan that includes appropriate use of pharmacotherapeutics, referral sources, rehabilitation, and patient education. Includes wellness, hematology/oncology, infectious disease,

obstetrics and EKGs. This course is a continuation of PAP 208 with additional presentations and small group experiences that examine common patient conditions.

PAP 210 History and Physical Examination I
2 credits
Teaches the techniques required to perform the complete physical examination of patients of all ages. Practice sessions and mock patients are used to develop the practical skills necessary to perform these tasks. Includes general evaluation and examination of the skin, ears, nose, throat, eyes, genitourinary, and lungs.

PAP 211 History and Physical Examination II
2 credits
Teaches the techniques required to perform the complete physical examination of patients of all ages. Practice sessions and mock patients are used to develop the practical skills necessary to perform these tasks. This course is a continuation of PAP 210. Includes examination of heart, abdomen, and musculosketal and neurological systems.

PAP 212 History and Physical Examination III
2 credits
Reinforces the techniques required to perform the complete physical examination of patients of all ages. Practice sessions and mock patients are used to develop the practical skills necessary to perform these tasks. Also teaches basic diagnostic and therapeutic clinical skills and procedures most commonly used in a primary care setting. Covers preparation of the patient, anatomical considerations, patient consent, potential complications, and clarification of therapeutic and diagnostic value of clinical procedures. This course is a continuation of PAP 211.

PAP 214 Behavioral Health
1 credit
Explores the relationship between physical illness and psychosocial issues in the medical setting. Examines interviewing and communication styles unique to behavioral medicine. The presentation and recognition of major psychiatric disorders, mood and anxiety disorders, and substance abuse are addressed. Covers the appropriate role of psychotherapeutic agents, including anxiolytics, antidepressants, mood stabilizers and neuroleptics.

PAP 220 Human Anatomy & Development
3 credits
Presents functional and applied anatomy as it relates to common clinical findings. Provides the student with a solid understanding of the structure of the human body, with emphasis on normal vs. abnormal findings. Covers the musculoskeletal, nervous, cardiovascular, urinary, respiratory, digestive, and reproductive systems.

PAP 221 Biochemistry
3 credits
Introduces the major topics in modern biochemistry, cell biology, and human genetics through the study of the chemistry of proteins, carbohydrates, lipids, and nucleic acids, and covers how these components function and are involved in basic metabolic processes, such as cellular respiration, lipid metabolism, protein synthesis, and DNA replication. The basic conceptual background is provided to allow the PA student to understand disease mechanisms, clinical lab tests, and drug effects.

PAP 222 Physiology
3 credits
Provides the student with an improved understanding of human physiology as it relates to clinical medicine. Through lectures and examinations, students study the functional organization of the human body, membrane physiology, nerve and muscle tissue function, the cardiovascular system, the lymphatic system, the immune system, respiration, digestion, renal function, metabolism and temperature regulation, endocrinology and human reproduction.

PAP 223 Pathophysiology
2 credits
Requires students to focus on the clinical pathophysiology of human illness through the examination of the cellular and organ-based aspects of disease. Emphasis is placed on how the disease process begins, progresses and ends. Presentations in PAP 221 (Clinical Medicine) track with the material in this course, allowing students to correlate the pathophysiology of specific diseases with the medical and surgical management of those conditions.

PAP 224 Pharmacology I
1 credit
Introduces the study of therapeutic pharmacology with an emphasis on pharmacokinetics and pharmacodynamics. The physiology that underlies drug contraindications, interactions, and adverse effects is reviewed.

PAP 225 Pharmacology II
3 credits
Applies the principles of pharmacology to the prevention and treatment of specific human disorders. Special emphasis is placed on the safe and appropriate use of medications.

PAP 226 Pharmacology III
1 credit
Applies the advanced principles of pharmacology to the clinical prevention and treatment of specific human disorders. Special emphasis is placed on the safe and appropriate use of medications.

PAP 231 Professional Seminar IV
0.5 credits
Prepares the senior physician assistant student for entry to the profession. Topics includes advanced medical ethical Issues, professional behavior, legal aspects of practice, medical decision making, evaluation of medical literature, and current controversies in medicine.

PAP 232 Professional Seminar V
0.5 credits
Prepares the senior physician assistant student for entry to the profession. Topics includes advanced medical ethical Issues, professional behavior, legal aspects of practice, medical decision making, evaluation of medical literature, and current controversies in medicine. This course is a continuation of PAP 231.

PAP 233 Professional Seminar VI
0.5 credits
Prepares the senior physician assistant student for entry to the profession. Topics includes advanced medical ethical Issues, professional behavior, legal aspects of practice, medical decision making, evaluation of medical literature, and current controversies in medicine. This course is a continuation of PAP 232.

PAP 234 Problem-Based Learning IV
1 credit
Requires senior physician assistant students to present actual clinical cases they have seen during clinical clerkships. Students must analyze and evaluate clinical cases, and prepare case presentations in a grand rounds type format. Senior students will act as mentors to junior students In the small group setting. This course also presents evidence-based health care as it relates to clinical outcomes.

PAP 235 Problem-Based Learning V
0.5 credits
Requires senior physician assistant students to present actual clinical cases they have seen during clinical clerkships. Students must analyze and evaluate clinical cases, and prepare case presentations in a grand rounds type format. Senior students will act as mentors to junior students In the small group setting. This course also presents evidence-based health care as it relates to clinical outcomes. This course is a continuation of PAP 234.

PAP 236 Problem-Based Learning VI
0.5 credits
Requires senior physician assistant students to present actual clinical cases they have seen during clinical clerkships. Students must analyze and evaluate clinical cases, and prepare case presentations in a grand rounds type format. Senior students will act as mentors to junior students in the small group setting. This course also presents evidence-based health care as it relates to clinical outcomes. This course is a continuation of PAP 235.

PAP 270 Clinical Clerkship I
9 credits
Prepares the physician assistant student to assess and manage patients within a medical setting. The student will provide care to patients under the direct supervision of a practicing clinician (preceptor). Modules within the clerkship are one month long and will include areas of medicine as scheduled by the Clinical Coordinator.

PAP 271 Clinical Elective I
3 credits
Prepares the physician assistant student to assess and manage patients within a medical setting. The student will provide care to patients under the direct supervision of a practicing clinician (preceptor). This elective is one month long and is chosen by the student and the Clinical Coordinator.

PAP 272 Clinical Clerkship II
12 credits
Prepares the physician assistant student to assess and manage patients within a medical setting. The student will provide care to patients under the direct supervision of a practicing clinician (preceptor). Modules within the clerkship are one month long and will include areas of medicine as scheduled by the Clinical Coordinator.

PAP 273 Clinical Clerkship III
9 credits
Prepares the physician assistant student to assess and manage patients within a medical setting. The student will provide care to patients under the direct supervision of a practicing clinician (preceptor). Modules within the clerkship are one month long and will include areas of medicine as scheduled by the Clinical Coordinator.

PAP 274 Elective Clerkship II
3 credits
Prepares the physician assistant student to assess and manage patients within a medical setting. The student will provide care to patients under the direct supervision of a practicing clinician (preceptor). This elective is one month long and is chosen by the student and the Clinical Coordinator.

PED – Physical Education Courses

PED 101 Conditioning Lab
1 credit
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 cardiorespiratory, muscular strength and endurance exercises to promote positive changes in health-related fitness components.

PED 102 Weight Training I
1 credit
Offers basic instruction and practice in weight training. Students will use weight training equipment in accordance with their abilities and goals. Emphasis is placed upon weight training equipment orientation, correct lifting techniques, and basic program design for men and women.

PED 103 Weight Training II
2 credits
Offers guided instruction and independent practice in weight training for men and women. Students will practice various weight-training techniques in accordance with your abilities. Emphasis is placed upon physiological considerations, equipment orientation, correct lifting techniques, program design, and nutrition.
Prerequisite: PED 102 or permission of instructor.

PED 106 Fire Academy Fitness
2.5 credits
Focuses on educating the fire science student in the exercise, nutritional and stress management principles needed to effectively meet the demands of firefighting. The course includes an Individual fitness evaluation, computerized analysis of results and a prescribed exercise program.

PED 110 Fitness Center Activity I
1 credit
Designed for individuals interested in improving total fitness via an aerobic circuit training program. The course will include an individual fitness evaluation, computerized analysis of results, and a prescribed exercise program. All the basic components of fitness, including flexibility, muscular strength, muscular endurance, cardiovascular fitness, and body composition, will be addressed. Weight machines, stationary bicycles, and computerized cardiovascular equipment will be used to elicit improvements in fitness.

PED 111 Fitness Center Activity II
1 credit
An advanced course designed for individuals interested in reaching a higher level of total fitness via an aerobic circuit training program. The course will include an individual fitness evaluation, computerized analysis of results, and a prescribed exercise program. All the basic components of fitness, including flexibility, muscular strength, muscular endurance, cardiovascular fitness, and body composition, will be addressed. Weight machines, stationary bicycles, and computerized cardiovascular equipment will be used to elicit improvements in fitness.
Prerequisite: PED 110.

PED 125 Ski Conditioning
1 credit
An individual conditioning program that builds both aerobic and muscle strength and promotes flexibility for the student planning to participate in either alpine or Nordic skiing.

PED 129 Zumba
1 credit
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 co 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 credit
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 143 Yoga I
1 credit
Offers guided instruction in yoga. Students will practice yoga according to their individual fitness levels and abilities. Emphasis is placed on enhancing general health and well-being through the performance of yoga strength, flexibility, balance, and relaxation techniques and exercises.

PED 144 Yoga II
1 credit
Increases awareness of yoga and its physical and mental benefits. The concepts of basic yoga are carried into additional areas.
Prerequisite: PED 143 or permission of instructor.

PED 161 Tai Chi I
1 credit
Designed to introduce 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 162 Tai Chi II
1 credit
Emphasizes the instruction of Tai-Chi from a practical and scientific approach with illustrations of applications for each of the movements in daily life. Cardiovascular training, strength and flexibility training, and balance and coordination will be integral parts of the Tai-Chi training. In addition, psychosocial skills such as meditation, relaxation, and self-efficacy will be addressed.
Prerequisite: PED 161 or permission of instructor.

PED 163 Martial Arts I
1 credit
Designed to introduce basic martial arts techniques and forms designed to improve the physical and mental capacity of an individual. The primary emphasis is to gain an understanding of the basic philosophies and concepts around the martial arts and the approach to ethics and provides a clear-cut guide for developing a powerful sense of character and will.

PED 165 Self Defense
1 credit
Introduces the basic skills and techniques of the art of self-defense.

PED 204 Fencing I
1 credit
A beginning course in the art and skill of fencing. Topical discussions and practical uses of appropriate equipment, rules, safety, footwork, and defensive/ attack strategies will be covered.

PED 205 Fencing II
1 credit
Continues the course in the art and skill of fencing. Topical discussions and practical uses of appropriate equipment, rules, safety, footwork, and defensive/attack strategies will be covered. The focus of this course will be on the tactical wheel and bouting.
Prerequisite: PED 204 or permission of instructor.

PED 208 Tennis I
1 credit
Designed to introduce and improve the skill level in tennis. The primary emphasis is teaching students the elements of tennis: rules of the game, ground strokes, serving, the various shots, and singles and doubles play and strategies.

PED 280 Internship
1-6 credits
Gives students a realistic work experience in the field. Work will be supervised by professionals currently employed in the outdoor education industry. These preceptors will ensure that students participate in relevant field work and that they perform to the standards expected of employees of the organizations in which the internship occurs.

PED 285 Independent Study
1 credit
Meets the individual needs of students. The student will engage in intensive study or research under the direction of a qualified instructor.

PHI – Philosophy Courses

www.rrcc.edu/philosophy

PHI 111 Introduction to Philosophy: GT-AH3
3 credits
Introduces significant human questions and emphasizes understanding the meaning and methods of philosophy. It includes human condition, knowledge, freedom, history, ethics, the future, and religion.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 112 Ethics: GT-AH3
3 credits
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: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 113 Logic: GT-AH3
3 credits
Studies effective thinking using language-oriented logic. The course provides tools and develops skills for creative and critical thinking and emphasizes the development of decision-making and problem-solving.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 114 Comparative Religions: GT-AH3
3 credits
Introduces students to the major world religions from both the Eastern and Western world such as Hinduism, Buddhism, Confucianism, Taoism, Zoroastrianism, Judaism, Christianity, Islam, and influential pre-literate traditions. Utilizes religious studies methods (historical, sociological, legal, psychological, and phenomenological), to understand the historical development of each religious tradition in terms of communities, cultural context, and modern manifestations; paying particular attention to differences between sects, denominations, schools, and factions within each tradition. Focus will include the examination of the charismatic leaders, prophets, and narratives that inform the worldview of each tradition.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 115 World Religions—West: GT-AH3
3 credits
Introduces students to religions of the Western world: Zoroastrianism, Judaism, Christianity, Islam, Bahá'í, and influential pre-literate traditions. Utilizes religious studies methods (historical, sociological, legal, psychological, and phenomenological), to understand the historical development of each religious tradition in terms of communities, cultural context, and modern manifestations; paying particular attention to differences between sects, denominations, schools, and factions within each tradition. Focus will include the examination of the charismatic leaders, prophets, and narratives that inform the worldview of each tradition.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 116 World Religions—East: GT-AH3
3 credits
Introduces students to religions of the Eastern world: Hinduism, Buddhism, Jainism, Taoism, Confucianism, Sikhism, Shinto, and influential pre-literate traditions. Utilizes religious studies methods (historical, sociological, legal, psychological, and phenomenological), to understand the historical development of each religious tradition in terms of communities, cultural context, and modern manifestations; paying particular attention to differences between sects,

denominations, schools, and factions within each tradition. Focus will include the examination of the charismatic leaders, prophets, and narratives that inform the worldview of each tradition.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 117 Psychology of Religion
3 credits
Emphasizes the application of psychological principles and theories to religious phenomena, including religious practices, beliefs, and rituals. As an introduction to the field, this course begins with an historical appreciation of psychologists` attempts to understand religion, continues with an exploration of select theories, and concludes with an analysis of modern problems and future directions.

PHI 120 Applied Ethics
3 credits
An umbrella course which covers different applications of ethics in contemporary society and disciplines, including Business Ethics, Biomedical ethics, Genetic ethics, issues of dental ethics, and other valid applications.

PHI 123 Native American Religion
3 credits
Designed to introduce students to the primary beliefs and practices found in the Native North American tribes, and to trace the development of these religious systems from their oral beginnings through to modern religious revivals.

PHI 124 Introduction to Islam
3 credits
Introduces the Islamic religious tradition and considers its significance in the modern world. The course investigates the history of Islam, Islamic beliefs and practices, Islamic sects, Sufism, and contemporary issues of Islamic extremism, women in Islam, and Islam in the West.

PHI 140 Religion in American Culture
3 credits
Investigates the various ways in which religion and American culture interact. Beginning with the religion of Native Americans, which existed in a pre-modern society where religion went unchallenged as the pre-eminent organizing principles our post-modern era, where religion competes with a multiplicity of other belief systems in a complex societal matrix. This course will focus on the sundry ways in which religion and American culture interface.

PHI 141 Old Testament
3 credits
Surveys the literature produced by ancient Israel from its inception in the 10th century BCE to its absorption into the Roman Empire. The Hebrew Scriptures along with selected Apocryphal writings will be examined. The course will focus on the interpretation of these texts in light of the historical and cultural milieu from which they arose. Particular attention will be paid to the comparison of the literature of ancient Israel to that of its neighbors.

PHI 142 New Testament
3 credits
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 credits
Addresses a single topic among those relevant to social and political philosophy such as political rights, political freedom, social obligations, or democracy.

PHI 202 Religion and Film
3 credits
Introduces basic concepts to the academic study of religion and illustrates those concepts by examining the ways in which a number of contemporary films embody religious themes. Particular attention will be paid to the challenges modernity and post modernity poses to traditional religion.

PHI 203 Introduction to Buddhism
3 credits
Introduces students to the history, philosophy and practices of 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 204 Introduction to Hinduism
3 credits
Provides students with a broad overview of the history, philosophy, and practices of Hindu tradition. Because of the vast complexity of the subject matter the course in no way intends to be comprehensive but rather to provide an introduction to the foundations of Indian cultural tradition, the evolution of Hindu philosophical and spiritual ideals, as well as, a cursory understanding of Hindu nationalism and modern Hindu religious practice.

PHI 214 Philosophy of Religion: GT-AH3
3 credits
Focuses on the critical examination of the fundamental concepts, ideas, and implications of religion. Specific topics will include: the nature of God, the varieties of religious experience, argument concerning God`s existence, the Problem of Evil, faith and reason, religion and human destiny, and the connection between religion and ethics.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 218 Environmental Ethics: GT-AH3
3 credits
Critically analyzes theories of value of the natural world. Topics include the relation between scientific and moral principles; theories of the moral worth of persons, animals, plants and other natural objects; historical, religious and cultural influences on conceptions of nature; alternative accounts of human relationships and responsibilities to nature, including deep ecology and eco-feminism; and the connection between moral and political values and economic policies.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHI 220 Philosophy of Death and Dying: GT-AH3
3 Credits
Critically analyzes the major philosophical questions surrounding death and dying. Topics include the metaphysical arguments for and against the existence of a soul and life after bodily death, the epistemological assessment of arguments for the soul and life after death, the ethical justifications taken on positions such as rational suicide and physician assisted suicide, as well as a focus on philosophy's existentialist contribution to questions about the meaning of life and the meaning of death.

PHI 221 Ancient Philosophy
3 credits
Introduces the foundation of the Western philosophical tradition. Students explore the historical context that gave rise to ancient Greek philosophical inquiry and the questions addressed by its important contributors. Such questions include: Ethical: Can there be an objective moral standard? Is the foundation of morality divinely inspired? Metaphysical: What is the nature of the soul? What are the basic building blocks of reality? Epistemological: What is the nature of human knowledge? Can knowledge be objective?

PHI 222 Modern Philosophy
3 credits
Introduces the central conceptual issues that define Western philosophy in the modern era through exposure to the historical context that gave rise to the "New Science," as well as significant schools of thought that arose during the 17th and 18th centuries. Rationalism, empiricism, idealism, and the Kantian revolution will be addressed as the course explores questions of causality and necessity, appearance and reality, faith and reason, and the nature of mind

PHI 275 Special Topics in Philosophy
3 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

PHO – Photography Courses

www.rrcc.edu/multimedia
Photography classes reside under both the ART and PHO prefixes, and classes are held in the Multimedia Graphic Design Department. All photography classes may include the artistic presentation of the nude human form.

PHO 109 Photography Lab
1 credit
Introduces operations, lab safety, and proper operation of darkroom equipment to beginning and advanced students. Introduces concepts necessary for the production of fine art silver gelatin prints.
Corequisite: Must be taken concurrently with PHO 120.

PHO 120 Fundamentals of Photography
3 credits
Working with a combination of lectures, demonstrations, assignments, and critiques, students learn to see photographically through an exploration of the basic tools, techniques and aesthetics of photography, with an emphasis on the creative use of camera controls, exposure, an overview of film and digital processing, and an awareness of the critical issues in contemporary photography.
Corequisite: Must be taken concurrently with PHO 109 and/or PHO 161.

PHO 122 Photo-Image Capture II
3 credits
This course is a continuation of Photo Image Capture I and further develops camera operation skills and an understanding of digital imaging terminology. A more advanced control and application of camera techniques such as exposure, depth of field, optical effects, and zone focusing will be emphasized. In addition to demonstrating technical competency in the aforementioned areas, students will be expected to utilize these techniques as visual communication tools in order to clearly convey their photographic intent. Additional topics include: macro photography, the effects of image compression, the advantages and disadvantages of shooting JPEG vs. RAW, and use of fill flash.

PHO 143 Perception & Photography I
3 credits
Presents the fundamentals of visual perception and design and seeing in the photographic medium. Topics include the psychology of seeing, value exercises, conceptual and perceptual exercises, depth representation, figure/ground, organization, gestalt principles, quality of light, and the development of ideas.

PHO 155 Photography of the Human Form I
3 credits
Introduces students to the social, artistic legal and photographic aspects of figure studies in photography. The human figure is one of the most studied and practiced subjects in the field of creative visual expression. Students have the opportunity to photograph the figure using professional lighting equipment and professional models. Professional ethics, and legal concerns, as well as group critiques are used throughout the course. Choice of camera, either digital or film, is left up to the student.

PHO 161 Digital Capture Processing I
2 credits
This course will cover post processing of digital captures. Methods of transferring files from camera to computer, basic digital asset management, image editing tools, optimizing files for print and screen, image sharpening, proper understanding of black and white tonal scale, methods of converting color captures to black and white images, printing, and matting are included.
Prerequisites: Must be taken concurrently with PHO 120.

PHO 162 Digital Capture Processing II
3 credits
This course is a continuation of Digital Capture Processing I and focuses on digital image processing and printing. Topics include: visual understanding of print quality, basic RAW processing, various digital workflows, further development of vocabulary of digital darkroom terminology, creating and utilizing actions in Photoshop, and further advancement of Photoshop technique.

PHO 204 Commercial Studio Lighting
3 credits
Explores the creative uses of studio lighting from the perspective of fine art and commercial photography with an emphasis on three-dimensional object photography, including, lighting techniques, backgrounds, working with shadows and highlights, and photographing flat art.
Recommended Prerequisite: ART 139.

PHO 232 Professional Portraiture
3 credits
Introduces the student to the types of portraits taken when operating a professional portrait studio. Included is information on different types of lighting and their uses as well some Photoshop techniques used to create professional portraits. Types of portraits covered are Babies, Children, Weddings, and Environmental Portraits. Digital or Manual SLR required.
Prerequisite: ART 139.

PHO 234 Large Format Photography and Lighting
3 credits
Instruction in the use of large format cameras and strobe lighting for product photography is the focus of this course. Topics include: types of large format cameras, view camera movements for depth of field and perspective control, lighting ratios, special lighting techniques, light modifiers, bellows factors, and the specific methods of lighting different objects and surfaces such as glass and metal.
Recommended Prerequisite: ART 139 or permission of instructor.

PHO 235 Architectural Photography
3 credits
Covers the more advanced aspects of commercial/ architectural photography. Students will explore photographing subjects ranging from products to buildings with an emphasis on meeting the design demands of commercial clients, stock agencies and publishers. Various film types, formats and print reproduction aspects will be explored in depth.

PHO 236 Product Photography
3 credits
A continuation of View Camera and Lighting Techniques, emphasizing studio product illustration using color transparency film and digital capture. Advance techniques in lighting and further development of proficiency with the view camera and advanced aspects of commercial illustration photography. The focus is on design requirements, exploration of various subject matter and printing reproduction requirements.
Recommended Prerequisite: ART 139 or permission of instructor.

PHO 240 Field Techniques and Exploration
1 credit
Focuses on the exploration, personal inspiration and the development of an expressive style beyond the influence of the college local and its geographic confines. Lecture/demonstration topics will include film, exposure, care and use of equipment, light and composition as well as preparation for the field component of this course.

PHO 260 Event & Wedding Photography
3 credits
Designed for the intermediate/advanced photo student interested in learning professional techniques associated with venue photography. Topics covered include weddings, Barmitzvah/Basmitzvah, music concerts, sporting events, graduations, and similar occasions. Students gain hands-on knowledge and learn practical shooting skills. The course includes the business and planning aspects of ceremonial and event photography. Both film and/or digital SLR cameras with manual settings may be used for this class.
Prerequisite: ART 139.

PHO 261 Photographic Self Publishing
3 credits
Introduces students to the concepts and processes used in producing published works in both print and digital media for promotional and client based applications. Student projects will explore concepts such as: choosing a subject, project proposal, research and story development, basic design principals and image sequencing. File preparation and delivery of properly color managed projects for an open loop printing system and digital media output are also covered.
Prerequisites: ART 139.

PHO 266 Professional Digital Workflow (Adobe Lightroom)
3 credits
Concentrates on developing a seamless professional workflow for digital photography, integrating all aspects of digital photography, including shooting Camera RAW in the field, conversion of files to digital negatives, color calibration, importing, sorting and developing images, to final print output. Students will understand the workflow associated with importing, processing, managing, and showcasing large volumes of digital photographs including the use of the Library module for importing and managing photos; the Develop module for fundamental photographic adjustments and processing of hundreds of photographs at a time; and using the Slideshow, Web, and Print modules to easily present photos onscreen, online, or in print.
Recommended Prerequisite: ART 139.

PHY – Physics Courses

www.rrcc.edu/physics

PHY 105 Conceptual Physics w/Lab: GT-SC1
4 credits
Explores the physics of how things work, utilizing many activities and demonstrations. This course studies mechanics, heat, properties of matter, electricity and magnetism, light and modern physics. This course includes laboratory experience.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

PHY 107 Energy Science and Technology w/Lab: GT-SC1
4 credits
Provides an in-depth look at the science of energy and energy technologies, with a focus on renewable energy resources and clean technologies. The course will provide a background in the physics of energy, non-renewable energy methods, the problems of energy transfer and loss and the current state of technology. This course includes laboratory experience.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

PHY 111 Physics: Algebra-Based I/lab: GT-SC1
5 credits
Topics include: kinematics, force, circular motion, energy, momentum, torque, rotational dynamics, simple harmonic motion, temperature, heat and thermodynamics. This is a general physics course that is recommended for all of the health sciences and all other interested students. Those entering engineering or one of the advanced sciences should register for PHY 211.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 121 (grade C or higher) or equivalent placement scores.

PHY 112 Physics: Algebra-Based II/lab: GT-SC1
5 credits
A continuation of the PHY 111 course. Topics covered in this class include: sound waves, electric fields, electric circuits, magnetic fields, optics, and modern physics.
Prerequisite: PHY 111 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHY 211 Physics: Calculus-Based I/lab: GT-SC1
5 credits
Topics include: kinematics, force, gravity, energy, momentum, torque, rotational dynamics, fluids and waves. This first semester calculus-based physics course is recommended for students entering engineering or one of the advance sciences.
Prerequisites: MAT 201 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHY 212 Physics: Calculus-Based II/lab: GT-SC1
5 credits
A continuation of the PHY 211 course. Some of the topics covered in this class include: electric fields, electric circuits, magnetic

fields, electromagnetic induction, light, and optics.
Prerequisite: PHY 211 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PHY 213 Physics: Calculus-Based III
3 credits
Expands upon PHY 212 and explores advances that took place in physics during the twentieth century. Topics may include special and general relativity, quantum theory, atomic physics, solid state physics, nuclear physics, semiconductor physics and cosmology.
Prerequisite: PHY 212.

PHY 227 Energy for Engineers
3 credits
Provides an in-depth look at the science of energy and energy technologies, with a focus on renewable energy resources and clean technologies. Survey of human-produced energy technologies including steam, hydro, fossil (petroleum, coal, and unconventionals), geothermal, wind, solar, biofuels, nuclear, and fuel cells. Explores the current state and possible future of energy transmission and efficiency. Includes an evaluation of different energy sources in terms of a feasibility matrix of technical, economic, environmental, and political aspects.
Prerequisite: PHY 211.

PLU – Plumbing Courses

www.rrcc.edu/plumbing

PLU 100 Introduction to Plumbing
4 credits
Introduces the student to the plumbing trade, providing them with the opportunity to learn basic skills needed to work in the plumbing industry. The course includes work in the classroom and shop. Students will work with plastic, copper, steel and cast iron pipe. Students will be able to identify and apply common DWV, copper and threaded fittings. Job safety and introduction to isometric drawing are also included in this course.
Corequisites:Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

PLU 101 Piping Skills
4 credits
Teaches the installation of common piping materials in plumbing and HVAC/R systems. Pipe math, terminology, common piping materials and application, figuring offsets and common pipe joints are also covered. Shop projects including pipe support and hanging, center to center measurements

and a variety of pipe joining methods are explored.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

PLU 104 Plumbing Service
4 credits
Allows students to learn how to diagnose and repair common problems associated with plumbing components and systems. Topics will include faucet repair, water heater replacement and repair, drain cleaning, water closet repair, piping repairs, finding the source of leaks and evaluating problems for repair or replacement. Students will learn customer relations and communication skills.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

PLU 105 Basic Electricity
4 credits
Covers fundamentals of electricity, measuring instruments and electrical safety practices. Examines Ohm`s Law and its practical application. Students work with electric motors, basic electrical components and learn their application to the trade.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

PLU 108 Soldering and Brazing Skills
0.5 credits
Allows students to learn proper soldering and brazing skills when joining copper tube and fittings. Topics include safety, proper soldering and brazing skills, how to assess joint quality and basic center-to-center measurement.
Corequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications.

PLU 120 Residential Plumbing
4 credits
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.
Corequisites: HVA 107.

PLU 130 Basic Drain, Waste and Vent
4 credits
Gives the students the opportunity to learn how to design drain, waste and vent systems. Chapters 7 and 9 of the plumbing code will be discussed in the classroom and applied in the shop. Other topics include DWV materials, sizing systems, terminology, and practical application of code tables, traps and interceptors. Students will design DWV systems in the classroom and build the system in the shop, thereby developing their isometric drawing skills.

PLU 150 Code and Piping Calculations
2 credits
Reviews and applies code and piping calculation. Topics include calculations for the following: pipe and cylindrical area and volume, pipe circumference, rectangular area and volume, offsets, water volume and weight grade, fall, and run. The knowledge gained by students completing this course can be applied to all plumbing systems, fuel gas appliance piping and critical calculations for other mechanical and piping systems.

PLU 202 International Residential Code – Plumbing
2 credits
Covers the plumbing requirements of the IRC. 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 part VII of this code

PLU 207 International Plumbing Code
4 credits
Helps plumbers working in jurisdictions where the International Plumbing Code has been adopted. This course will review the IPC and help the plumber apply the requirements of this code to the installation of plumbing systems. This Code has been adopted by the State Of Colorado effective July 1, 2005.

PLU 208 International Fuel Gas Code
4 credits
Reviews the general requirements of applicable chapters of the IFGC. Students are given the opportunity to learn system sizing which includes: fuel gas piping, gas appliance venting, and combustion air.

PLU 216 Colorado Plumbing Code Update
2 credits
This course is designed for students who need to be updated on the Colorado Plumbing Code. The instructor will meet with students and schedule the necessary attendance.
Prerequisites: PLU 207 or valid Colorado plumbing license.

PLU 247 Hot Water Heating Systems
4 credits
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.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. PLU 101, HVA 110, HVA 162 or permission of the instructor.

PLU 267 Radiant Heating Systems
4 credits
Combination lab/lecture course and covers the theory of operation, installation and maintenance of warm water radiant heating systems. Different methods of zoning, controls, piping methods, piping types and system components are discussed. Students are able to design, install, document, maintain and trouble-shoot all conventional residential warm water, radiant panel heating systems.
Prerequisites: Starting summer 2014, HVA 107. If program started prior to summer 2014, then OSH 127 and HWE 113 or proof of current certifications. PLU 101 or HVA 110, HVA 105, HVA 247, or permission of the instructor.

PLU 275 Special Topics
1-6 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest

PLU 280 Technical Project
1-12 credits
Enables students to participate in individual study on a special project which is related to the plumbing program. This technical project consists of a written and approved proposal and scheduled progress reports.
Prerequisite: Permission of instructor.

PLU 282 Internship
0.5-12 credits
Gives students with prior course work in a specific area are eligible for internship. The internship will give students an opportunity to apply their course studies.
Prerequisite: Permission of instructor.

PLU 285 Independent Study
0.5-12 credits
Allows the student to work with the instructor on a specific area with specific objectives and a predetermined project completion date.
Prerequisite: Permission of instructor.

POS – Political Science Courses

www.rrcc.edu/political-science

POS 105 Introduction to Political Science: GT-SS1
3 credits
Surveys the discipline of political science, including political philosophy and ideology, democratic and non-democratic processes, and international relations.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 111 American Government: GT-SS1
3 credits
Includes the background of the U.S. Constitution; the philosophy of American government; general principles of the U.S. Constitution; federalism; civil liberties; public opinion and citizen participation; political parties; interest groups and the electoral process; and the structure and functions of the national government.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 125 American State and Local Government: GT-SS1
3 credits
A study of the structure and functions of state, county, and municipal governments including their relations with each other and with national government. Colorado government and politics are emphasized.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 136 American Presidency: GT-SS1
3 credits
Focuses on the office of the president as a branch of government. Examines the individuals who have occupied and shaped the presidency, and changes in the office itself.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 205 International Relations: GT-SS1
3 credits
Examines the relationships among modern nation states. Topics include diplomacy, nationalism, ideologies, power and influence, conflict and cooperation, the role of non-state actors, the international economy, and theoretical attempts to understand international behavior.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 215 Current Political Issues
1-3 credits
An in-depth analysis of critical issues in political science. Topics will be determined each term.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 225 Comparative Government: GT-SS1
3 credits
A comparison of the basic features of selected developed and developing countries. Topics include ideologies, political parties, interest groups, and government institutions.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 250 Colorado Legislature
3 credits
Provides students with the opportunity to observe and learn from the workings of the Colorado State Legislature, by attending the legislative session at the capital with a state legislator. Students evaluate and analyze the efficacy of state government, impact on local government, process of policy making, and role of individuals involved in the General Assembly (GA).
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 260 Energy Security Policy
3 credits
Introduces students to the concept of energy security and provides the foundation for understanding the field of energy policy and security. Topics such as traditional versus renewable energy sources, political ideology versus economic conditions, strategic policy implications, warfare, water use, energy forecasting, and sustainability will be covered.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

POS 275 Special Topics
3 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.
Prerequisite: ENG 090 (grade C or higher) or equivalent placement scores.

POS 280 Internship
1-6 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

PRA – Park Ranger Courses

www.rrcc.edu/park-ranger-technology

PRA 102 Introduction to Park Ranger Technology
3 credits
An introductory course covering the development of public lands in the U.S., the various agencies controlling these lands, multi-use doctrine, wilderness, public services provided in parks, and the various roles of the park ranger in different settings. Career planning and park ranger responsibilities will be discussed, such as law enforcement, natural resource management, protection, and interpretation, such as geologic, biologic, and historic or cultural resources. Visitor services, emergency response, management, and training are also covered.

PRA 175 Special Topics
1-6 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

PRA 178 Park Ranger Skills Seminar
2 credits
A skills seminar that presents necessary information regarding specialized training related to the park ranger field. Handling of

livestock, fence design, building and repair, vehicle driving, park maintenance, budgeting and planning, and trail design, construction, and maintenance are some of the topics that can be covered. This is a hands-on course for development and application of skills.

PRA 203 Natural Resource Management
3 credits
An introductory course covering the various scientific disciplines and complex issues associated with natural resource management. Ecosystem management, wildlife management, plant ecology, agricultural management, career planning, public land acquisition, visitor use, natural resource law enforcement, and public policy are introduced and discussed in detail.
Prerequisite: PRA 102.

PRA 205 Natural Resource Interpretation
3 credits
A basic course in natural and cultural resource interpretation. The philosophy, techniques, and skills necessary to produce exciting and relevant resource interpretation projects are discussed and practiced. Interpretive plans are discussed in detail as well as various techniques used in the field of resource interpretation and public education. The history and development of environmental education and natural/cultural resource interpretation are discussed. Multi-use conflict resolution of public education and resource interpretation are emphasized.

PRA 218 Outdoor Leadership
3 credits
Enables the student to develop, acquire and apply outdoor leadership skills and knowledge. Exposes students to the latest information, philosophy, and techniques necessary to safely conduct outdoor programs and expeditions as an outdoor leader. Skills are applied under actual field conditions. Emphasizes minimum impact camping, wilderness ecology, judgment, decision making, group dynamics, and trip logistics. These skills enhance the effectiveness of the student as a professional outdoor leader.

PRA 255 Advanced Resource Interpretation
3 credits
An advanced course in natural and cultural/historic resource interpretation. The course provides students with the skills to plan, prepare, and present exciting and relevant interpretation programs for special visitors and situations using a variety of personal and non-personal techniques. Examples of the types of skills offered are writing and design of site produced publications and exhibit labels; producing basic audio-visual programs; and preparing and presenting special activities, such as demonstrations, living history, storytelling, costumed interpretation, and dramatic/creative arts. Techniques for resource interpretation for the physically or mentally challenged, sensory impaired, the elderly, and international visitors will be discussed. The sensitive handling of controversial/sensitive educational issues will also be discussed.
Prerequisite: PRA 205.

PRA 280 Park Ranger Internship
1-6 credits
Gives students a realistic work experience in the field. All work will be supervised by park rangers currently employed by land management agencies at various levels of government. These preceptors will ensure that students participate in relevant field work and perform to the standards expected of employees of the agencies in which the internship occurs.
Prerequisite: PRA 102.

PSY – Psychology Courses

www.rrcc.edu/psychology

PSY 101 General Psychology I: GT-SS3
3 credits
Focuses on the scientific study of behavior including motivation, emotion, physiological psychology, stress and coping, research methods, consciousness, sensation, perception, learning and memory.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 102 General Psychology II: GT-SS3
3 credits
Focuses on the scientific study of behavior including cognition, language, intelligence, psychological assessment, personality, abnormal psychology, therapy, sexuality, life span development, and social psychology.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 110 Career Development
3 credits
Assists students in recognizing your career potential, and provides tools for making realistic decisions concerning educational and occupational objectives.

PSY 116 Stress Management
3 credits
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 to transfer.

PSY 117 Parenting
1 credit
Focuses on effective techniques for parenting children, with emphasis on setting expectations, consideration of individual differences, satisfactory communication, and effective parent-child relationships.

PSY 175 Special Topics
1-3 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

PSY 180 Internship
1-3 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational programs. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

PSY 204 Relationships: Challenges and Choices
1 credit
Enables students to preserve and enhance couple relationships by understanding the role of gender differences, conflict patterns, communication skills, problem solving, and the meaning of commitment, fun, and friendship.

PSY 205 Psychology of Gender: GT-SS3
3 credits
Examines gender comparisons in work, dating, family life, and sexual behavior throughout the life span. What is the interplay between biology and environment when looking at these gender differences?
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 207 Introduction Forensic Psychology
3 credits
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 credits
Surveys the physiological, psychological, and psychosocial aspects of human sexuality. Some of the topics include anatomy, relationships, sexual identity, sexual health, and sex in the media.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 226 Social Psychology: GT-SS3
3 credits
Covers the behavior of humans in social settings including attitudes, aggression, conformity, cooperation and competition, prejudice, and interpersonal attraction.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 227 Psychology of Death and Dying: GT-SS3
3 credits
Examines the philosophies of life and death, emphasizing dying, death, mourning, and the consideration of one's own death.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 231 Positive Psychology
3 credits
Focuses on human strengths rather than the traditional view of psychology that tends to focus on the worst of human nature. This course is designed to explore strengths-based research, concepts of happiness, helpfulness, and resiliency. The research and theories about human nature will go beyond simply not being mentally ill as a form of mental health, which will include optimism, post-traumatic growth, and how to increase emotional, psychological and social functioning. Overall, this course will be focused on understanding one's own sense of life satisfaction and how to further improve well-being.

PSY 235 Human Growth and Development: GT-SS3
3 credits
An overview of human development from conception, childhood, adolescence, adulthood, through the end of life. Material emphasizes physical, cognitive, emotional, and psychosocial factors.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 238 Child Growth and Development: GT-SS3
3 credits
Covers growth and development of the individual from conception through childhood, emphasizing physical, cognitive, emotional, and psychosocial factors.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 240 Health Psychology: GT-SS3
3 credits
Students will learn an overview of the scientific study of attitudes, behaviors and personality variables related health, illness and bodily systems. Emphasis is on the interaction of biological, psychological and social factors that cause illness and influence its treatment and prevention.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 249 Abnormal Psychology: GT-SS3
3 credits
Examines abnormal behavior and its classification, causes, treatment, and prevention. Focuses on how psychology views mental illness and how people experience various emotional and cognitive issues.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

PSY 265 Psychology of Personality: GT-SS3
3 credits
Examines the structure, function, and development of personality. It also investigates the major contemporary theories of personality and 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. The course enables students to gain an appreciation of the value of alternative theoretical approaches to this study of psychology.
Prerequisite: ENG 090 or CCR 092 or CCR 094 and PSY 101 or PSY 102 (grade of C or higher) or equivalent placement scores.

PSY 267 Stress Reduction/Biofeedback
3 credits
Focuses on the biological and psychological basis of stress and the detrimental effects it may have on health. Emphasizes learning and applying stress reduction skills which are monitored with simple biofeedback instruments.

REC - Recreational Courses

www.rrcc.edu/outdoor

REC 101 Recreation-Principles & Practice
3 credits
Examines the structure and economics of recreation in the United States as well as the inter-relationships between private, public and volunteer recreation groups. Introduces the history, philosophy and theories of recreation as well as career opportunities and professionalism in recreation.

REC 111 Outdoor Equipment and Facilities
1 credit
Acquaints you with wilderness equipment, programs and facilities. The course includes field trips to local outdoor industry facilities.

REC 210 Principles of Outdoor Recreation
3 credits
Includes lectures and practical outdoor experiences relating to problems and trends in outdoor recreation.

REC 212 Outdoor Recreation Programming
3 credits
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.

REE – Real Estate Courses

www.rrcc.edu/business

REE 201 Real Estate Brokers I
6 credits
Enables students, in conjunction with REE 202 - Real Estate Brokers II, to meet the educational requirements of the Colorado Real Estate Commission for a Colorado Real Estate Broker's license. This course includes Real Estate Law and Practice, Practical Applications, and Current Legal Issues.
Corequisite: REE 202.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or appropriate placement scores that indicates college reading ability, or permission of instructor.

REE 202 Real Estate Brokers II
6 credits
Enables students, in conjunction with REE 201 - Real Estate Brokers I, to meet the educational requirements of the Colorado Real Estate Commission for a Colorado Real Estate Broker's license. This course includes Colorado Contracts and Regulations, Closings, and Recordkeeping and Trust Accounts.
Corequisite: REE 201.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or appropriate placement scores that indicates college reading ability, or permission of instructor.

REE 275 Special Topics
1-3 credits
Provides students with a vehicle to explore special topics of interest in depth.

REE 280 Internship
1-3 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program and occupational objectives. Students will be placed at approved workstations related to their program of study. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor/coordinator.
Prerequisite: Permission of instructor.

REE 285 Independent Study
1-3 credits
Meets your individual needs through intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

RTE – Radiologic Technology Courses

www.rrcc.edu/radiologic-Technology
Students must be accepted into the Radiology Technology Program to take any RTE course other than RTE 101 or RTE 255. Please visit the program website, www.rrcc.edu/radiologic-technology, for information regarding the application and admission process.

RTE 101 Introduction to Radiography
2 credits
Provides an introduction to radiology including equipment, exposure, positioning and the knowledge necessary for the radiography student to provide safe patient care including communication skills, body mechanics, patient transfer, and radiography as a profession.
Prerequisite: MAT 050 and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or placement scores that indicates college reading and math ability.

RTE 111 Radiographic Patient Care
2 credits
Expands the information presented in RTE 101, and includes diversity, universal precautions, legal considerations and ethics. This course consists of lecture and laboratory experience in the patient care areas of asepsis, vital signs, venipuncture, medical emergencies, assistance with drug administration, patients with special needs, and death and dying.

RTE 121 Radiologic Procedures I
3 credits
Introduces fundamentals of radiographic positioning including use of radiographic equipment and safety, positioning, terminology, anatomy, pathology, and skills necessary to perform radiographic procedures of the chest, abdomen, upper extremity, gastrointestinal and urinary systems.

RTE 122 Radiologic Procedures II
3 credits
Introduces additional material covered in RTE 121 including the knowledge of anatomy, pathology, and skills necessary to perform radiographic procedures of the lower extremity, pelvis, spine, and boney thorax.

RTE 131 Radiographic Pathology & Image Evaluation I
1.5 credits
Provides a detailed discussion of pathological conditions of the skeletal, respiratory, digestive, urinary, and reproductive systems. Related medical terminology will be discussed, along with assessment of exposure adjustment for pathologic conditions and evaluation of radiographs for appropriate anatomy, positioning exposure and pathology.

RTE 132 Radiographic Pathology & Image Evaluation II
1.5 credits
Expands on the information in RTE 131 with a focus on pathology of the skull, vascular system, central nervous system, endocrine system. Related medical terminology will be discussed along with the continued assessment of image quality.

RTE 141 Radiographic Equipment/ Imaging I
3 credits
Introduces the fundamental aspects of radiographic equipment including a basic review of physics fundamentals pertaining to x-ray production, the x-ray machine, image receptors, and control of scatter radiation.

RTE 142 Radiographic Equipment/Imaging II
3 credits
Expands information covered in RTE 141 and provides in-depth knowledge of radiographic exposure and the factors that affect radiographic film quality and assurance.

RTE 171 Clinical Preparation
3 credits
Prepares the beginning radiography student for clinical internship under the direct supervision of a registered radiologic technologist with a focus on introductory skills necessary for clinical internship to include patient care, instrumentation, procedure techniques and image evaluation.

RTE 181 Radiographic Internship I
6 credits
Introduces the clinical education experience at the clinical education center. Students will apply knowledge learned in the classroom to the actual practice of radiography.

RTE 182 Radiographic Internship II
6 credits
Introduces additional concepts and more complex radiographic procedures than those learned in Radiographic Internship I.

RTE 183 Radiographic Internship III
6 credits
Reinforces the basic concepts of Radiographic Internship I and II.

RTE 221 Advanced Medical Imaging
3 credits
Introduces advanced imaging techniques including radiography of the cranium, facial bones and special radiographic procedures. These concepts are combined with the basic oral communication techniques necessary for the professional radiographer.

RTE 231 Radiation Biology/Protection
2 credits
Provides the basic knowledge and understanding of the biologic effects of ionizing radiation and radiation protection and safety.

RTE 240 Principles of CT Imaging
3 credits
Explores the history, physical principles and instrumentation involved in Computed Tomography (CT). CT image creation, processing and display will be examined from data acquisition through post-processing and archiving. Patient factors and other related elements affecting image quality will be explained, as well artifact production and reduction. Radiation

protection practices and quality control will also be explored.

RTE 250 Mammography
3 credits
Introduces the fundamentals of mammography as required for ARRT mammography certification.

RTE 255 Multiplanar Sectional Imaging
2 credits
Offers a course designed to increase knowledge in multi-planar/multi-modality sectional anatomy for imaging professionals, radiologic technology students, and other interested health care professionals. Correlative studies of line drawings, cadaverous photographs, MRI, and CT images are thoroughly studied.

RTE 256 Bone Densitometry
3 credits
Offers an in-depth study of Bone Densitometry equipment, scanning, and interpretation that will prepare the student for the American Registry of Radiologic Technologist certification examination in Bone Densitometry.

RTE 260 Magnetic Resonance Imaging
3 credits
Provides an in-depth study of the physics and instrumentation, clinical applications, and quality control process involved in Magnetic Resonance Imaging (MRI).

RTE 281 Radiographic Internship IV
6 credits
Introduces students to the radiographic specialty areas of Pediatrics, Geriatrics, the out-patient clinic, as well as increasing proficiency in general radiography.

RTE 282 Radiographic Internship V
6 credits
Introduces students to the radiographic specialty areas of portable and trauma radiography as well as increasing proficiency in general radiography.

RTE 284 Advanced Clinical
VARIABLE credit
Provides the student with supervised hands-on training in advanced field of medical imaging. Allows the student to gain the clinical experience necessary to work in the specified area of advanced practice.

RTE 289 Capstone Course
3 credits
Prepares the radiology technology student to effectively search for a job in radiography and sit for the American Registry of Radiologic Technologists examination.

RUS – Russian Courses

www.rrcc.edu/foreign-languages

RUS 101 Conversational Russian I
3 credits
Introduces students to beginning conversational Russian and focuses on understanding and speaking Russian. This course covers basic vocabulary, grammar, and expressions that are used in daily situations and in travel.

RUS 102 Conversational Russian II
3 credits
Continues the sequence for students who wish to understand and speak Russian. This course covers basic conversational patterns, expressions, and grammar.
Prerequisite: RUS 101 or permission of instructor.

RUS 111 Russian Language I
5 credits
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 credits
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 the methodology will vary according to individual texts and instructors.
Prerequisite: RUS 111 or permission of instructor.

RUS 211 Russian Language III: GT - AH4
3 credits
Continues Russian Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Russian language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: RUS 112 or permission of instructor.

RUS 212 Russian Language IV: GT-AH4
3 credits
Continues Russian Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Russian language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: RUS 211 or permission of instructor and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

RUS 275 Special Topics
0.5-6 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

SBM – Small Business Management Courses

www.rrcc.edu/business

SBM 101 Starting a Small Business
1 credit
Provides a brief overview of various topics related to starting a small business. Some topics are types of businesses, location, image, insurance, permits, and licenses.

SBM 103 Legal Aspects of a Small Business
1 credit
Provides a brief overview of the legal issues involved in starting and managing a small business. The course focuses on business organization, contracts and agreements, and protecting the business.

SBM 106 Recordkeeping for a Small Business
1 credit
Provides an overview of recordkeeping for a small business. Students will learn basic bookkeeping skills and recordkeeping requirements.

SBM 108 Marketing for a Small Business
1 credit
Provides a brief overview of the marketing functions applied to a small business. Topics include planning a marketing strategy, promoting a business, competitive analysis, and customers and prospects.

SBM 110 Managing a Small Business
1 credit
Provides a brief overview of the management process as it applies to the small business. Concepts covered in the course include setting goals, conducting evaluations, and analyzing financial records.

SBM 112 Financing a Small Business
1 credit
Provides a brief overview of the basics of financing a small business. Topics include sources of capital, types of business loans, and maintenance of cash flow.

SBM 113 Writing a Business Plan
1 credit
The final course in the small business certificate program. Students will write a business plan from the material they have developed in the other courses.
Recommended Prerequisites: SBM 101, SBM 103, SBM 106, SBM 108, SBM 110 and SBM 112.

SBM 175 Special Topics
1-3 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

SBM 185 Independent Study
1 credit
Meets the individual needs of students. Students will engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

SCI – Science Courses

www.rrcc.edu/science

SCI 105 Science in Society: GT-SC2
3 credits
Examines issues relating to the way science affects society. Students will investigate issues in information technology, the environment, physics and astronomy, biology, medicine and the interaction of science with politics. The class will focus on gathering accurate scientific information and applying critical thinking skills and the scientific method to analyze how science plays both positive and negative roles in society. Emphasis will be on student

research, inquiry and analysis of science related issues.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

SCI 155 Integrated Science I w/Lab: GT-SC1
4 credits
Examines the nature of energy and matter, their interactions and changes. This course integrates the fundamental concepts and ideas about the nature of physics and chemistry with the natural world.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

SCI 156 Integrated Science II w/Lab: GT-SC1
4 credits
Examines earth and biological systems, living and non-living environments, through the application and refinement of fundamental energy and matter concepts. Topics covered include the origins of the planet and the life upon it, interactions between climatology and life, how to interpret land forms and the implications for ecoregions, basic mineralogy, basic biological chemistry, cell structure and metabolism, and other areas of interface between biology and geology.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and MAT 050 (grade C or higher) or equivalent placement scores.

SOC – Sociology Courses

www.rrcc.edu/sociology

SOC 100 Principles of Practical Sociology
3 credits
Examines the impact of social groups, the historical development of sociology, the way sociologists are taught to think, the interactions between humans and their social organizations, inequality and the meaning of culture, the effects of our social institutions, order and power in social organizations, the changing dynamics of human social life, and the study of family structures in our society

SOC 101 Introduction to Sociology I: GT-SS3
3 credits
Examines the basic concepts, theories and principles of sociology, as well as human culture, social groups, the role of society in the development of self, deviance, and the social issues of age, gender, class, race and ethnicity in contemporary society.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 102 Introduction to Sociology II: GT-SS3
3 credits
A continuation of introduction to SOC 101. This course is devoted to examining "social institutions" and their representative organizations from a macro-micro perspective. It critically explores issues of social change, demography, social movements, and conflicts and trends within political, economic, educational, religious, and familial structures.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 105 Socio-History US Race/Ethnicity
3 credits
Explores the Socio-Historical context by which the US developed its diverse racial and ethnic make-up. Theories of Integration and Serration will be explored across the eras. Changing US immigration, naturalization, prejudice and discrimination across the centuries will be addressed.

SOC 158 Men's Roles in Families and Society: An Introduction to Fatherhood
3 credits
Examines men as fathers as well as their role in the wider culture. It seeks to enhance the personal, historical, professional and behavioral awareness of fathers and the professionals who serve them.

SOC 201 Introduction to Gerontology
3 credits
Acquaints students with the major issues and concepts pertinent to the field of gerontology. The course introduces various theoretical perspectives on aging, the changing trends in life expectancy and other demographic considerations, and the interrelationship between elders and key social institutions. It provides an overview of physical, cognitive, and socio-emotional factors associated with aging.

SOC 203 Urban-Socio Anthropology
3 credits
Examines how cities and city life are shaped by cultural, social, political, and economic forces operating at many different levels. Additionally, SOC 203 examines the history and theoretical roots of urban anthropology and sociology, ethnographic fieldwork in urban environment, and urban social organization in cross-cultural perspectives.

SOC 205 Sociology of Family Dynamics: GT-SS3
3 credits
Develops an understanding of marriage, family and kinship. The course examines the family as an institution and how social, cultural and personal factors influence family relations. The stability and diversity of the family will be explored, along with current trends and some alternative lifestyles.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 207 Environmental Sociology: GT-SS3
3 credits
The examination of humans and the environment from an ecological perspective. SOC 207 focuses on industrial

and economic growth versus sustainability, natural resources development and management, environmental values and social movements, and comparative perspectives on people's relationship to the environment. Review of the "Green" movement and other environmental movements and their impacts upon social dynamics, the environment, and the evolution of social movements.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 208 Restorative Justice I
3 credits
Provides an introduction to the principles and practices of Restorative Justice, an increasingly popular approach to harm, crime and community. Examines the history and theory behind this paradigm, comparing and contrasting restorative and retributive approaches. Looks at applications in a number of settings, including schools and the criminal justice system. National and international examples will be discussed.

SOC 210 Technology in Society
3 credits
This course analyzes the relationship between technology and human society and culture; how technology has influenced the development of society and how social and cultural forces have influenced the development of technology. The course will examine both current and historical examples of key technologies and the ways their development and utilization have been contextualized by society and culture. In particular, the course will explore the implications of living in a modern society defined by increasing dependence on complex technologies and rapid technological change.

SOC 212 Research in Social Sciences
3 credits
Introduces social research methods with an emphasis on the scientific method and the role of empirical inquiry into sociology. This course will include the study of methodologies of data collection and analysis, the logic of research, the role of theory, measurement, sampling and research designs. Field research and the professional norms and ethics of social research will also be covered.

SOC 215 Contemporary Social Problems
3 credits
Critically explores current social issues that result in societal problems. This course adopts a social constructionist perspective to focus on such issues as civil liberties, gender discrimination, substance abuse, crime, poverty and social change.

SOC 216 Sociology of Gender: GT-SS3
3 credits
Gives students the theoretical and factual background necessary to understand the phenomenon of gender stratification in American and other cultures. Students will be exposed to a history of gender stratification in human societies, theoretical explanations for this and insights into the consequences of gender differentiation in our world today.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 218 Sociology of Diversity: GT-SS3
3 credits
Explores the variety of intergroup relations regarding race, nationality, ethnicity, gender, sexual orientation, and other diversity issues. Patterns of prejudice, discrimination and possible solutions to these issues will be addressed.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 220 Sociology of Religion: GT-SS3
3 credits
Provides an introduction to the sociology of religion, including a comparative and critical examination of world religions, by focusing on sociological interpretation and explanation of the role of religion in human culture. The interaction between society and religion is thus examined as are a wide variety of religious beliefs and practices.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 222 Ageing in a Diverse Society
3 credits
Examines the present and future roles of the aged in the family, the community, and the workplace. Economic, political, health, and retirement systems will be studied.

SOC 223 Chicanos in a Changing Society
3 credits
Explores the lives and roles of Chicanos and Chicanas (Americans of Mexican descent). It introduces students to the Chicano community, it's historical, political and social development. It explores the ways in which Chicano communities interrelate with Anglo and multicultural societies as well as its future prospects.

SOC 231 Sociology of Deviant Behavior: GT-SS3
3 credits
Examines the nature, identification, and explanation of deviant categories. Theories, and philosophies as well as methods of treatment related to deviancy will also be considered. The course will study society's attempts to control, change, and institutionalize those acts, individuals or groups that a population may deem unacceptable.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 237 Death and Dying: GT-SS3
3 credits
Provides an opportunity to familiarize students and professionals with the needs and issues surrounding dying and death. This course will provide sociological, psychological, religious, historical and anthropological perspectives for interpreting contemporary American customs dealing with dying, death and bereavement. We will examine the professions associated with death and dying, such as hospice, funeral and crematory institutions, and medical care.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SOC 240 U.S. Cults, Extremist Groups and Religious Movements
3 credits
Provides familiarization with sociological issues surrounding cults, extremist groups and new religious movements, including theory and dynamics of cults, gangs and hate groups. Emphasis is on the destructive elements of this collective behavior. This course provides sociological perspectives for interpreting American laws, norms and values while examining extremist groups. This includes the study of in-group behavior, social cohesion, emergence of generalized beliefs, and both normative and value-oriented movements.

SOC 265 Violence and Culture
3 credits
Examines the concepts, relationships, organizations, and research as they relate to violence in multiple cultural settings. This course assists in developing an understanding of societal and institutional causes of violence; explores resources for intervention and treatment; and provides service learning applications in violence assessment, treatment, and victim assistance.

SOC 275 Special Topics in Sociology
3 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

SOC 280 Internship
1-3 credits
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.

SOC 285 Independent Study
3 credits
Meets the individual needs of students. Students will engage in intensive study or research under the direction of a qualified instructor.

SOC 289 Capstone
3 credits
Studies and applies the theories and techniques of leadership and group processes. In addition, SOC 289 introduces leadership skills and experiences with applications in group and community settings.

SOC 292 Service Learning
1-3 credits
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 – Spanish Courses

www.rrcc.edu/foreign-languages

SPA 101 Conversational Spanish I
3 credits
Provides beginning students with 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 credits
Provides students with the skills necessary to understand and speak Spanish. The material continues to cover basic conversation patterns, expressions, and grammar.
Prerequisite: SPA 101 or permission of instructor.

SPA 109 Spanish for Travelers
2 credits
Introduces the basic vocabulary and expressions useful to travelers in the Spanish speaking countries. The course will concentrate on the customs, traditions and cultural attitudes to be discovered by visitors to the destination country. Cultural diversity and global awareness are integral to this course of study. This course does not fulfill Humanities area requirements and is not intended for transfer.

SPA 111 Spanish Language I
5 credits
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 credits
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.
Prerequisite: SPA 111 or permission of instructor.

SPA 114 Fast-Track Spanish I and II
5 credits
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 credits
Designed as an introduction to 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 211 Spanish Language III: GT-AH4
3 credits
Continues Spanish Language I and II in the development of increased functional proficiency in listening, speaking, reading and writing the Spanish language.
Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: SPA 112 or permission of instructor and ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SPA 212 Spanish Language IV: AH4
3 credits
Continues Spanish Language I, II and III in the development of increased functional proficiency in listening, speaking, reading and writing the Spanish language. Note: The order of the topics and the methodology will vary according to individual texts and instructors.
Prerequisite: SPA 211 or permission of instructor.

SPA 215 Spanish for the Professional II
3 credits
Continues Spanish 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 275 Special Topics
1- 6 credits
Provides students with a vehicle to pursue in-depth exploration of special topics of interest.

SPA 285 Independent Study
1-6 credits
Meets the individual needs of students. Students will engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of Instructor.

SVT – Sport Vehicle Technology Courses

www.rrcc.edu/warrentech

SVT 101 SVT Orientation and Safety
1 credit
Designed as an orientation to the sport vehicle repair industry. Students receive an overview of job possibilities as well as learn various types of sport vehicle construction. Focuses on general sport vehicle repair and service shop safety procedures with an emphasis on personal and environmental safety issues. Students also learn the proper handling and disposal of hazardous materials. Names, uses and maintenance procedures for a variety of tools and equipment are addressed.

SVT 102 SVT Rolling Chassis
3 credits
Designed to introduce students to the major "chassis" components of motorcycles. This class will provide training in the basic servicing of motorcycle frames, suspension, tire, wheel and brake systems. Diagnostic procedure, routine maintenance, minor repair, adjustment and special tools will be studied.

SVT 103 SVT Electrical Theory
2 credits
Introduces automotive electricity and includes basic electrical theory, circuit designs, and wiring methods. Focuses on multi-meter usage and wiring diagrams.

SVT 104 Two Stroke Engines
2 credits
Introduction to Basic Two-Stroke engine theory, operation and repair.

SVT 105 Four Stroke Engines
2 credits
Introduction to Basic Four-Stroke engine theory, operation and repair.

SVT 106 SVT Electrical Repair
2 credits
Designed to expose students to the thought process required to correctly diagnose Sport Vehicle Electrical Systems as well as provide hand-on training to allow for learning of proper repair techniques.

SVT 107 SVT Drive Systems
2 credits
Designed to introduce students to Drive components used on modern Sport Vehicles, including Transmission Assemblies, clutch components, Chain and Belt Drive Systems.

SVT 108 SVT Trade Practices
1 credit
Designed to introduce students to the world of business development and ownership as related to the Sport Vehicle Industry.

SVT 109 SVT Snow/ATV/PWC
2 credits
Designed to train students in the various unique aspects of Snowmobile, Personal Watercraft and ATV repair and maintenances.

SVT 143 Physics for Transportation
3 credits
Provides students with a vehicle to pursue in depth exploration of special topics of interest.

SVT 160 Basic Motorcycle Repair I
1 credit
Designed to expose current and prospective entry-level motorcycle technicians to basic motorcycle maintenance and repair. Focus will be placed on routine and preventative maintenance and producing. This class is the first in a series of classes (SVT 160, SVT 180 & SVT 299) designed to produce a novice or apprentice-level mechanic. Topics covered in the class include basic safety, hand tool and shop procedure. One objective is to make the learner more familiar with mechanical concepts and more confident in their own ability. Course study may be tailored for each student's specific area of need or interest.

SVT 165 Basic Motorcycle Repair II
1 credit
Designed to build upon concepts and practices learned in SVT160 and expose current and prospective motorcycle mechanics to basic motorcycle maintenance and repair. Focus will be placed on routine and preventative maintenance. Topics covered will study of motorcycle frame, suspension, tire and wheels. One objective is to make the learner more familiar with mechanical concepts and more confident in their own ability. Course study may be tailored for each student's specific area of need or interest.

SVT 170 Basic Motorcycle Repair III
6 credits
Designed to build upon concepts and practices learned in previous classes and expose current and prospective motorcycle mechanics to basic motorcycle maintenance and repair. Focus will be placed on routine and preventative maintenance. Topics covered will include study of motorcycle brakes and steering systems. One objective is to make the learner more familiar with mechanical concepts and more confident in their own ability. Course study may be tailored for each student's specific area of need or interest.

SVT 175 Basic Motorcycle Repair IV
6 credits
Designed to build upon concepts and practices learned in previous classes and expose current and prospective motorcycle mechanics to basic motorcycle maintenance and repair. Focus will be placed on routine and preventative maintenance. Topics covered will include study of motorcycle electrical and electronic systems. One objective is to make the learner more familiar with mechanical concepts and more confident in their own ability. Course study may be tailored for each student's specific area of need or interest.

SVT 180 Basic Motorcycle Repair V
6 credits
Designed to build upon concepts and practices learned in previous classes and expose current and prospective motorcycle mechanics to basic motorcycle maintenance and repair. Focus will be placed on routine and preventative maintenance. Topics covered will include study of motorcycle engine diagnosis and repair as well as motorcycle fuel system operation, diagnosis and repair. One objective is to make the learner more familiar with mechanical concepts and more confident in their own ability. Course study may be tailored for each student's specific area of need or interest.

SVT 202 Adv SVT Electrical Syst.
4 credits
Advanced repair and troubleshooting of Sport Vehicle Electrical systems with an emphasis on Ignition and Charging system diagnosis and repair techniques.

SWK – Social Work Courses

SWK 100 Introduction to Social Work
3 credits
Introduces students to the philosophy of the social work profession including the knowledge, values, ethics, roles and skills inherent to generalist social work.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

SWK 120 Intervention Techniques
3 credits
Covers basic communication skills essential in working in the human services field. Listening techniques, empathic response skills and rapport building techniques are taught.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

THE – Theatre Arts Courses

www.rrcc.edu/theatre-arts-dance

THE 100 Technical Theatre Lab
1-3 credits
Provides students with safety training for working with equipment used for technical theatre, as well as hands-on experience in one or all of the following areas: stage lighting, set construction, stage properties, costuming, and makeup.

THE 104 Basic Costume and Apparel Construction
3 credits
Provides students with training in cutting and sewing techniques, as well as knowledge of fabric types, qualities, uses, and cleaning.

THE 105 Theatre Appreciation: GT-AH1
3 credits
Includes discussions, workshops, and lectures designed to discover, analyze, and evaluate all aspects of the theatre experience: scripts, acting, directing, staging, history, criticism, and theory.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores.

THE 107 Elements of Theatrical Craft and Design
3 credits
Explores the theory and practice of technical theatre craft and design. Through lecture, discussion, and class projects, students learn about evolving forms and styles of architecture, scenery, and decoration, properties, costume/make-up, lighting, and sound.

THE 108 Theatre Script Analysis: GT-AH1
3 credits
Introduces students to methods of reading and analyzing literature for the stage. In addition, students apply staging and design concepts in visualizing and analyzing how a play looks, sounds, and feels when produced.

THE 109 Basics of Pattern Drafting
3 credits
Provides students with basic techniques in pattern drafting. Techniques will include exploring computer design as well as traditional drafting methods.
Prerequisite: THE 104 or permission of instructor.

THE 111 Acting I
3 credits
Covers basic acting techniques and approaches including scene study, improvisation, and script analysis. The course includes practical application through classroom performance.

THE 112 Acting II
3 credits
Continues to explore basic acting techniques and approaches including scene study, improvisation, and intermediate script analysis. The course includes practical application through classroom performance.
Prerequisite: THE 111 or permission of instructor.

THE 115 Stage Movement for Actors
3 credits
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 credits
Introduces hands-on methods of constructing and painting scenery and properties and operating stage lighting. Students will also learn the proper procedures of using shop equipment and serving on stage crews.

THE 118 Acting Skills Trades/Business
3 credits
Incorporates acting skills that are useful for everyday interactions and public presentations. Students can improve their personality habits through acting exercises to become more effective in their daily relationships and communication skills and also in presenting themselves in public. This class is especially for those who don't want to be actors but who would like to learn how to be more comfortable on the "stage" of life.

THE 131 Theatre Production I
3 credits
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.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and THE 111, THE 112, or permission of instructor.

THE 132 Theatre Production II
3 credits
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.
Prerequisite: ENG 090 or CCR 092 or CCR 094 (grade of C or higher) or equivalent placement scores and THE 111, THE 112, or permission of instructor.

THE 135 Stage Makeup I
3 credits
Covers makeup design and application techniques. Techniques include basic corrective, character, old age, and fantasy application.

THE 136 Stage Makeup II
3 credits
Continues to explore theatrical makeup design and application techniques. In addition, prosthetics, hair design, and other more advanced applications will be explored.
Prerequisite: THE 135 or permission of instructor.

THE 140 Stage Dialects
1 credit
Teaches students to develop skills in nine dialects and accents.

THE 141 Improvisation I
1 credit
Helps students learn improvisation skills for performance and character development. Emphasis is placed on the "Second City" style of improvisation.

THE 142 Improvisation II
1 credit
Helps students to continue developing improvisation skills learned in THE 141. Exercises are more advanced and difficult. Level of instruction is appropriate for experienced and/or advanced actors.
Prerequisite: THE 141, THE 111, or permission of instructor.

THE 143 Basic Acting Technique
1 credit
Offers scene work and acting exercises for people with little or no training or experience in the theatre. The Stanislavski System of character analysis and development is stressed.

THE 144 Scene Study
1 credit
Emphasizes the Stanislavski approach. Students will explore acting skills through advanced material, including avant garde and classical.
Prerequisite: THE 143, THE 111, or permission of instructor.

THE 152 Production Stage Management I
3 credits
Focuses on the basics of stage management, including making a stage manager's book, organizational methods and protocols of production, calling cues in production, and personnel relationships and responsibilities.
Prerequisite: THE 116 or permission of the instructor.

THE 175 Special Topics
1-6 credits
Explores current topics, issues, and activities related to one or more aspects of the named discipline.

THE 200 Paint/ Draw/Render Modeling Techniques
3 credits
Introduces art techniques that are needed specifically in Theatrical Design. Techniques will include painting, rendering of scenic, lighting, costume designs, and model construction techniques.
Prerequisite: THE 104, THE 109, or permission of Instructor.

THE 202 Intermediate Costume Construction
3 credits
Provides additional training and experience in cutting and sewing methods for costumes, as presented in THE 104 Basic Costume and Apparel Construction. Students are introduced to elements of costume garment design, research and advanced construction techniques.

THE 210 Singing for Actors
3 credits
Allows the student to explore and perform musical theatre songs. Students will use a pedagogical approach to evaluate your vocal structure and formulate a systematized series of vocal and whole body exercises to develop and enhance self-confidence and vocal instrument through in-class performance and variety show presentation.

THE 211 Development of Theatre: Greek-Renaissance: GT-AH1
3 credits
Surveys the history and evolution of drama from Ancient Greece to the Renaissance,

emphasizing all aspects of the art from period values to analysis of dramatic literature and performance.

THE 212 Development of Theatre: Restoration to Modern: GT-AH1
3 credits
Surveys the history and evolution of drama from the Renaissance to the present, emphasizing all aspects of the art from period values to the analysis of dramatic literature and performance.
Prerequisite: THE 211 or permission of instructor.

THE 213 Intermediate Acting I
3 credits
Continues THE 112. Emphasis is on artistic concentration of voice and movement as applied to period acting styles.

THE 214 Intermediate Acting II
3 credits
Emphasizes artistic concentration of voice and movement as applied to period acting styles. Character biographies are also required. This course is a continuation of THE 213.

THE 215 Playwriting: GT-AH1
3 credits
Gives students the opportunity to learn and practice playwriting techniques, thereby improving creative writing skills. Elements of dramatic structure dialogue, styles, and theatrical practices are emphasized.

THE 216 Theatre Lighting and Design
3 credits
Focuses on the theory and practice of stage lighting. Topics include basic electrical theory, color theories, rigging and design of lighting for the performing arts.
Prerequisite: THE 116 or permission of the instructor.

THE 220 Directing I
3 credits
Covers basic techniques for stage directing in contemporary theatre. Topics to be covered include stage composition, script analysis, work with actors, and the collaborative role of the director.
Prerequisite: THE 111 or permission of instructor.

THE 221 Set Design for Film and Theatre
3 credits
Emphasizes two-and three-dimensional drawings and designs and color theory. Basic methods of artistic analysis and coordinating with other creative personnel are included. Students will construct 3-D models and a theatrical stage set.
Prerequisite: THE 116 or permission of instructor.

THE 222 Millinery & Costume Accessory
3 credits
Provides students with training in costume crafting techniques. In addition to the emphasis on millinery skills and hat making, students will learn leather making, jewelry making, and to craft a variety of costume accessories.

THE 225 Sound Operation and Design
3 credits
Teaches applied fundamental processes required to create a conceptual sound design for a stage play.

THE 230 Directing II
3 credits
Continues to explore basic technique for stage directing in contemporary theatre. Subjects to be covered are stage composition, script analysis, work with actors, and the collaborative role of the director. Students will direct a one-act theatre piece for the final project.
Prerequisite: THE 220 or permission of the instructor.

THE 231 Theatre Production III
3 credits
Allows students to continue to put into practice the theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage-managing, and administration are available.

THE 232 Theatre Production IV
3 credits
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.
Prerequisites: THE 111, THE 112 or permission of the instructor.

THE 240 Theater Voice and Diction
3 credits
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 credits
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.
Prerequisites: THE 104 and THE 109.

THE 248 Rehearsal and Performance III
3 credits
Special attention will be given to characterization, stage movement, speech techniques, dramatic form and the rehearsal / production / performance process. The successful rehearsal and presentation of the current production to the public will be the focal point of their activities. Previous acting experience is helpful but not required.

THE 255 Intermediate Playwriting
3 credits
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 260 Employment Skills for Technical Theatre
1 credit
Provides students the opportunity to assemble a technical theatre portfolio and résumé for classroom presentation and job applications.

THE 275 Special Topic: Theatre
1-6 credits
Explores current topics, issues, and activities related to one or more aspects of the named discipline.

THE 280 Internship
1-6 credits
Provides students with the opportunity to supplement course work with practical work experience related to their educational program. Students will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

THE 285 Independent Study
1 credit
Emphasizes structured and guided individualized study that is organized and tailored around the interests and needs of the individual student.

WEL – Welding Courses

www.rrcc.edu/warrentech

WEL 100 Safety for Welders
1 credit
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 credits
Covers setting up equipment and performing cutting and gouging operations utilizing the oxyacetylene, air carbon arc, and plasma arc cutting processes. This course will also provide an introduction to blueprint reading.

WEL 102 Oxyacetylene Joining Processes
4 credits
Introduces safety inspections, minor repairs, operating parameters, oxyacetylene welding equipment, and oxyacetylene welding, brazing, and soldering operations. Blueprint reading skills will be practiced in this course.

WEL 103 Basic Shielded Metal Arc I
4 credits
Covers performing safety inspections, making minor repairs, adjusting operating parameters, and operating SMAW equipment utilizing E-6010 and E-7018 electrodes. Layout procedures and practices will also be introduced.

WEL 110 Advanced Shielded Metal Arc I
4 credits
Covers 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.

WEL 124 Introduction to Gas Tungsten Arc Welding
4 credits
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.

WEL 131 Introduction to Industrial Welding
4 credits
Provides the student with a basic understanding of commonly used welding techniques and procedures encountered in the industrial setting. Students are introduced the Plasma Arc (PAC), Oxy Fuel Cutting (OFC), Shielded Metal Arc (SMAW), Gas Metal Arc (GMAW), Gas Tungsten Arc (GTAW) welding processes. Safe welding, shop and material handling practices are emphasized throughout the course. Weld symbols, metal characteristics are introduced. Proper electrode selection and power settings are presented. Skills and techniques used to develop fillet and groove welds are introduced and demonstrated by the students.
Prerequisites: Permission of the instructor.

WEL 201 Gas Metal Arc Welding I
4 credits
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.

WEL 202 Gas Metal Arc Welding II
4 credits
Covers safety inspections, minor repairs, operating parameters, operation of GMAW equipment utilizing a variety of electrodes and base metals, and fundamental principles of welding metallurgy to welding, fabrication, and inspection.

WEL 203 Flux Cored Arc Welding I
4 credits
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.

WEL 204 Flux Cored Arc Welding II
4 credits
Covers safety inspections, minor repairs, operating parameters, operating FCAW equipment utilizing gas shielded wire, and applying fundamentals of welding applications and cost estimating to welding, fabrication, and inspection.

WEL 224 Advanced Gas Tungsten Arc Welding
4 credits
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.

WEL 250 Layout and Fabrication
4 credits
Develops welding and associated skills in the use of drawings and blueprints in planning. Includes designing and layout projects.

WQM – Water Quality Management Technology Courses

www.rrcc.edu/water-quality-management
All courses are approved for OCPO training units (TU's). The entire WQM program is offered in either face-to-face, hybrid or online instruction. Check the current schedule of courses for listings.

WQM 100 Introduction to Water Quality Management
3 credits
Introduces the water and wastewater treatment field and acquaints the prospective technicians with the applied science concepts that are used to operate, maintain and monitor water quality. Topics include hydrological cycle, water sources, hydraulics, ecosystems, pollution, water chemistry, water calculations, microbiological aspects of water and water quality control.

WQM 105 Specific Calculations for Water Quality Management
4 credits
Provides students with an in-depth study of the calculations associated with water and wastewater treatment. Topics include dimensional analysis, detention time, surface loading, filtration and backwash rates, settleable solids, volatile solids, mean cell residence times, settleability, disinfection, and chemical dosage as relating to trickling filters, ponds, RBC and activated sludge.

WQM 109 Water Distribution Systems
3 credits
Covers the purpose, selection and location of water storage facilities and the operation and maintenance of related equipment. Topics include storage facilities and capabilities, booster pumps, water mains and appurtenances, joints, pipe protection and installation, valves, fittings, and hydrants. Water quality standards, contaminants and degradation inspection and monitoring, system troubleshooting, are also covered.

WQM 118 Wastewater Collection Systems
3 credits
Covers the purpose, components and design of collection systems. Topics include safety procedures, inspection and testing, pipeline cleaning and maintenance, underground repair, lift stations and sewer

rehabilitation. Additionally, students gain knowledge on industrial pre-treatment, design and flow patterns within a hydraulic flow system

WQM 119 Basic Water Quality Analysis
4 credits
Relates the results of laboratory control tests to the chemistry of water and wastewater treatment. Students will gain the skills and techniques to operate within a laboratory. Topics include laboratory equipment and instrumentation identification, written reports and laboratory tests. Laboratory testing includes hardness, alkalinity, dissolved oxygen, fluoride, jar testing, inorganic chemicals, pH and disinfectant residuals.

WQM 120 Water Quality Equipment Maintenance
4 credits
Provides an in-depth understanding of mechanical and electrical equipment maintenance. Topics include correct use of power and hand tools, preventive and repair maintenance of pumps, motors, chlorinators, motor control units, and other treatment plant equipment and safety procedures.

WQM 121 Environmental Sampling and Volume Measurement
3 credits
Designed to provide students with the knowledge and skills to collect contaminant samples for laboratory analysis, to select and prepare appropriate sample containers; to keep accurate sampling records; access sampling sites and do composite sampling. This course also provides sampling safety skills and sampling quality control and assurance methods.

WQM 122 Instrumentation and Electrical Control
4 credits
Provides an understanding of electrical theory, various types of electrical instrumentation equipment found in treatment facilities, operation, troubleshooting electrical problems and safety procedures.

WQM 123 Water Reuse Systems
3 credits
Discusses the new and developing area in the industry known as Reuse. Topics include, development, treatment techniques, operations, equipment, source and application uses for wastewater Reuse systems as well as future planning for long term use in the industry.

WQM 124 Water Certification Review for Class C and D
3 credits
Helps prepare students for the operators certification test in water at the C or D level. Topics include water principles, mathematics, hydraulics, water filtration, chemical treatment, source control, basic operations, Colorado Primary Drinking Water Regulations, housekeeping and laboratory analysis.

WQM 125 Wastewater Certification Review for Class C and D
3 credits
Helps students prepare for the operators certification test in wastewater at the C or D level. Topics include wastewater principles, mathematics, hydraulics, conventional treatment of wastewater, wastewater sedimentation, Colorado Water Quality Control Act, biological treatment of wastewater, effluent standards for wastewater, sludge handling and disposal, disinfection, pumps, safety, housekeeping, and laboratory analysis.

WQM 126 Safety and Security Systems
3 credits
Covers the safety aspects in the water and wastewater industry. Topics include development of safety policies and programs, job safety orientation, driving practices, CPR/first aid, confined spaces, hazardous communication, safety with energy electrical, mechanical, thermal and pressure, trenching, street work, laboratory, treatment equipment, construction vehicles/equipment and chlorine and other chemicals, security and safety standards.

WQM 130 Water Chemistry
3 credits
This course is an introduction level lecture course on water chemistry. Topics include, specific gravity, density and water properties, acids and bases, equivalent weights moles, molarity, normalities, valances, balancing chemical equations, chemical dosing, fluoridation, chemical and mechanical softening systems.

WQM 131 Solids Waste Management
3 credits
This course is designed to educate the student with solid waste created through the water and wastewater treatment process as well as "spoil" wastes generated from excavation of water distribution and wastewater collection lines. Topics include, disposal, record keeping, solids testing requirements, options of recycling, composting, practical product use from waste, soil types, blending options and soil corrosion issues related to toxic or acidic soils.

WQM 150 Troubleshooting
3 credits
Provides students with troubleshooting practices and procedures for chemical adjustments, equipment failures; electrical, mechanical, pneumatic and hydraulic, source contamination, system control procedures and redundancies.

WQM 169 International Development
3 credits
Exposes the student to typical water and wastewater development plans for international communities. This includes health studies, environmental impact studies, system design considerations, sustainability and funding programs. Topics also include basic design templates as well as development systems for operations and maintenance programs through research of available resources in remote communities.

WQM 200 Hydraulics for Water Quality Management
4 credits
Introduces the mathematical principles of density, specific gravity, pressures, horsepower and energy costs, velocities, weirs, Parshall flumes, venture meters, California pipe method, flows from open-end pipes, settling velocities and classification of flow, distribution system friction losses.

WQM 206 Design Interpretations of Water Quality Systems
4 credits
Provides an in-depth study and interpretation of blueprints, scale drawings, contour maps, profile drawings and symbols application to treatment facilities. The course also includes basics in HVAC, lighting, construction techniques, building materials and energy conservation.

WQM 207 Operations and Control of Activated Sludge Systems
3 credits
Provides a basic engineering overview of the activated sludge process and develops all process control activities around the biology of the treatment system. Topics include: settle-o-meters, flow concentrations, and oxygen uptake, turbidity, microscopic examination of organisms, trend charting, process control strategies. Classroom activities are reinforced by field trips to various treatment facilities.

WQM 212 Drinking Water Regulations
4 credits
Instructs students on application, interpretation and implementation of the Colorado Primary Drinking Water Regulations as they apply to all types and sizes of public water systems and their source water.

WQM 216 Biological and Bacteriological Water Quality Analysis
4 credits
Studies microorganisms associated with all phases and concerns of water and wastewater treatment including bacteria, protozoa and algae. Topics include: microorganisms used in treatment, as indicators and the pathogens; regulations, health hazards and laboratory safety. Laboratory work involves media preparation, coliform testing, standard plate count, BOD, and biomonitoring.
Prerequisite: WQM 119

WQM 217 Disinfection Techniques in Water Quality Systems
4 credits
Provides an understanding of disinfection alternatives used in treatment systems such as chlorine, ozone, ultraviolet light and bromine chloride. Topics include chemistry, equipment/maintenance, startup/shutdown procedures, hazards, safety and troubleshooting.

WQM 224 Water Treatment Certification Review for A and B
3 credits
Prepares the student for the water operations certification exam at the A and B level. Topics include water treatment principles, water filtration, chemical treatment, Colorado Primary Drinking Water Regulations, calculations, instrumentation, equipment operation and maintenance, utility management, laboratory analysis, and water quality control.

WQM 225 Wastewater Treatment Certification Review for A and B
3 credits
Prepares the student for the wastewater operations certification at the A and B level. Topics include activated sludge, nutrient removal, digestion, solids handling, effluent removal, odor control, wastewater reclamation, discharge permit regulations and reporting, calculation, instrumentation, equipment operations and maintenance, laboratory analysis and utility management.

WQM 230 Industrial Monitoring and Treatment
3 credits
Provides an understanding of industrial treatment. Various types of treatment systems are reviewed. Also included are safety, collection and preserving of samples, establishing an industrial monitoring program, operational strategies, interpretation of laboratory results, startup/ shutdown of systems, maintenance, plans and specification, various types of industrial wastes, and troubleshooting.

WQM 280 Internship
1-6 credits
Contact the Water Quality Management Technology department for information about this course at 303.914.6325.

WQM 285 Independent Study
1-6 credits
Contact the Water quality management Technology department for information about this course at 303.914.6325.

Accessibility Services:
This office coordinates services for RRCC students with disabilities so that they have equal access to pursue their educational goals. Call 303.914.6733 or 720-372-1591 (video phone).

Addendum:
Revisions or extra information added to a document, contract, report, or publication.

Admission:
People ages 17 and above who want to attend RRCC can apply for entry to the college. The Office of Admissions is directly across from the main entrance of the Lakewood Campus.

Advisors:
RRCC's academic (also referred to as general) advisors help new and continuing students at all stages of their college careers, particularly those seeking certificates, degrees, and/or eventual transfers to four-year colleges or universities. Advising is located next to the Admissions Office on the Lakewood Campus. Advising is also available at the Arvada Campus by appointment.

Faculty advisors also are available to assist students. Many times academic advisors will refer students to faculty advisors for specific information concerning courses and programs. If you are pursuing a certificate or associate of applied science degree, consulting a program area faculty advisor is helpful.

Assessment:
In a community college setting, your reading, writing, and mathematics skills are assessed so that you can begin your college career with the best chance of succeeding. RRCC administers the placement test: it is NOT an entrance exam but it does give students, advisors, and instructors the information needed to determine which classes students are ready to take.

Once you are enrolled in classes, your instructors will assess your progress regularly using a variety of methods. Yes, exams are one way, but other methods include writing essays, reports, and research papers; giving oral reports; completing exercises and homework assignments; and participating in classroom discussions. It is important that YOU assess your own progress so that you can ask questions and seek help when necessary.

Audit (AU):
If you want to take a class without earning credit or receiving a final grade, you can choose to do so at the time you register for the class; you cannot change your mind after registering and declare that you want to earn credit and a grade for the class. Also note that you must pay full tuition and fees, and you will not receive the COF stipend.

Catalog:
The RRCC Catalog lists and describes essential information for all students, advisors, instructors, staff, and administrators. Use the catalog in conjunction with each semester's schedule of classes. The catalog is a vital resource that you need to read and review regularly. You will graduate under the requirements in effect for the semester that you first enrolled unless you have a one-year break in attendance (excluding summer term). If you interrupt attendance you must meet the requirements of the catalog in effect at the time you re-enrolled. You also may choose to use the catalog in effect during the semester you graduate. For more information and/or clarification, meet with your advisor.

Certificates:
In addition to two-year degrees, you can earn certificates in a variety of specialties. A certificate might require as few as five credits and in some cases can count toward a degree.

College-Level Examination Program® (CLEP):
The College-Level Examination Program® or CLEP gives students the opportunity to demonstrate college-level achievement through taking exams that can lead to credit for designated undergraduate courses.

Refer to www.collegeboard.com/student/testing/clep/about.html and http://www.cccs.edu/Docs/EdServices/Credit-for-Prior-Learning-Handbook.pdf for complete information and meet with an academic advisor.

College Opportunity Fund (COF):
The state of Colorado will pay a portion of the tuition for Colorado residents attending RRCC or any state-supported or participating private college or university. Students must apply to COF and authorize its use at the attending college. Apply online at **www.rrcc.edu/college-opportunity-fund**. You will then need to authorize COF once you have registered for courses. You can do so by logging into "The Rock" and clicking on the Student Finance tab.

Colorado Community College Common Courses:
Courses with common content carry the same prefix, number, title, credits, description, competencies, and outline. These commonly described courses facilitate transfer and articulation arrangements for Colorado's secondary and community college students and ensure curriculum quality across the colleges.

Colorado Community College System (CCCS):
The CCCS comprises the state's largest system of higher education. Its career and academic programs in the 13 state community colleges serve more than 128,000 students annually. www.cccs.edu

Corequisite:
A corequisite is a course that is required with another course. For example, a student enrolled in REE 201 (Real Estate Brokers I) must also be enrolled in REE 202 (Real Estate Brokers II). In this particular case, both classes must be taken together; they meet at the same time with the same instructor. (If a corequisite is required, you will see an explanatory note in the current semester's schedule and often in the "Course Descriptions" section of the catalog.) Meet with an academic or faculty advisor before enrolling in classes to learn more about specific corequisites.

Credit(s):
A credit is a unit of study. The number of credits assigned to each course can be found in the "Course Descriptions" section of the catalog as well as in the listing of courses in the current semester's schedule. If you have questions concerning credits, the best source of information is an academic or a faculty advisor.

Note: Full-time students are those who take 12 or more credits in a semester; part-time students are those who take fewer than 12 credits in a semester.

Degrees:
RRCC offers a variety of two-year associate degrees:

- Associate of Applied Science
- Associate of Arts
- Associate of General Studies – Generalist
- Associate of Science

Meet with a faculty or academic advisor to learn about the requirements for each degree.

Electives:
Students choose an academic course from a list of options.

English as a Second Language (ESL):
Students for whom English is their second language can find assistance in the ESL/Foreign Language Lab located on the Lakewood campus.

Financial Aid:
Tuition assistance is available in four types: scholarships, grants, loans, and work-study agreements. To learn more about financial aid, visit www.rrcc.edu/financial-aid, or stop by to meet with a financial aid representative.

General Education Courses:
These are courses not directly related to a student's formal preparation for a career but that need to be part of every college student's body of knowledge in order for him or her to function as an educated adult. These courses are numbered 100 and above.

General Education Development (GED):
If a student has not graduated from high school, passing the GED certifies that he or she has high school-level academic skills.

Grade Point Average (GPA):
GPA refers to your average grade and is determined by dividing the grade points (Quality Points) you have earned by the number of Quality Hours you have earned.

Graduation:
Meet with a faculty or an academic advisor BEFORE beginning any program of study; advisors know the requirements and can help you stay on the path to graduation. Upon successful completion of degree or certificate requirements, you can receive recognition for your efforts during annual commencement exercises.

Graduation Audit and Graduation Application:
When you have successfully completed 42 credits, you are usually only 18 credits away from graduating with one of the associate degrees that RRCC offers. At this point it is important for you to initiate a graduation audit and to meet with a faculty or academic advisor so that he/she can assist you as you plan to complete the required courses for the degree you are seeking.

1. The graduation audit request form is available from the Student Records Office, or you can find it online at **www.rrcc.edu/audit-request**
2. Near the beginning of the semester in which you want to graduate, submit a graduation application form by the date listed in the current semester's schedule. The application form is available online at **www.rrcc.edu/student-records/graduation-application**. Meet with an academic or faculty advisor so that he/she can assist you with the graduation application process.

GT: Statewide Guaranteed Transfer course:
See Guarantee Transfer Courses on page 37

- GT-AH1: Arts & Humanities
- GT-AH2: Literature and Humanities
- GT-AH3: Ways of Thinking
- GT-AH4: Foreign Languages (must be Intermediate/200 level)
- GT-CO1: Introductory Writing Course
- GT-CO2: Intermediate Writing Course
- GT-CO3: Advanced Writing Course
- GT-HI1: History
- GT-MA1: Mathematics
- GT-SC1: A science with a required laboratory
- GT-SC2: A science without a required laboratory
- GT-SS1: Economic or Political Systems
- GT-SS2: Geography
- GT-SS3: Human Behavior, Culture, or Social Frameworks

gtPathways Curriculum:
gtPATHWAYS is a set of general education courses that the state guarantees to transfer. Receiving institutions shall apply guaranteed general education courses to a student's general education or major requirements. Approved courses in gtPATHWAYS are not based on course equivalencies but meet content and competency criteria. Go to http://highered.colorado.gov/Academics/Transfers/gtPathways/curriculum.html for more information.

International Students:
These are students from another country who are admitted to the U.S. on an F1 non-immigrant student visa.

Learning Commons:
The Learning Commons is located next to RRCC's main entrance and includes the library and quiet study rooms upstairs, and study and tutoring areas on the main floor. The Learning Commons offers RRCC students free walk-in tutoring in math, writing, reading, the sciences, accounting, Microsoft applications, and other subjects. Several computers are also available for student use.

Open-Entry:
Anyone who can benefit from RRCC's instructional programs and courses, including high school graduates, non-graduates, and students 17 years or older who are currently enrolled in high school, are welcome to apply.

Phi Theta Kappa:
RRCC sponsors a chapter of Phi Theta Kappa, the International Honor Society for two-year colleges.

Plagiarism:
When an individual claims credit or fails to give credit for another person's or source's words and/or ideas, he or she has committed a serious academic offense, listed in the *RRCC Catalog* as academic dishonesty: "Those committing academic dishonesty will be subject to disciplinary action, such as failing the assignment or course and/or expulsion from the course or college." Work closely with your instructors and tutors to avoid plagiarism.

Prerequisite:
This is a course that is required before taking another course. For example, before you can enroll in ENG 122 (English Composition II), you must have taken ENG 121 and passed with an A, B or C. Prerequisites are listed within course descriptions of this catalog. Meet with an academic or faculty advisor before enrolling in classes to learn more about specific prerequisites.

State-Guaranteed General Education Courses:
These are general education courses that the state of Colorado requires for students seeking Associate of Arts (AA) or Associate of Science (AS) degrees. A variety of courses are available in the areas of communication, mathematics, arts & humanities, social & behavioral sciences, and natural & physical sciences. Meet with an academic or faculty advisor who can help you select the courses that fulfill the AA and AS degree requirements.

Tuition:
The fee charged for instruction by a formal institution of learning is called tuition. Paying tuition and fees allows you the opportunity to earn grades in the classes you take.

Do not assume you have been dropped from a class if you miss tuition and fee payment deadlines or fail to attend a class. Once you have registered for a class, you are responsible for paying full tuition and fees unless YOU drop the class on or before the drop/refund date listed in the current semester's schedule. RRCC does not automatically drop students for non-payment.

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B.A., State University of New York

Mark Bana
Director, Facilities Management.

Pat Bolton
Director, Child Care Innovations
B.S.N., Memphis State University

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Bill Cherrington
Director, IT
M.B.A., Colorado Christian University; B.S., Metropolitan State College of Denver

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Dean of Instruction, Instructional Services
JD, University of Kansas; B.S., Northwest Missouri State University

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M.P.A., University of Colorado; B.S., Louisiana State University Medical Center

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Dean of Instruction, Instructional Services
M.A., University of California; B.A., Washington and Lee University

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Project Director RISE Program, Foundation / Advancement
M.A., Virginia Tech University; B.A., Virginia Tech University

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Director, Financial Aid
M.A., University of New Mexico; B.A., Texas Tech University

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Executive Director, Human Resources
Title IX Administrator, ADA Coordinator
Ph.D., Capella University; M.S., Lindenwood University; B.S., University of Arkansas

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Chief of Police, Campus Police
M.B.A., University of Phoenix; B.S., University of Phoenix

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Vice President, Student Success
ADA Coordinator
Ed.D., University of Georgia; M.S., University of Tennessee; B.S., Maryville College

Tim Griffin
Executive Director, Institutional Research
Ph.D., University of Wisconsin; M.A., University of Wisconsin; B.A., University of Toledo

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President, President's Office
Ph.D., University of Wyoming; M.A., Chapman College; B.A., University of New Mexico

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B.S., Old Dominion University

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Director, Office of Accessibility Services
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Director, Inclusion & Diversity
M.S., Minnesota State University; B.A., University of Wisconsin

Carolyn Mattern
Director, Student Life
B.S., University of Wisconsin, Milwaukee

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Dean of Instruction, Instructional Services
M.Ed., University of Missouri-St. Louis; B.J., University of Missouri-Columbia

Peggy Morgan
Vice President, Administrative Services
Outstanding Administrator of the Year, 2011
B.S., Mesa State College; B.S., Rutgers University

Elizabeth Phelps
Director, School-Age Child Care
M.A., Denver Seminary

Dean Rathe
Executive Director, Enrollment Services
Ph.D., University of Northern Colorado; M.A., University of Northern Colorado; B.A., St. Cloud State University

Rick Reeves
Dean of Instruction, Instructional Services
The Student Voice Endowed Teaching Chair, 2004-2006
M.S., University of Colorado at Denver; B.A., University of Colorado at Denver

Kimberly Rein
Director, Marketing & Communications
M.S., University of Colorado Denver; B.A., University of Wisconsin

Ron Slinger
Executive Director, Foundation
Outstanding Administrator of the Year, 2015
M.A. Bowling Green State University

Joan Smith
Executive Director, Rocky Mountain Education Center
Outstanding Administrator of the Year, 2004
M.P.A., University of Colorado at Denver; B.S., Colorado Christian University

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Associate Vice President, Arvada Campus
M.A., University of Northern Colorado; B.A., Mesa State Colorado

Andrew Stevens
Director, Student Outreach and Retention
M.Ed., Capella University; B.S., Colorado State University

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Associate Dean of Instruction, CTE Director
Outstanding Faculty Member of the Year, 2010
M.B.A., University of St. Thomas; B.S., University of Minnesota

Faculty

Marlene Adzema
Associate Professor, Communication
M.A., Montclair State University; B.A., Montclair State University

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M.S., Regis University; B.S. B.A., Regis University; A.A.S., Front Range Community College

Hill Baker
Assistant Professor, Music
M.Mus., University of Denver; B.Mus., University of Denver

Dean Barchers
Professor, Mathematics
Outstanding Full Time Instructor of the Year, 2003
M.S., University of Colorado at Colorado Springs; B.S., Oklahoma Christian University

David Barnes
Assistant Professor, Theatre
M.F.A., Queens University of Charlotte; B.A., Oglethorpe University

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Professor, History
The Student Voice Endowed Teaching Chair, 2007-2009
Ph.D., University of Colorado; M.A., University of Colorado; B.A., Case Western Reserve University

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Assistant Professor, Physician Assistant Program
M.S., University of Nebraska Medical Center; B.S., Bellevue University

Wendy Bird
Professor, Business
Mike Leprino Family Foundation Endowed Teaching Chair, 2013-2015
J.D., Wayne State University; B.A., Saginaw Valley State University

Kent Blevins
Assistant Professor, Medical Imaging/Sonography
M.M., Southern Oregon University; B.S., Midwestern State University; A.S., Midwestern State University

Amy Braziller
Professor, English
Outstanding Faculty Member of the Year, 2007
Mike Leprino Family Foundation Endowed Teaching Chair, 2007-2009
M.A., New York University; B.A., Empire State College

Jennifer Bresnahan
Assistant Professor, Nursing
M.S.N., Regis University; B.S.N., St Francis Medical Center College of Nursing

Charlotte Briscoe
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B.S., University of New Mexico; A.A.S., Community College of Denver

Robert Brown
Assistant Professor, Fire Science Technology
Outstanding Faculty Member of the year, 2014
B.A., Regis University

Steve Brown
Assistant Professor, Emergency Medical Services
A.A.S., Red Rocks Community College

Amy Buckingham
Assistant Professor, Psychology
M.A., University of Denver; B.S., University of Vermont

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M.S., Northern Arizona University; B.A., University of Alaska; B.A., University of Alaska

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Ph.D., University of North Carolina; B.S., University of Texas at Austin; B.S., Georgetown University

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Assistant Professor, Water Quality Management Technology
M.S., University of Colorado Denver; B.S., Western Kentucky University

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Associate Professor, English
Outstanding Full Time Instructor of the Year, 2005
M.A., George Mason University; B.S., West Chester State College

Soomin Chun-Hess
Assistant Professor, Political Science
Outstanding Full Time Instructor of the Year, 2012
M.A., University of California at Santa Barbara; B.A. University of California at Santa Barbara

Alexis Clements
Assistant Professor, Multimedia Graphic Design
B.A., Art Institute of Colorado

Jeremy Cox
Assistant Professor, Fine Woodworking
M.F.A., Rochester Institute of Technology; B.A., Bethel University

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Assistant Professor, Chemistry
Ph.D., University of Wyoming; B.A., Chadron State College

Paige Cudworth
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M.A., University of Colorado Boulder; B.A., Willamette University

Deborah Dell
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M.A., University of Colorado; B.F.A., University of Colorado; B.A., University of Colorado

Sherry Messina Dewald
Professor, Communication
Outstanding Faculty Member of the Year, 2009
RRCC Foundation Board Teaching Chair, 2009-2011
Ph.D., University of Denver; M.A., University of South Dakota; B.A., University of Illinois

Christa Dobbs
Assistant Professor, Physician Assistant Program
M.S., University of Nebraska Medical Center; B.S., University of Oklahoma Health Sciences Center

Heather Duncan
Associate Professor, Mathematics
Outstanding Faculty Member of the Year, 2012
The Student Voice Endowed Teaching Chair, 2012-2014
M.A.T., Northern Arizona University; B.A., Fort Lewis College

Brandon English
Assistant Professor, Chemistry
Ph.D., The Colorado State University; B.S., The Pennsylvania State University

Craig Faulhaber
Assistant Professor, Mathematics
M.S., University of Colorado Boulder; B.S., Washington University in St Louis

Marie Pannier Feldmeier
Assistant Professor, Philosophy
Ph.D., University of Notre Dame; B.A., University of Minnesota, Twin Cities Campus

Tim Floyd
Assistant Professor, Emergency and Public Safety
B.S., Metropolitan State College

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M.S., Montana State University; B.A., Western State Colorado University

Brenda Forland
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M.A., Montana State University; B.A., University of Wisconsin-Superior

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M.A. Virginia Technical University; B.A., Virginia Technical University

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Associate Professor, Multimedia Graphic Design/Photography/Journalism
M.A.Ed., Seton Hall University; B.A., University of Colorado Boulder

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Assistant Professor, English
Outstanding Full Time Instructor of the Year, 2006; 2007; 2008
Mike Leprino Family Foundation Endowed Teaching Chair, 2010-2012
M.F.A., University of North Carolina Wilmington; B.A., University of North Carolina Wilmington

Candace Garrod
Professor, Computer Information System/ Computer Science
Outstanding Full Time Instructor of the Year, 1995; Outstanding Faculty Member of the Year, 2011
"Swede" Johnson/Coors Endowed Teacher Chair, 2002-2004
M.Ed., Colorado State University; B.Ed., Colorado State University

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Assistant Professor, Electricity Commercial/Industrial/Residential
A.A.S., Red Rocks Community College; Licensed Master Electrician

Art Gomez
Assistant Professor, Fire Science Technology
A.A.S., Red Rocks Community College

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Assistant Professor, Biology
M.S., University of Arkansas; B.S.E., University of Arkansas

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Faculty, English
M.A., University of Colorado, Denver; B.A., State University of New York at Geneseo NY

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M.S., Brooks Institute of Photography; B.A., Brooks Institute of Photography

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Ph.D., University of California at Berkeley; A.B., University of California at Berkeley

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M.A., University of Kansas; B.A., University of Kansas

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M.S., University of Texas, Dallas; B.S., Colorado School of Mines

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Assistant Professor, History
Outstanding Faculty Member of the Year, 2013
M.A., University of Texas at Austin; B.A., University of Texas at Austin

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Assistant Professor, Physician Assistant Program
M.S., University of St. Francis; B.A., University of Denver

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Assistant Professor, Business/Accounting
M.B.A, Regis University; B.A., University of Colorado Denver

Steven Kaye
Associate Professor, Biology
Outstanding Full Time Instructor of the Year, 1997; 1999; 2002; 2009
"Swede" Johnson/Coors Endowed Teaching Chair, 2005-2007
M.Ed., University of Hawaii; B.A., University of Hawaii

Michael Kiewe
Assistant Professor, Physics
Ph.D., University of Wisconsin; M.Sc., Weismann Institute of Science; B.Sc., Tel-Aviv University

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Assistant Professor, Early Childhood Education
M.A., Concordia University

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M.A., Texas A&M University; B.A., Western Michigan University

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M.M.S, Emory University; M.S., Appalachian State University; B.S., East Carolina University

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M.A., St. Johns College; M.A., St. Johns College; B.A., Bemidji State University

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M.S., University of Arizona; B.S., Austin Peay State University; A.S., San Jacinto College

Tracey Mahoney
Assistant Professor, Communication

Elyse Marsh
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M.F.A., University of Iowa; B.A., Smith College

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M.S., University of Colorado at Boulder; B.A., University of Colorado at Boulder

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Associate Professor, Sociology
Ph.D., Antioch University; M.S.W., Canyon College; M.A., Central Michigan University; B.S., Central Michigan University; A.S., Gogebic Community College

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M.A., University of Nebraska-Omaha; B.A., University of Iowa

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M.F.A., Rhode Island School of Design; B.A., Simon's Rock College of Bard

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M.S., Regis University; B.S., Metropolitan State University of Denver; A.A., Red Rocks Community College; A.A.S., Red Rocks Community College

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M.A., University of Vermont; B.A., University of North Carolina-Greensboro

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Professor, Mathematics
M.S., University of Colorado at Denver; B.S., University of Illinois, Champaign-Urbana; A.A., Florida Junior College at Jacksonville

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Assistant Professor, Psychology
Outstanding Full Time Instructor of the Year, 2010
"Swede" Johnson/Coors Endowed Teaching Chair 2011-2013
M.A., University of Denver; B.A., Sonoma State University; A.A., Modesto Junior College

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Associate Professor, Engineering Graphics Technology
M.E. Tech in Ed, Lesley University; B.A., Arte AC I Techologico de Monterrey; A.A.S. Interior Design, Arte AC I Technologico de Monterrey; A.A.S. Interior Design, CEDIM

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B.A., University of Northern Colorado; A.A.S., Red Rocks Community College

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Assistant Professor, Outdoor Education
M.A., Prescott College; B.A., Western State Colorado University

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M.A., University of Kent, Brussels; M.A., University Colorado at Denver; B.A., Wofford College

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Arizona State University, West Campus; B.A., Northern Arizona University

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M.F.A., Naropa University; M.A., University of Northern Arizona; B.A., Western State University; A.A., Colorado Mountain College

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"Swede" Johnson/Coors Endowed Teacher Chair, 2014-2016
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B.A., University of Northern Colorado

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B.S., University of Wyoming

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M.A., University of Colorado Denver; B.A., The Ohio State University

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B.S., University of Denver; M.S., University of Denver; M.D., University of Colorado

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Professor, Air Conditioning, Heating, and Refrigeration
Renewable Energy Technology Refrigerant Transition and Recovery Certification, Ferris State University; Class A Mechanical License, City of Boulder; National Center for Construction Education and Research Certification in HVAC and Electrical

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Assistant Professor, Mathematics
M.S., University of Colorado at Colorado Springs; B.S., Buena Vista University

Ellen Speare
Associate Professor, Health Sciences
B.A., San Jose State University; A.A., Foothill College

Sally Stablein
Assistant Professor, Sociology
Outstanding Faculty Member of the Year, 2015
M.A., Humboldt State University; B.A., California State University San Marcos; A.A., Palomar Community College

Martha Stevens
Assistant Professor, Mathematics
M.S., University of Washington; B.S., University of Wisconsin

Irina Strelnikova
Assistant Professor, Economics
M.A., Colorado State University; B.A., Colorado State University

Keith Swain
Assistant Professor, Psychology
Outstanding Full Time Instructor of the Year, 2012; 2013; 2014
Psy.D, California Coast University; M.A., Lesley University, B.A., Columbus State University

Janet Tarase
Assistant Professor, Accounting
M.A.F.I.S., Cleveland State University; B.S., Dyke College

Rich Thatcher
Professor, Electricity
Industrial/Commercial/Residential Licensed Master Electrician; A.A.S., Red Rocks Community College; B.U.S., The University of Tennessee

Bill Thompson
Assistant Professor, Mathematics
Outstanding Full Time Instructor of the Year, 2005; 2011
M.S., New Mexico State University; B.S., New Mexico State University

Robert Vroman
Associate Professor, Emergency Medical Services
M.Ed., Colorado State University; B.S., Western Carolina University

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Assistant Professor, Renewable Energy Technology
B.S.B.A., University of Phoenix; A.A.S., Red Rocks Community College

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A.A.S., Red Rocks Community College

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M.F.A., Western State Colorado University; B.A., Western State College of Colorado; A.A., Colorado Mountain College

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Associate Professor, Philosophy
Ph.D., University of California at Los Angeles; C.Phil., University of California at Los Angeles; M.A., Columbia University; B.A., Hampshire College

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Ph.D., University of California; B.S., University of Puget Sound

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M.A., Villanova University; B.A., Yale University

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M.A., University of Wisconsin; B.A., Southern Connecticut State University

Faculty Emeritus

John Arnsparger
Faculty Emeritus, Accounting
M.B.Ed., University of Colorado; B.B.A., Ohio University

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Professor Emeritus, Philosophy
Outstanding Faculty Member of the Year, 2004
RRCC Foundation Endowed Chair, 2004-2006
Ph. D., University of Denver; M. Rel., University of Toronto; B.A., Roberts Wesleyan College

Craig Hilton
Faculty Emeritus, Art
Outstanding Faculty Member of the Year, 1996
Licensed Master Plumber

Verne Ingram
Faculty Emeritus, Accounting
Outstanding Faculty Member of the Year, 1987; 2006
M.A., University of Phoenix; C.P.A.; B.S., University of Idaho

Carla Joy
Faculty Emeritus, History
M.A., University of Denver; A.B., Loretto Heights College
Pamela Jamruszka Mencher

Pamela Jamruszka-Mencher
Professor Emeritus, Theatre Arts
M.F.A., University of Wisconsin; B.A., Montana State University

David Nelson
Faculty Emeritus, History
Outstanding Faculty Member of the Year, 1994
Ph.D., University of Denver; M.A., University of Denver; B.A., University of Denver

Niki Nolles
Faculty Emeritus, English
M.A., University of Nevada-Las Vegas; B.A., University of Nevada-Las Vegas

Walt Schreibman
Professor Emeritus, Psychology
M.S., Purdue University; B.A., University of Colorado

John Sperling
Professor Emeritus, Carpentry
Outstanding Faculty Member of the Year, 1998
B.S., University of Colorado

John D. Stanesco
Professor Emeritus, Geology
Outstanding Faculty Member of the Year, 1995
Mike Leprino Family Foundation Endowed Teaching Chair, 2002-2004
M.A., University of Northern Colorado; B.A., Regis College

Technical Professional Staff

Lisa Aaron
Site Manager, School Age Child Care

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Office Specialist, Gateway Program

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Bursar, Cashier's Office
B.A., University of Northern Colorado

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M.S., University of Kansas; B.S., University of Nebraska; B.S., Colorado State University; B.A., Augustana College

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Director, Children's Center
A.A., Red Rocks Community College

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M.B.A., Regis University; B.S., University of Colorado at Denver; A.A., Red Rocks Community College

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B.A., Colorado State University

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Server Systems Specialist, Computer Services
A.S., Front Range Community College

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B.A., University of Northern Colorado

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Testing and Evaluation Specialist, Assessment Center
B.S., Central Missouri State University

Julia Brink
Early Care and Education Site Coach, Child Care Innovations

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College Opportunity Fund Advisor, Student Records
M.A., University of London, Institute of Education; B.A., Arizona State University

Nicole Brown
Medical Assistant, Student Health Clinic
A.S.; Heritage College

Georganne Buccine
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B.A., Stockton State University

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M.A., University of Phoenix; B.A., Colorado State University, Pueblo

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Accounting Technician II, School Age Child Care

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M.A., University of Colorado at Denver

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Assistive Technology Specialist, Office of Accessibility Services

Joseph Chadwick
Data Manager, Child Care Innovations

Cathy Chase
Cashier, Red Rocks Café

Christy Cornell
Assistant Toddler/Preschool Teacher, Children's Center

Nikki Coto
Site Manager I, School-Age Child Care

Amanda Crosby
Call Center Specialist, Enrollment Services
B.A., Western State Colorado University

Jason Cross
Web Designer/Developer, Marketing and Communications

Brittany Dalbec
Site Manager I, School Age Child Care

Cliff Dawson
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M.S., University of Colorado; B.S., Metropolitan State College

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Director, Business Innovation, Rocky Mountain Education Center
Ed.D., Argosy University; M.B.A., University of Phoenix; J.D., Washington College of Law; B.S. Western Michigan University

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Director, Institutional Research
M.A., Regis University; M.A., Colorado Christian University

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Collections Librarian, Library
M.L.S., San Jose State University; B.A., University of California, Irvine; A.A., Monterey Peninsula College

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Testing and Evaluation Specialist, Assessment Center
B.A., University of Colorado-Boulder

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Student Information & Systems Specialist, Student Outreach and Retention
M.S., University of Colorado at Boulder; B.S., Idaho State University; A.A.S., Idaho State University

Stanley Eigsti
Coordinator, Assessment Center
B.S., University of Northern Colorado

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Theatre Lab Coordinator, Instructional Services
M.M., New England Conservatory; B.A., Trinity University

Rita Erickson
Office Specialist, RRCC Foundation
A.A.S., Red Rocks Community College; A.A.S., Red Rocks Community College

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Program Manager I, School-Age Child Care

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Outreach & Recruitment Specialist, Student Outreach and Retention
B.A., Metropolitan State University of Denver; B.S., Metropolitan State University of Denver

Christa Ferrari
Licensing Specialist, Child Care Innovations
A.A.S., Red Rocks Community College

Susan Flood
Licensing Specialist, Child Care Innovations
M.A., University of Denver; B.A., Colorado State University

Ruth Fry
Clinical Training & Administrative Manager, Physician Assistant Program
A.A.S., Mile Hi College, Inc.

Matthew Garcia
Program Coordinator, RRCC Foundation, M.P.A., University of New Mexico; B.A., University of New Mexico

Shavon Garcia
Call Center Manager, Enrollment Services
A.S., Community College of Denver

Michelle Gardner
Executive Assistant to VP Administrative Services, Business Services
B.F.A., Rocky Mountain College of Art and Design; A.A., Arapahoe Community College

Jodi Gillespie
Licensing Specialist, Child Care Innovations
B.A., Western State College

Nicole Gonzales
Early Care and Education Site Coach, Child Care Innovations

Jeramie Green
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B.S., Colorado Christian University

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Advisor, Financial Aid
M.A., Bowie State University; B.A., San Francisco State University

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M.A., Regis University; B.S., University of New Mexico; B.A., Fort Hays State University

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M.S. University of Texas, Austin; B.S., Colorado State University, Pueblo; B.S., Colorado State University

Deborah Houser
Assistant Director, Human Resources
M.Ed., University of Virginia; B.S., University of Wisconsin

Hainan Huang
Work Study Coordinator & Communication Specialist, Financial Aid
B.S., University of Colorado at Denver; A.A., Red Rocks Community College

Terry Hutchinson
Coordinator, Project Center, Student Life
A.S., Parks Junior College

Erika Iverson
Grant Project Coordinator/Physician Assistant Program
M.P.H., University of Colorado at Denver; B.S., Winona State University

Johnna Jaynstein
Director, Student Health Center
M.M.S., St Francis University; Physician Assistant; B.A., University of Colorado at Boulder

Michelle Jicha
Early Care and Education Site Coach, Child Care Innovations

Gina Jimenez
Manager of Academic Services, Arvada Campus
Outstanding Technical Professional Employee of the Year, 2014
B.A., Metropolitan State College of Denver

Robert Jones
Lab Manager, Electricity Industrial/Commercial/Residential
A.A.S., Red Rocks Community College

Kelli Jordan
Early Care Site Coach, Child Care Innovations

Marilyn Kenfield
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B.S., Regis University; A.A., Red Rocks Community College

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Site Manager II, School Age Child Care

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Access Librarian, Library
M.L.I.S., University of Illinois at Urbana-Champaign; B.A., University of Colorado at Boulder

Terri Knight
Financial Aid Advisor, Financial Aid
B.S., Metropolitan State College of Denver

Jeannine Kreller
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Catherine Lachman
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Randy Landis-Eigsti
College Prep Zone Coordinator, Learning Commons
Outstanding Technical Professional Employee of the Year, 2010
B.A., Goshen College; A.A., Hesston College

Thomas Lapadat
Shop Manager, Fine Woodworking

Marlena Lewis
Quality Compliance Specialist, Child Care Innovations

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Senior Advisor, Advising/Transfer/Career Services
M.A., University of Northern Colorado

Chad Logan
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M.S., Regis University; B.S., Colorado State University, Pueblo

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M.B.A., Kreller School of Management

Patti Mackey
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B.A., Metro State University

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Outstanding Technical Professional Employee of the Year, 2013
M.A., University of San Francisco; B.A., San Jose State University; A.A., Foothill College

Rhonda Macy
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B.S., Southern Illinois University

Ruth Maifarth
Licensing Specialist, Child Care Innovations
B.A., Loyola University

Ian Maphet
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A.S., Red Rocks Community College

Aimee Marcelo
Assistant Director, Marketing and Communications
M.A., University of Colorado at Denver; B.S., University of Florida

Christina Marquez
Kitchen Supervisor, Red Rocks Café

Carmen Martinez
Coordinator of Inclusive Services, Child Care Innovations
B.A., Metropolitan State University of Denver

Kathleen Martinez
Transitions Coordinator, Connect to Success Services
A.A.S., Red Rocks Community College

Kristina Matthias
Lead Licensing Specialist, Child Care Innovations
B.A., Ottawa University

Michele McCall
HR Project Manager, Human Resources

Kelly McDermott
Food Service Director, Red Rocks Café
Outstanding Technical Professional Employee of the Year, 2008
B.S., Johnson & Wales University; A.S., Johnson & Wales University

Nicole McGrath
Assistant Toddler / Preschool Teacher, Children's Center

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