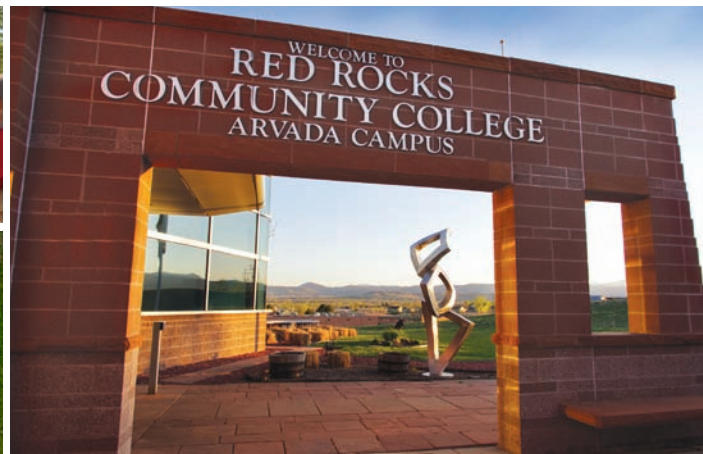


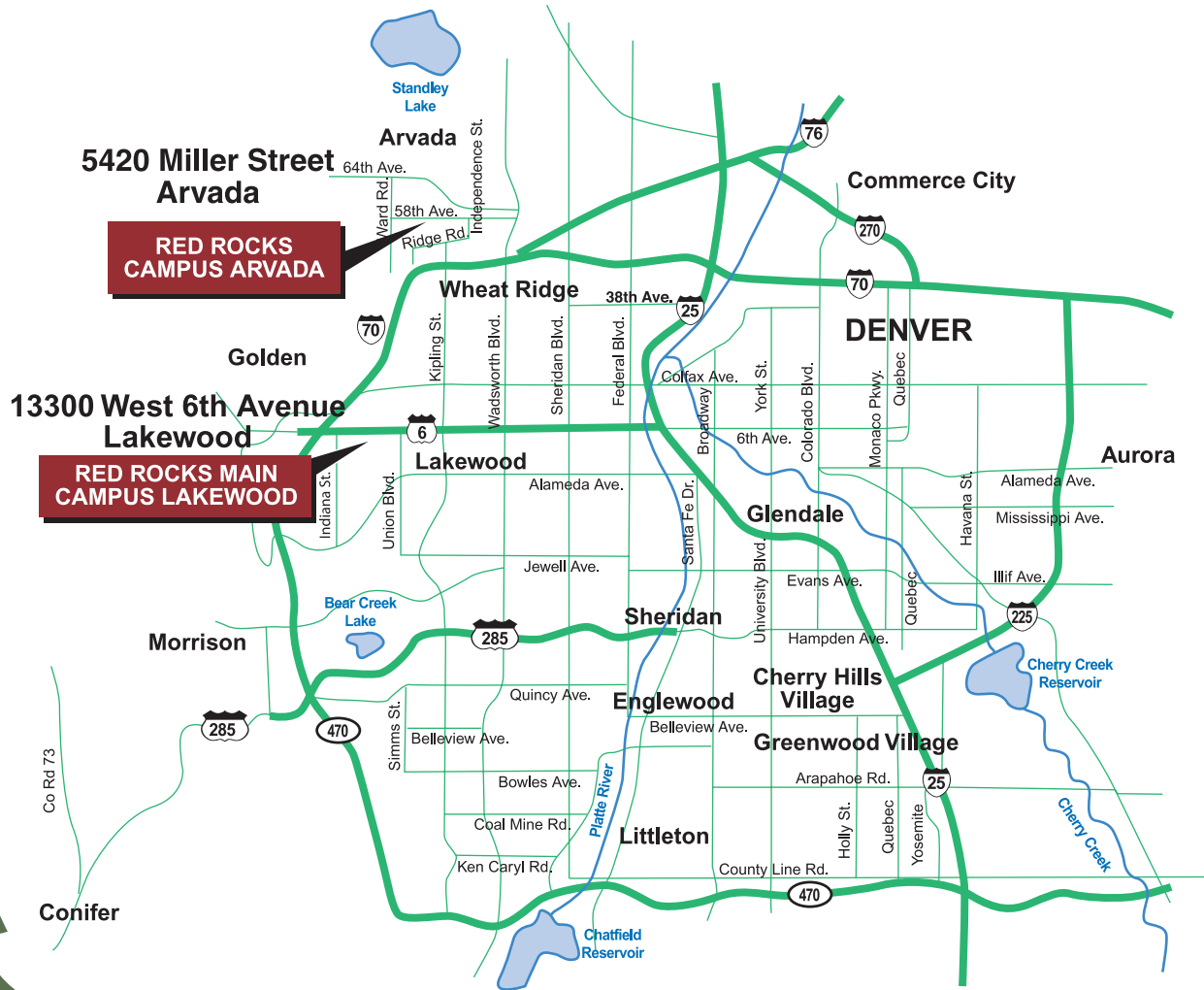
2012-2013

Red Rocks Community College

CATALOG

lakewood | arvada | online





LAKWOOD CAMPUS

13300 West Sixth Avenue
 Lakewood, CO 80228-1255
 303.914.6600

ARVADA CAMPUS

5420 Miller Street
 Arvada, CO 80002-3069
 303.914.6010

www.rrcc.edu



Welcome to Red Rocks Community College (RRCC)

This catalog applies to students beginning their RRCC studies from Fall 2012 through Summer 2013.

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

The programs, policies, statements, and procedures contained in this publication are subject to change or subject to correction by the College without prior notice. Red Rocks Community College reserves the right to withdraw courses; revise the academic calendar; or change curriculum graduation procedures, requirements, and policies that apply to students at any time. Changes will become effective whenever the proper authorities so determine. This publication is not intended to be a contract between the student and Red Rocks Community College. However, students 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

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. www.rrcc.edu/gainful_employment

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Academic Calendar Fall 2012 – Summer 2013

The following is a condensed Academic Calendar and subject to change. For a complete Academic Calendar visit www.rccc.edu/schedule/calendar.htm

Fall 2012

Fall Registration begins	April 2, 2012
15-week weekend classes begin	August 17
Regular 15-week classes begin (other classes begin throughout the fall)	August 20
No classes after 5:00 p.m.	August 31
Labor Day weekend; no classes (both campuses closed)	September 1-3
All-College Development Day; no classes	October 16
Spring 2013 Registration begins	November 5
Fall Break; no classes	November 19-25
Thanksgiving Holiday (both campuses closed)	November 22, 24-25
Fall Session ends	December 11

Spring 2013

Spring Registration begins	November 5
Martin Luther King Day Holiday, no classes	January 21
15-week classes begin (other classes begin throughout the spring)	January 22
15-week weekend classes begin	January 25
Spring Break; no classes	March 25-31
Easter weekend; no classes (both campuses closed)	March 30-31
Summer 2013 Registration begins	April 1
Fall 2013 Registration begins	April 1
All-College Development Day; no classes	April 16
Spring Session ends	May 14
Graduation Ceremony	May 18

Summer 2013

Summer Registration begins	April 1
Fall 2013 Registration begins	April 1
No classes after 5:00 p.m.	May 24
Memorial Day Holiday; no classes (both campuses closed)	May 25-27
Full term 8- and 9-week Sessions begin	June 3
Independence Day Holiday; no classes (both campuses closed)	July 4
8-week Summer Session ends	July 28
9-week Summer Session ends	August 5



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 dual enrollment programs, and initiated plans to expand grant funding and workforce development. Dr. Haney's leadership has increased student retention, graduation, and minority enrollment. Prior to RRCC, Dr. Haney served as president of Morgan Community College, and in vice president and chief executive officer roles at Front Range Community College.

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 300 programs and 650 courses 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 students 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 courses – 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

About Red Rocks Community College

RRCC is a community of 14,000 learners each year studying at campuses in Lakewood and Arvada – and around the world through online courses. We are one of 13 Colorado community colleges charged with preparing a state workforce for the emerging needs of employers. RRCC also offers an affordable start for students who plan to earn a four-year degree.

Lakewood Campus



The Lakewood campus houses everything from state-of-the-art multimedia graphics computer labs to construction technology worksites, to traditional classrooms and labs, to health-careers practice areas.

The full range of services for students includes an assessment center, academic advising, tutoring, financial aid, a library, a project center, and a student employment center. A 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, at the Office of Disability Services.

In addition to academic support, the campus offers extras including a cafeteria and coffee shop, recreational facilities and a fitness center. The Children's Center offers full-day care for children from 18 months to kindergarten entry.

Arvada Campus



The Arvada campus offers innovative scheduling options in a helpful and friendly atmosphere. Students can apply for admission, meet with an advisor, receive career counseling, register for classes, take college placement assessment exams, and receive financial aid information.

The Learning Commons is the centerpiece of the campus which houses the computer commons, assessment, online writing support and library services, tutorial services, free GED pre-testing, career resources, and study areas with wireless Internet access. The Arvada campus is home to the Medical Imaging program (Ultrasound and X-Ray Technology), Holistic Health, and Industrial Sciences and Operations.

Courses offered range from biology to theatre, including guaranteed transfer general education courses and basic skills courses in English and mathematics.

RRCC Guiding Principles

Vision:

To be the college of first choice

Mission:

To create a passion for learning through our dedication to students, our commitment to excellence, and our own love of learning

Values:

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

- Innovation
- Teamwork
- Diversity
- Communication
- Integrity

RRCC is:

- A committed business partner responding to industry and community needs through innovative solutions.
- A coalition builder initiating opportunities for creative problem-solving through teamwork.
- A proponent for diversity providing an environment that respects differences among us.
- A believer in communication fostering a culture that promotes an open exchange of ideas.
- A model of integrity supporting our mission with thoughtful and judicious decision-making.

Admissions Policy

Red Rocks Community 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.

Admittance does not ensure acceptance into a particular course or program. Some programs have limited space and special admissions procedures. Applicants for these programs must contact the appropriate department. 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, which is available online: www.cccs.edu/SBCCOE/Policies/BP/PDF/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 or the Student Records office.

Students who have a disability or who otherwise have special needs are encouraged to contact the Office of Disability Services. This office provides academic support and accommodations (at no cost) to students with documented disabilities. Students who had an Individual Education Plan (IEP) or 504 Plan in high school should contact the Office of Disability Services after applying for admission to the college.

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 application.
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 "Waiver of Admissions requirements" (available at the office of the Vice President for Student Services). Students must complete the Accuplacer 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. Students under the age of 15 will only be considered for admission if they have received a high school diploma.

Acceptance Letters

Acceptance letters are sent by e-mail or by regular U.S. mail. Please contact the Admissions office at 303.914.6360 with any questions regarding the acceptance letter.

Admission Procedures

In order to enroll, complete these steps:

1. Apply for Admission

Complete the RRCC application online at www.rrcc.edu/admis or stop by the Admissions Office. Upon completion, you will receive a User ID. The user ID starts with a capital "S" followed by 8 numbers (example: S12345678) Save this number as you will need it for registration and all other correspondence with RRCC.

Information: 303.914.6348

2. Apply for the College Opportunity Fund (COF).

All Colorado residents should complete the application. 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. If you do not apply for COF funding and authorize its use, you are responsible for both the student share and the state share of all tuition and fees.

To apply and authorize COF: 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/cof and click on "Sign up for COF"

3. Visit the Assessment Center. Provide official documentation of one of the following assessment requirements.

- ACT scores (Reading 17, Sentence Skills 18, Math 19) or,
- SAT Scores (Verbal 430, Math 460) or,
- Successful completion of college-level math and English courses or,
- Successful completion of the Accuplacer test

The Accuplacer is the state-required test that provides information in these areas to help you and your academic advisor make appropriate course choices.

Students who have graduated from a Colorado public or private high school (or its equivalent) during the previous academic year, or students who will be working toward a degree within the Colorado Community College System, must be assessed for reading, writing, and mathematics ability.

You will not have to test your skills if: you are not seeking a guarantee transfer course or degree; if you can show proof

(ACT/SAT scores taken within the last five years for Reading and English, 2 years for Math) that the minimum requirements have already been met; or if you already have a previous college degree (A.A., A.S, B.A./B.S. or higher).

This is not an entrance exam. No appointment is required.

Information: 303.914.6720 or www.rccc.edu/assessment

4. Set up your email account

You can't afford to miss out. Campus email will be the primary communication tool for Faculty members, Advisors, Financial Aid staff, Enrollment Services, Business Office, Office of Student Life, College Foundation, Instructional Services, and more. Activate your account today. Go online at

www.rccc.edu/admis/studentemail.html

5. Apply for financial aid online at www.rccc.edu/finaid

6. Schedule to attend a Red Rocks 101 Orientation Session.

Red Rocks 101 is a free one-time session to help you start college on the right track. By attending, you will get the answers to your questions before classes start, and learn how to be successful at RRCC. Register for an upcoming Red Rocks 101 session:

www.rccc.edu/advising/redrocks101.html

7. Meet with an academic advisor.

An advisor will help you select courses, identify course prerequisites, obtain program information, evaluate assessment 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, and AGS degree plans and develop a course schedule that fits your needs and academic goals. A team of academic advisors 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: 303.914.6255 or www.rccc.edu/advising

8. Register for classes.

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

Information: 303.914.6348 or www.rccc.edu/admis

Former Students

If you are returning to RRCC after an absence of more than one year, you must re-apply for admission. If you have earned credit at another college and plan to use that credit to fulfill requirements for an RRCC degree or certificate, submit an official transcript to the Student Records Office prior to the semester in which you plan to graduate.

Information: 303.914.6355

High School Students

RRCC welcomes high school students who are at least 17 years old and can benefit from our instructional programs. Students utilizing this **Concurrent Enrollment (CE)** option will receive both high school and college credit for RRCC classes that are completed with a C grade or higher. Ask your counselor about Warren Tech and other concurrent enrollment options. To enroll, follow these steps:

1. Complete paperwork available at your high school counseling office.
 - Complete a RRCC Application for Admission.
 - Complete a Concurrent Enrollment registration form.
 - Complete additional forms, if required, for the specific program you wish to enter at RRCC. Consult with your high school counselor.
 - Complete the College Opportunity Fund (COF) application
2. Complete the Accuplacer assessment at RRCC or submit qualifying ACT/SAT scores to the Assessment Center.
3. Contact the Concurrent Enrollment office at 303.914.6350 or visit www.rccc.edu/hs to schedule an appointment for academic advising and registration.

Assessment

If you are a new student, the state of Colorado mandates you take an assessment test for basic skills in reading, sentence skills and mathematics. Accuplacer, the assessment test, helps you and your advisor make appropriate choices.

Students who are working toward a degree within the Colorado Community College system or are under the age 21 must complete the Accuplacer.

If you have taken the ACT or SAT, please check our Web site to see if your scores exempt you from this requirement. Your Reading and English scores are valid for 5 years; Math scores are only valid for 2 years.

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

There is no fee for the first time you take the Accuplacer. If you wish to retest, there is a \$5.00 charge for each repeated subtest. The Accuplacer placement test is given on a walk-in basis (no

appointment necessary) and is not timed. When you plan to test, be sure you have completed an application to RRCC and arrive with a government-issued photo ID at least 2 hours before the Assessment Center closes.

You cannot "fail" the Accuplacer; your score is an indication of the level of coursework you are ready to take. We strongly recommend that you review the online study guides available prior to taking the Accuplacer. The study guides can be found on our Web site at **www.rccc.edu/assessment**. You are responsible for enrolling in basic skills courses during your first 30 credit hours of attendance if your assessment scores are below college level.

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

Exemptions to the Assessment Requirement

Students who are working toward a degree within the Colorado Community College system or are under the age 21 must complete the Accuplacer.

You may be exempt from taking the Accuplacer:

- If you have taken ACT or SAT, please check our Web site to see if your scores exempt you from this requirement. Your Reading and English scores are valid for 5 years; Math scores are only valid for 2 years. Qualifying ACT score (English - 18 or higher, reading - 17 or higher, mathematics - 19 or higher) or SAT scores (verbal - 440 or higher, math - 460 or higher). Please submit score report to the RRCC Admissions Office.
- If you have an Associate of Arts, Associate of Science, or higher degree from an accredited college or university, you must submit your transcript(s) to the RRCC Records Office.
- If you have completed college-level English composition or college algebra with a grade of C or higher, or if you have qualifying AP/IB test scores, you can submit your transcript(s) and/or official score report to RRCC to be exempt from taking the corresponding section(s) of the Accuplacer. Qualifying scores are list on the RRCC Web site:
www.rrcc.edu/assessment
- If you are taking a non-guaranteed transfer course and Accuplacer is not required as a prerequisite.

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 (CPL). The handbook and forms are available online.
- Credit is received once the appropriate documentation, approval, and payment is received.

Information: 303.914.6720 or
www.rrcc.edu/assessment/prior.html

Career Resources

Career Center Web site: www.rrcc.edu/careercenter

Visit and explore the three paths: Career Exploration, Employment Resources, and Educational Planning. Career Exploration includes career assessments and exercises exploring values, strengths, skills, interests and personality. Also explore college majors, workshops and classes. Employment resources include labor market information, job search skills, internships and jobs for Red Rocks students. Educational Planning includes

academic advising, advising orientations and resources for transferring to four-year colleges and universities.

To make an appointment for a one-on-one career advising session please call the Arvada campus at 303.914.6010 or the Lakewood campus at 303.914.6255.

Career Assessments

Individual appointments for the Myers-Briggs and Strong Interest Inventory and StrenthsQuest career assessments are \$20 each for students and alumni or \$30 each for community members.

Call or email for more information: 303.914.6016 or
dan.macy@rrcc.edu

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 or dan.macy@rrcc.edu

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 College of Denver.

Register for Army ROTC classes (ARM prefix) either online or through the RRCC Student Records office, Room 1200. For more information about the AROTC program, contact the AROTC Enrollment/Scholarship officer at 303.492.3459, or 303.492.6495, or see www.colorado.edu/arotc.

Information: 303.914.6356

Transcripts

There are several ways to order a transcript. If you took classes before summer 1987, contact the Student Records Office. You may also print a transcript request form found on the Red Rocks Web site under "Student Records." You can mail or fax the form to Student Records. Student Records Fax: 303.989.6919

If you took classes during or after summer 1987, you may order your transcript at www.rrcc.edu and click on "Student Records."

There is no charge to order a transcript. Phone requests are accepted only for transcripts sent to other colleges. Transcripts will not be released for students who have failed to fulfill their financial obligations to the college.

Information: 303.914.6352

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 'Common Course Number System'.

- Initial transcript evaluation is completed in Student Records.
- Grade point average (GPA) from transfer institutions is not calculated into your RRCC GPA.
- The college reserves the right to validate and examine all courses to determine if they are obsolete. If a course is obsolete, you may be required to take a similar course at RRCC.
- The college will accept transfer credit only from post-secondary institutions accredited by one of the six regional accrediting associations. Credits earned in a Colorado community college that are applicable to a specific AAS degree or certificate will be accepted in an equivalent program.
- All received and/or evaluated transcripts become the property of RRCC. Only grades of C or higher will be accepted for transfer. If you are pursuing a degree or certificate and wish previous college credits to be considered for transfer, submit official transcripts either sent from a previous institution or hand-carried in a sealed envelope to Student Records as soon as possible after registering for classes. Transcripts will not be evaluated until you are registered. However, they can be processed before you register in order to override a prerequisite requirement.

Information: 303.914.6355

Transferring from RRCC to Four-Year Colleges and Universities

RRCC has established transfer agreements with the following institutions:

Adams State College
Argosy University
Colorado Christian University
Colorado College
Colorado School of Mines
Colorado State University:

- Fort Collins
- Pueblo

CSU Global
Colorado Mesa University
Colorado Technical University
DeVry University
Fort Hays State University
Fort Lewis College
Franklin University
Jones International University
Kaplan University
Metropolitan State College of Denver
Naropa University
Regis University
Rocky Mtn. College of Art and Design
St. Francis University
University of Colorado:

- Boulder
- Colorado Springs
- Denver
- Anschutz Medical Campus

University of Denver

- Daniels College of Business

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

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

WarrenTech

Through a cooperative agreement with WarrenTech (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.

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 M–F from 7:30–10:30 a.m. and the afternoon classes run M–TH from 12:00–3:45 p.m.

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.

Adult students pay tuition to RRCC but attend programs on the WT campus. Students are also required to pay WT program fees at the RRCC cashier's office.

WarrenTech Admission Steps:

1. Apply for admission to RRCC at: www.rrcc.edu/admis
2. Take the Accuplacer 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 Accuplacer scores (See Exemptions to the Assessment Requirement).
3. Attach the Accuplacer 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 to WT.
5. Upon acceptance to WT, make an appointment with Janis Eagan in the RRCC Admissions office (303.914.6543) to register for courses.
6. Pay RRCC tuition and fees and the additional WT program fee at the cashier's office at RRCC. 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/finaid.

WarrenTech Information Guides are available at WT or RRCC. For more information, visit the WT counseling website at www.warrentech.org or contact the RRCC-WT Liaison at **303.982.0695** or the RRCC Admissions Office at **303.914.6543**. 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)
Cosmetology: Hairstyling
Cosmetology: Manicurist (nail technology)
Dental Assisting
Power Equipment and Motorcycle Technology
Precision Machining Technology
Welding

Western Undergraduate Exchange

The Western Undergraduate Exchange (WUE) is a program of the Western Interstate Commission for Higher Education (WICHE). Students who are residents of WICHE states may enroll at over 135 participating two- and four-year college programs outside of their home state at a reduced tuition rate. WICHE states include Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. This is a great way for students to study at RRCC, but there are some restrictions:

- WUE/WICHE students are not eligible to participate in the College Opportunity Fund (COF).
- 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.
- WUE participants must comply with HB-06S-1023 by proving lawful presence in the United States. See the Tuition and Fees page in this schedule for details on WUE/WICHE rates.
- 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 usually 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: 303.914.6543 or <http://wue.wiche.edu>

If tuition is a problem, RRCC has scholarships and other financial aid options that can help you.

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. Failure to apply for COF or comply with HB1023 could result in your tuition being changed to non-resident. 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/cof and click on "Sign up for COF" and then Apply for a Stipend. Be sure to authorize COF when you register for your classes.

House Bill-06S-1023

In July 2006, the Colorado State Legislature enacted HB-06S-1023, which became effective on August 1, 2006. This legislation requires all citizens who apply for state-funded benefits that entail any payment or financial assistance provide proof that they are lawfully present in the United States. An example of this is in-state tuition.

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 Web site.

Information: www.rrcc.edu/finaid or 303.914.6256

Priority Dates to Receive Financial Aid

Fall:	Previous April 1
Spring:	Previous September 1
Summer:	Previous February 1

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 an in-state (resident) or out-of-state (non-resident), based on information supplied on the application for admission.

To change from non-resident to resident status, obtain a petition form for in-state status from the Admissions Office or online at www.rrcc.edu/tuition/pdf/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: 303.914.6543

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 ID# and PIN (birth month and date – for example, May 11 = 0511, unless you have selected 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

RRCC Foundation

The RRCC Foundation is a 501(c)(3) not-for-profit organization founded in 1993 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 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, nearly 20 years later, we have hundreds of donors who help us each year. The Foundation has raised more than \$8.2 million, awarded more than \$3 million in scholarships to more than 2,000 students, and provided approximately \$2.5 million to the college in support of mini-grants for innovative faculty and staff, the Teaching Chair program that recognizes excellence in the classroom, instructional equipment, and other initiatives that have merit but no source of funding.

Each year, more than \$500,000 is distributed to support the students, faculty and staff at the college.

Scholarship applications are accepted year-round. The deadline for submission is early June of each year. Scholarships are competitive and are awarded only once per year on the basis of both need and merit.

The 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.

Only with the assistance of people who care can we continue to meet our goals and successfully assist our students. If you are a student needing assistance or a donor wishing to participate, call us at **303.914.6425** or visit our **Web site 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
Shelley Cook
Michael Coughlin
Dr. Carl Craig
Jim Dascalos
Dr. Michele Haney
Jacquie Haughton
Dan Leach
Thomas W. Lemcke
Tom Menk
Dr. Melinda O'Rourke
Skip Olson
Jim Petrock
Robert Rogers
Bob Short
Dr. John Trefny
Shirleen Tucker
Denise Waddell
Jim Whitfield
Ron Slinger, Executive Director

Tuition Rates

Tuition rates are set annually by the State Board for Community Colleges and Occupational Education. Tuition rates below are tentative for Fall 2012. For current tuition rates, please check the Web site: www.rrcc.edu/tuition

Resident Tuition Rates

Credits	Student Share Tuition	COF Stipend Tuition*	Total Tuition	Registration Fee	Student Fee**	Student Health Clinic Fee***	Total Cost	Student Share Tuition, Fees
1	\$105.85	\$62.00	\$167.85	\$11.65	\$9.17	\$20.00	\$208.67	\$146.67
2	\$211.70	\$124.00	\$335.70	\$11.65	\$18.34	\$20.00	\$385.69	\$261.69
3	\$317.55	\$186.00	\$503.55	\$11.65	\$27.51	\$20.00	\$562.71	\$376.71
4	\$423.40	\$248.00	\$671.40	\$11.65	\$36.68	\$20.00	\$739.73	\$491.73
5	\$529.25	\$310.00	\$839.25	\$11.65	\$45.85	\$20.00	\$916.75	\$606.75
6	\$635.10	\$372.00	\$1,007.10	\$11.65	\$55.02	\$20.00	\$1,093.77	\$721.77
7	\$740.95	\$434.00	\$1,174.95	\$11.65	\$64.19	\$20.00	\$1,270.79	\$836.79
8	\$846.80	\$496.00	\$1,342.80	\$11.65	\$73.36	\$20.00	\$1,447.81	\$951.81
9	\$952.65	\$558.00	\$1,510.65	\$11.65	\$82.53	\$20.00	\$1,624.83	\$1,066.83
10	\$1,058.50	\$620.00	\$1,678.50	\$11.65	\$91.70	\$20.00	\$1,801.85	\$1,181.85
11	\$1,164.35	\$682.00	\$1,846.35	\$11.65	\$100.87	\$20.00	\$1,978.87	\$1,296.87
12	\$1,270.20	\$744.00	\$2,014.20	\$11.65	\$109.04	\$20.00	\$2,155.89	\$1,411.89

Non-resident Tuition Rates

Credits	Tuition	Registration Fee	Student Fee**	Student Health Clinic Fee***	Total Cost
1	\$434.30	\$11.65	\$9.17	\$20.00	\$475.12
2	\$868.60	\$11.65	\$18.34	\$20.00	\$918.59
3	\$1,302.90	\$11.65	\$27.51	\$20.00	\$1,362.06
4	\$1,737.20	\$11.65	\$36.68	\$20.00	\$1,805.53
5	\$2,171.50	\$11.65	\$45.85	\$20.00	\$2,249.00
6	\$2,605.80	\$11.65	\$55.02	\$20.00	\$2,692.47
7	\$3,040.10	\$11.65	\$64.19	\$20.00	\$3,135.94
8	\$3,474.40	\$11.65	\$73.36	\$20.00	\$3,579.41
9	\$3,908.70	\$11.65	\$82.53	\$20.00	\$4,022.88
10	\$4,343.00	\$11.65	\$91.70	\$20.00	\$4,466.35
11	\$4,777.30	\$11.65	\$100.87	\$20.00	\$4,909.82
12	\$5,211.60	\$11.65	\$110.04	\$20.00	\$5,353.29

***COF Stipend** amount is subject to change without notice. **All course fees:** \$6.15 per credit hour for designated courses.

Cisco fees: \$16.90 per credit hour for designated courses. **CCOnline Digital Textbooks:** \$52.00-\$62.00 per course for designated courses.

****Student Fees of \$9.17 per credit hour include:** Student Activity Fee \$5.45, Student Center Bond \$2.50, and Parking Fee \$1.22 Total Fees \$9.17. **Note:** Total student fees not to exceed 12 credit hours.

*****Flat fee of \$20.00**, regardless of number of credits, operation of Student Health Clinic. The Student Health Clinic Fee has been approved by vote of the full student body, but has not yet been approved by the State Board for Community Colleges and Occupational Education. If approved, the fee would be in effect beginning Fall 2012.

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.

Online, Nursing, PA Program, and WUE/WICHE Tuition Rates

RRCC Online & CCCOnline Tuition

Resident Tuition: \$187.15 student share, \$62.00 COF stipend per credit hour. Total tuition \$249.15 per credit.

Non-Resident Tuition: \$285.20 per credit hour

NUR Online

Resident Tuition: \$235.55 student share, \$62.00 COF stipend per credit hour. Total tuition \$297.55 per credit.

Non-Resident Tuition: \$333.60 per credit hour

Nursing Courses (NUR)

Resident Tuition: \$154.25 student share, \$62.00 COF stipend per credit hour. Total tuition \$216.25 per credit.

Non-Resident Tuition: \$434.30 per credit hour

Physician Assistant Program (PAP)

Resident Tuition: \$398.20 student share, \$62.00 COF stipend per credit hour. Total tuition \$460.20 per credit.

Non-Resident Tuition: \$486.00 per credit hour

Western Undergraduate Exchange (WUE/WICHE)

Non-Resident WUE/WICHE Base Tuition: \$158.80 per credit hour.

Non-Resident WUE/WICHE RRCCOnline and CCCOnline Tuition: \$285.20 per credit hour.

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

International Students

Admission Information

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 Web site, www.rrcc.edu/international. 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, June 1

Spring, November 1

Summer, March 1

New admissions are not accepted after classes begin.

Assessment

Prior to registering for classes, you must take the Accuplacer basic-skills assessment and/or the Accuplacer English placement test and follow the placement requirements. The Accuplacer takes at least 90 minutes and is available on a walk-in basis. Test times are listed in the current schedule and on our Web site. Initial tests are free; retesting is available for a fee of \$5.00 per test section. All non-native English speakers are tested for English ability in addition to taking the Accuplacer basic-skills test. Depending upon your test results, you will then be placed in English as a Second Language 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.

Generally, if you

- complete your AA or AS degree, including 35 credits of state-guaranteed general education courses, and
- earn a C grade or higher in each course,

then

- at least 60 hours of your AA/AS degree will transfer completely, upon admission, to a liberal arts and sciences program in Colorado's public four-year institutions,*

and

- you are guaranteed to be able to finish your liberal arts and sciences degree in another 60 credit hours.

Certain majors require essential lower-division courses. Please meet with an advisor for information about obtaining a transfer guide that will help you select lower-division credits to finish your degree.

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.

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 four semester-length classes designed to boost your English skills for the reading, writing, and communication demands of college classes. Classes include advanced reading, composition, conversation, and iBT TOEFL preparation.

Information: 303.914.6416, 303.914.6536, 303.914.6538, or www.rrcc.edu/international

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 Courses

Hybrid courses are a combination of online and classroom instruction. They are designed for a curriculum that can be offered partially online but is difficult to learn completely online. In-class instruction is held at RRCC during the week or weekend.

Independent Study

Most areas of study at RRCC offer opportunities to engage in intensive study and/or research on a topic under the direction of a qualified faculty member. The student and the instructor determine independent study course content, credit, and contact hours jointly. Permission of the instructor is required prior to registering. Independent study can be taken an unlimited number of times, but no more than six credits will be applied to any associate degree program.

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.

CCCOOnline 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.cconline.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 out 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 College

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 few as three weekends.

Bookstore

The Red Rocks Bookstore, located at the Lakewood Campus, is your source for all of your educational materials including those for CCOnline classes. We offer digital books and rental books as well as new and used textbooks. Study aids, reference books and dictionaries are also available.

The bookstore also carries school supplies, calculators, electronic items, back packs, greeting cards, magazines, best-selling paperbacks (discounted 25%), RRCC gifts and apparel along with snack food and beverages. Barnes & Noble gift cards may be purchased and redeemed. Bookstore services include special orders for books not in stock, limited check cashing and UPS shipping.

The bookstore will buy back used textbooks at the end of the semester if your instructors have requested them for the next semester. Textbooks may be ordered online by clicking on "Bookstore" from the Red Rocks website www.rccc.edu. Books may be shipped to students homes, held for in store pickup, or delivered to the Arvada Campus. Payment is accepted by cash, check (with proper ID), Visa, MasterCard, Discover, American Express, PayPal (online orders), Student Financial Aid and Barnes & Noble Gift Card. 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.

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

Cafeteria/Food Service

The RRCC Café on the Lakewood campus serves hot and cold food selections.

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 crashes, 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.

Non-emergencies, call 303.914.6394 For emergencies, dial 911

Child Care

The Children's Center at RRCC 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 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, offers brewed coffee, espresso drinks, smoothies, plus quick meals and snacks.

Information: 303.914.6262

Employment and Internship Opportunities for Students

Employment On Campus

On-campus, part-time employment is available to eligible students through Work Study and Student Hourly Programs. For more information, visit Human Resources in Room 1025 on the Lakewood campus.

Information: 303.914.6299 or www.rccc.edu/jobwatch

Employment Off Campus

A wide range of full-time, part-time and temporary job listings are available through our online database, www.rccc.edu/jobwatch. 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. Visit Room 1260 in the Learning Commons for more information.

Information: 303.914.6361 or www.rccc.edu/jobwatch

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

- All RRCC internships are credit bearing, 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).
- Interns earn a letter grade.
- Internships can be paid or unpaid.
- Students in unpaid internships can apply for an Internship Grant.
- View currently available internships at www.rccc.edu/jobwatch

Qualifications

- All internships are reserved for currently enrolled Red Rocks Community College students. We also welcome interested RRCC alumni to apply.
- Fundamental knowledge in a RRCC field of study, usually one or two semesters of completed RRCC course work.
- A cumulative GPA of at least a 2.0 is required.
- An Instructor Recommendation form signed by the instructor who will supervise the internship.
- An internship site. Students who wish assistance in seeking an internship site are encouraged to contact the internship coordinator for an appointment.

Students interested in pursuing an internship begin the process by scheduling an appointment with Internship Services, Room 1260, Learning Commons.

Information: 303.914.6361 or www.rccc.edu/jobwatch

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. Students can also pursue volunteerism through the *AmeriCorps* program, where education award scholarships are available for designated terms of service.

Information: 303.914.6258

Fitness Education Center

The Fitness Education Center at Red Rocks offers students the opportunity to improve cardiovascular fitness, flexibility, muscle strength, and endurance. Equipment includes free weights, weight machines, computerized bicycles, treadmills, stepmills, a versa climber and a ricochet court. Use of the Center is free for students with a current semester ID. Students may enroll in PED 110-Fitness Center Activity for 1 credit.

Information: 303.914.6375

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.rccc.edu/lc

College Success for All Students

Do you want to be a successful student but don't know how? Do you want to study smarter, not harder? AAA 050 (Semester Survival) and/or the Connect to Success Office can help answer these questions, and more.

- AAA 050 (Semester Survival) gives both first-time and returning students the opportunity to learn and adopt proven methods that lead to success in college. Students will be introduced to a variety of skills critical to success, such as short- and long-term educational goal-setting and career planning, effective communication and time management, critical and creative thinking, motivation, note-taking, efficient text book reading, and other study techniques needed for academic success. AAA 050 is taught as a hybrid using both class time and Internet study.

Information: 303.914.6701

Connect to Success Services

Connect to Success is a learning support 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: www.rccc.edu/success

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
- Record your presentation
- Drop-in or sign-up times available

Visit the CommLab upstairs in the Learning Commons– Rm 2281. Free tutoring is available to ALL RRCC Students.

Information: marlene.adzema@rrcc.edu 303.914.6239 or **Dr. Sherry Messina Dewald** at sherry.dewald@rrcc.edu 303.914.6429

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. Also provides academic and cultural advising for a diverse student population, and specific immigration advising for International students.

Information: 303.914.6416, 303.914.6536, 303.914.6538, or www.rrcc.edu/international

ESL/Foreign Language Lab

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

Information: 303.914.6701 (Foreign Language) 303.914.6416 (ESL)

GED Pre-test

A free practice test for the General Education Development (GED) is offered on a walk-in basis at the Arvada campus. The GED pre-test allows students to determine whether or not they are ready for the official GED.

Information: 303.914.6030

Office of Disability Services

The Office of Disability Services (ODS) coordinates services to provide equal opportunities for individuals with documented disabilities to pursue their educational goals. The ODS staff makes determinations and provisions regarding access and reasonable accommodations and provides advocacy services for students and visitors with disabilities. The office is also a resource for college employees regarding disability issues. Services include sign language interpreters, books in alternate format, note takers, readers, tutoring for remedial classes, test accommodations, and adaptive technology. The office also arranges orientations for new and potential students with disabilities.

www.rrcc.edu/disabilityservices

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.

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/lc/tutoring.htm

Writing Center and Online Writing Center

The mission of the Writing Center is to help students become better writers. Tutors are available to work individually 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 essay exams. Tutors will help students generate ideas, organize and develop topics, revise and edit with confidence, and observe conventions of format and documentation.

Information: 303.914.6321 or www.rrcc.edu/writing

Library

The library offers extensive print, audiovisual, and electronic research resources. The library's online services access the library's book, electronic book, and audiovisual holdings; thousands of full-text articles plus several full-text encyclopedias; the holdings of other area libraries; and the research resources of the World Wide Web. All online services are accessible from on and off campus. The library's video collection provides an alternative means of learning about subjects taught in RRCC classes while the book, electronic book, and article collections support traditional research. Interlibrary Loan lets you borrow materials from virtually any library in the world, but you must plan ahead since it can take several days for the materials to arrive at RRCC.

Information: 303.914.6740 or www.rrcc.edu/library

Red Rocks Student Government

The Voice of the Students

Red Rocks 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

Student Center

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

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

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, TV room, pool table, foosball, ping pong, vending machines, fitness center, coffee bar, The Den, the Student Life Desk, and the Student Project Center.

Information: 303.914.6370 or 303.914.6900

As an RRCC student, you have specific rights that ensure you are treated equitably and that your privacy is protected.

Affirmative Action/Equal Opportunity

RRCC is committed to diversity in its people and programs. The college is an equal opportunity educational institution and does not discriminate based on race, color, religion, national origin, sex, sexual orientation, gender expression, age, veteran status, or disability. It also does not tolerate acts of ethnic intimidation, which are any unlawful acts against persons or groups because of race, color, ancestry, religion, or national origin for the purpose of inciting and provoking bodily injury or damage to property. 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 Personnel Office). The college has designated the Director of Personnel as its affirmative action officer.

For information contact:

Personnel Office
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
303.595.1549
or
Office for Civil Rights
U.S. Department of Education
Federal Building,
1244 Speer Boulevard, Ste. 310
Denver, CO 80204-3582
303.894.7822

Students with Disabilities

RRCC offers many special services to students 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 Act (ADA) of 1990 regarding non-discrimination based on disability.

Reasonable accommodation is provided upon request for persons with disabilities. If you require an accommodation to participate in any class, program, service, or other activity at RRCC, contact the Office of Disability Services (ODS).

Documentation of disability assists the ODS staff in collaborating with the student to determine reasonable accommodations

and/or services, which are provided on a case-by-case basis. If the submitted documentation is incomplete or does not support the student's request for accommodations and/or services, the student may be asked to provide additional documentation. For example, an Individualized Education Plan, 504 Plan, or Summary of Performance (SOP) from a secondary school without supporting information generally is not considered to be sufficient documentation.

In general, documentation should include the following:

The credentials of the evaluator(s) documentation must be provided by a licensed or otherwise properly credentialed professional who has undergone appropriate and comprehensive training, has relevant experience, and has no personal relationship with the individual being evaluated. The individual making the diagnosis must be qualified to do so (e.g., an orthopedic limitation might be documented by a physician, but not a licensed psychologist). More specifically, the license needs to be granted by the Department of Regulatory Agencies (DORA) rather than a certificate from the Department of Education.

Information: 303.914.6733 or 303.914.6737 TTY

Drug and Alcohol Abuse Information

The Law

Red Rocks is a state-system community college governed by the State Board for Community Colleges and Occupational Education. Board policy requires Red Rocks 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 Office of Student Life.

Standard 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.

Legal Sanctions

There are legal sanctions for violations of the Standard 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 Standard of Conduct. Violators will be subject to disciplinary action under employee and student 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 listing of controlled substances is on file in the Office of the Vice President of Student Services.

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

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 with drug addictions. Personal relationships, family dynamics, and the ability to work and study are also at risk.

Privacy Notification

The Family Educational Rights and Privacy Act of 1974 (FERPA) permits RRCC to release directory information about you to interested parties. This does not include grades but does include:

- student's name
- year of birth
- major field of study
- participation in officially recognized activities and sports
- dates of attendance
- degrees and awards received
- most recent educational institution attended
- enrollment status
- college issued student e-mail

If you do not want the college to release directory information about you without your specific consent, sign a directory restriction form in the Student Records. Your directory restriction will remain in effect until you cancel the request for non-disclosure.

Information: 303.914.6356

Notification of Rights Under FERPA for Postsecondary Institutions

The Family Educational Rights and Privacy Act (FERPA) affords you certain rights with respect to your education records.

Information: Student Records 303.914.6356

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 consent to disclosures of personally identifiable information contained in your education records, except to the extent that FERPA authorizes disclosure without consent. One exception which permits disclosure without consent is disclosure to a school official with legitimate educational interests. A school official is an employee of the college 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, the National Student Clearinghouse; 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.

Family Policy Compliance Office

U.S. Department of Education
600 Independence Avenue, SW
Washington, DC 20202-4605

Students, be sure to pick up the current edition of the Student Handbook located throughout the campus.

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.

Attendance

To benefit 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.

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)
- E** Failure to achieve or master the learning objectives of the course. A grade of **E** 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 **E** at the end of the next full semester, excluding summer.
- 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 semester, excluding summer.

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

Academic Probation

If you have completed 13 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 Red Rocks Community College. You have the right to appeal. For detailed information, see the current edition of the Student 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. Also, 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. 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.

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
ART 131	<u>B</u>	<u>3</u>	3	3	3X3 = 9
BIO 227	<u>W</u>	3	0	0	0X0 = 0
MAT 201	<u>A</u>	5	5	5	4X5 = 20
PHI 111	<u>C</u>	3	3	3	2X3 = 6
PSY 116	<u>F</u>	1	0	1	0X1 = 0
Totals		15	11	12	35

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

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 also can 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.

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.

Information: 303.914.6352

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.

Phi Theta Kappa

RRCC sponsors a chapter of Phi Theta Kappa, the International student honors organization for two-year colleges. Members plan programs and events which encourage scholarship, service, and leadership. To be eligible for membership, you must have completed at least 12 credits of study (100 level or above) at RRCC, have a minimum GPA of 3.5, and obtain a faculty letter of recommendation. Membership opportunities occur twice a year, once in the fall and once in the spring semesters.

Veterans Progress

Veterans are certified only for courses that apply to their degree programs. If you are eligible to receive VA benefits, you are required to maintain a cumulative 2.0 grade point average (GPA) for all course work attempted. If your cumulative GPA is below 2.0, you will be placed on academic probation for the following term. If your GPA is not increased to 2.0 during the probationary term, certification to the Veterans Administration will be suspended for one academic term. You may be reinstated after you have received approved counseling.

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 the Federal Government money. Copies of the veteran regulations are available for review in the Veteran Services office on campus.

Associate of Arts (AA)

AA Degrees with Designation

Business
Economics
History
Psychology
Spanish

The above degrees have state wide articulation agreements with all public four-year colleges and universities in the state. Students 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 students who begin and complete this degree program at the receiving institution.

The state transfer agreements for the above degrees can be found at the Colorado Department of Higher Education website.

AA Transfer Degrees

The Associate of Arts degree (60 credits) is for the student who intends to transfer to a four-year college or university and wants 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 requirements are found on the degree requirement checklists and individual catalog emphasis areas.

Emphases are available in the following areas:

Anthropology
Art
Communication Disorders
Communication Studies
Criminal Justice
Dance
Early Childhood Education
English and Literature
Foreign Languages
Musical Theatre
Philosophy
Political Science

Sociology
Teacher Education:
Elementary Education
Secondary Education
Theatre Arts

Associate of Science (AS)

AS Degrees with Designation

Mathematics
Psychology

The above degrees have state wide articulation agreements with all public four-year colleges and universities in the state. Students 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 students 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.

The state transfer agreements for the above degrees can be found at the Colorado Department of Higher Education website.

AS Transfer Degrees

The Associate of Science degree (60 credits) is for the student who intends to transfer to a four-year college or university and wants 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 requirements are found on the degree requirement checklists and individual catalog emphasis areas.

Emphases are available in the following areas:

Biology
Chemistry
Computer Science
Pre-Engineering
Geology
Physics

Associate of General Studies (AGS) – Specialist

Articulated Transfer

The Associate of General Studies– Specialist degree (60 to 68 credits) is for the student who wants to complete a pre-professional transfer degree in one of the fields specified below. Agreements exist between RRCC and certain four-year colleges for the following career areas:

Graphic Design/Print Production
Video Production

Associate of General Studies (AGS) – Generalist

Career-Oriented

The Associate of General Studies– Generalist degree (60 credits) is for the student who wants 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.

Associate of Applied Science (AAS)

Career-Oriented

The Associate of Applied Science degree (60-75 credits) is for the student who is 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.

Associate of Applied Science (AAS) Degrees

Degree Emphases are available in the following career areas:

The college reserves the right to substitute or delete courses in a degree or certificate program.

Accounting:

- Accounting Paraprofessional
- Accounting Technician

Air Conditioning, Heating and Refrigeration:

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

Applied Technology

Auto Collision Repair:

- (In cooperation with and taught at WarrenTech)
- Auto Collision Technology

Automotive Customization

- (In cooperation with and taught at WarrenTech)

Automotive Service Technology:

- (In cooperation with and taught at WarrenTech)
- Automotive Service Technology
- Automotive Parts Management

Business:

- Management and Supervision
- Interdisciplinary
- Real Estate

Computer Information Systems:

- Computer Network Specialist
- Computer Security Specialist
- Computer Support Technician
- Game Development
- Microsoft Certified Technology Specialist (MCTS)
- PC Applications Specialist
- Programming Specialist
- Web Development

Construction Management Technology:

- Construction Management
- Construction Technology Technician
- Building Maintenance Technician
- Trades Degree

Culinary Arts

- (In cooperation with the Rocky Mountain Chefs of Colorado and taught at WarrenTech)

Early Childhood Education

Electricity Commercial/Industrial/Residential:

- Construction Electrician
- Maintenance Electrician
- Fire Protection Technology
- Construction Electrician/IBEW/NECA
- Power Technology
- Industrial Control & Instrumentation Technology

Emergency Management and Planning

Emergency Medical Services:

- Paramedicine

Engineering Graphics Technology:

- Architectural
- Mechanical
- Civil

Environmental Technology (Pending Approval)

Fine Woodworking

Fire Science Technology:

- Fire Science Technology
- Fire Service Management
- Fire and Emergency Services

Holistic Health

Law Enforcement

Mechanical Trades

Medical Office Technology:

- Medical Assisting
- Medical Office

Multimedia Graphic Design:

- Graphic Design and Print Production
- Video Production
- Web Design and Development
- Professional Photography: Traditional Film
- Professional Photography: Digital Photography
- Professional Photography: Traditional Film and Digital Photography
- Digital Media Journalism

Power Equipment and Sports Vehicle Technology

- (In cooperation with and taught at WarrenTech)

Precision Machining Technology

- (In cooperation with and taught at WarrenTech)

Process Technology

Radiologic Technology

Renewable Energy Technology:

- Renewable Energy Technology
- Solar Thermal Specialty
- Solar Photovoltaic Specialty
- Solar Photovoltaic Business Owner Specialty
- Solar Thermal Business Owner Specialty

Sonography:

- Diagnostic Medical Sonography
- Vascular Technology
- Diagnostic Cardiac Sonography

Theatre Arts:

- Theatre Technology

Water Quality Management

Welding

- (In cooperation with and taught at WarrenTech)

Wind Energy Technology

Certificates

Certificates can require as few as five credits and also may count toward a two- or four-year degree.

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

Accounting:

Accounting Fundamentals
Bookkeeping Clerk
Accounting Clerk

Air Conditioning, Heating and Refrigeration:

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

Auto Collision Technology:

(In cooperation with and taught at WarrenTech)
Automotive Collision Industry Introduction
NATEF Non-Structural Analysis and Damage Repair
NATEF Painting and Refinishing
NATEF Structural Analysis and Damage Repair
Estimating and Management

Automotive Customization

(In cooperation with and taught at WarrenTech)
Metal Fabrication
Chassis Fabrication
Custom Body Work
Custom Refinishing
Custom Refinishing II

Automotive Service Technology:

(In cooperation with and taught at WarrenTech)
Manual Drive Train and Axles
Brake Specialist
Automatic Transmission/Transaxles
Suspension and Steering
Engine Performance
Heating and Air Conditioning
Electrical and Electronic Systems
Engine Repair
Auto Parts Specialist

Business:

Business Foundations
Management and Supervision
Real Estate
Registered Appraiser
Small Business Start Up

Carpentry

Residential Remodeling
Advanced Remodeling
Home Energy Efficiency

Computer Information Systems:

Computer Network Specialist
Computer Security Specialist
Computer Support Technician
Game Development
Microsoft Certified Technology Specialist (MCTS)
PC Applications Specialist
Programming Specialist
Web Development

Construction Technology:

Construction Management 1
Construction Management 2
Construction Management 3
Construction Technology Fundamentals
Construction Technology Technician
Building Maintenance Technician
Building Codes

Cosmetology:

(In cooperation with and taught at WarrenTech)
Cosmetologist
Hairstylist
Manicurist
Esthetician (skin)

Culinary Arts

(In cooperation with the Rocky Mountain Chefs of Colorado and taught at WarrenTech)

Early Childhood Education:

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

Electricity Commercial/Industrial/Residential:

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 Fire Code
Post-Degree Specialization for Advanced Construction Electrician
Post-Degree Specialization for Advanced Maintenance Electrician

Emergency Management and Planning

Emergency Medical Services:

Emergency Medical Technician
Advanced Emergency Medical Technician
Paramedic

Engineering Graphics Technology:

Architectural
Civil
Mechanical
Intro to AutoCAD
Revit
Drafting (pending approval)

SolidWorks
Sustainable Design Applications

Fine Woodworking:

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 Craftsman
Luthier Fundamentals

Fire Science Technology:

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

Holistic Health:

Holistic Health Practitioner
Reflexology

Law Enforcement:

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

Mechanical Trades:

Basic Mechanical Skills
Advanced Mechanical Skills
Heating Specialties

Medical Office Technology:

Medical Assisting
Medical Office
Medical Billing/Coding

Multimedia Graphics Design:

Graphic Design and Print Production
Video Production
Web Design
Advanced Web Design
Professional Photography: Traditional Film
Professional Photography: Digital Photography
Professional Photography: Traditional Film and Digital
Photography
Digital Media Journalism

Nursing:

Nurse Aide
RN Refresher Program

Outdoor Recreation Leadership:

Winter Skills Specialist
Water-based Skills Specialist
Mountaineering Skills Specialist
Outdoor Recreation Generalist

Park Ranger Technology:

Introduction to Park Ranger Technology
Law Enforcement
Outdoor Recreation
Resource Interpretation

Phlebotomy

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 WarrenTech)
Lathe Operator
Mill Operator
CNC Lathe Operator
CNC Mill Operator

Process Technology:

Introduction to Process Plant Safety

Radiologic Technology:

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

Renewable Energy Technology:

Grid Tie 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
Energy Efficiency Weatherization

Sonography:

Diagnostic Medical Sonography
Vascular Technology
Diagnostic Cardiac Sonography

Teacher Education:

Paraeducator
Adult Education and Family Literacy

Theatre Arts:

Costume Basics
Costume and Fashion
Stagehand Basics
Stagecraft

Water Quality Management:

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
Source Control and Water Audit

Welding:

(In cooperation with and taught at WarrenTech)
OFW and OFC Certificate
SMAW Certificate
GMAW Certificate
FCAW Certificate
GTAW Certificate

Wind Energy Technology:

Introduction to Wind Energy Technology
Wind Energy Safety
Wind Energy Basic Electro-Mechanical
Wind Energy Advanced Electrical
Wind Energy Advanced Mechanical

Rocky Mountain Education Center (RMEC)

Work Force Training Solutions

As the continuing education department of Red Rocks Community College, and the OSHA Region VIII Training Institute, RMEC is dedicated to providing customized education services at our location or that of our clients. Our instructor pool includes leadership professionals with a wide range of technical backgrounds with expertise in change management required in today's highly complex industries. Thanks to our employer partners our newest laboratory and classrooms include replicas of industrial operations equipment and instrumentation digital control software. RMEC partners with major providers of technical certifications to include pre-employment testing services using WorkKeys®, and hands-on test prep courses and test proctoring to ensure building contractors are current in energy efficiency and alternative energy installation and operations.

Phone: 303.914.6420

Email: rmec@rrcc.edu

Searchable Course Catalog and Online Registration: **www.rmecosha.com**

AA Degree Requirements

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 (3)
ENG 122 English Composition II (3)
COM 115 Public Speaking (3)

or

COM 125 Interpersonal Communication (3)
or

COM 220 Intercultural Communication (3)

• Communication is a CCCS (Colorado Community College System) requirement and is in addition to the Statewide Guaranteed (GT) transfer courses

Mathematics - 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 and Humanities - 2 courses (6 credits)

Select 2 courses from 2 different categories.

• 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 to Present (3)
DAN 125 History of Dance I (3)
MUS 120 Music Appreciation (3)
MUS 121 Music History Medieval thru 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 211 Development of Theatre I (3)
THE 212 Development of Theatre II (3)

• Literature and Humanities

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 268 Celtic Literature (3)

• Ways of Thinking

PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religion (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)

• Foreign Languages

(Must be intermediate/200-level)
FL 211 Second Year Foreign Language (3) FRE, GER, ITA, JPN, RUS, SPA
FL 212 Second Year Foreign Language (3) FRE, GER, ITA, JPN, RUS, SPA

Social and Behavioral Science - 2 courses (6 credits)

Select 2 courses from 2 different categories.

• Economic & Political Systems

ECO 101 Economics of Social Issues (3)
ECO 201 Macro Economics (3)
ECO 202 Micro Economics (3)
ECO 245 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 225 Comparative Government (3)

• Geography

GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks

ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archaeology (3)
ANT 111 Physical Anthropology (3)
ANT 215 Indians of North America (3)
COM 220 Intercultural Communication (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 & Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (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 & Dying (3)

History - 1 course (3 credits)

Select 1 History course.

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 201 U.S. History I (3)
HIS 202 U.S. History II (3)
HIS 215 Women in U.S. History (3)
HIS 225 Colorado History (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)

Student Choice - 1 course (3 credits)

Select any guaranteed transfer course (listed above) from the Arts and Humanities, Social and Behavioral Science, or History categories.

Natural & Physical Sciences - 2 courses (7-10 credits)

Select two courses listed below - including at least one lab course.

AST 101 Astronomy I (4)
AST 102 Astronomy II (4)
BIO 105 Science of Biology (4)
BIO 111 General College Biology I w/Lab (5)
BIO 112 General College Biology II w/Lab (5)
BIO 116 Introduction to Human Disease (3)
BIO 201 Anatomy & Physiology I (4)
BIO 202 Anatomy & Physiology II (4)
BIO 204 Microbiology (4)
BIO 220 General Zoology (5)
BIO 221 Botany (5)
CHE 101 Introduction to Chemistry I (5)
CHE 111 General College Chemistry I (5)
CHE 112 General College Chemistry II (5)
ENV 101 Environmental Science (4)
GEO 111 Physical Geography: Land (4)
GEO 112 Physical Geography: Weather and Climate (4)
GEY 111 Physical Geology (4)
GEY 121 Historical Geology (4)
GEY 135 Environmental Geology (4)
MET 150 General Meteorology (4)
PHY 105 Conceptual Physics (4)
PHY 107 Energy Science and Technology (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.)

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 the student can transfer, upon admission, to any Colorado public 4-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 students to tailor their 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.

Approved AA Electives

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
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, 251, 268
Computer Science	CSC 119, 160, 161, 165, 240, 261
Criminal Justice	CRJ-All courses above 109
Dance	DAN-All courses
<i>(Some Dance courses may transfer as physical education courses.)</i>	
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
Foreign Language	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-All courses 120 and above
Meteorology	MET 150
Music	MUS-All courses
Philosophy	PHI-All courses
Physical Education	PED-All courses
<i>(Maximum 3 credits from PED apply toward degree)</i>	
Physical Ed. and Recreation	PER 128, 252, and 253
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 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

Many four-year college transfer guides are available via the CDHE Web site at:

<http://higherred.colorado.gov/Academics/Transfers/Guides/default.html>

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 college-level transfer courses and may include no more than 3 credits in physical education (PED) – see approved electives above. 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 (file in Admissions). You must apply to graduate within one year of completing 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 Red Rocks 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.
9. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AA-Business Degree Requirements

General Education and Major Course Requirements (60 credits).

Business Major Requirements - 7 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)

Communication - 2 courses - (6 credits)

- ENG 121 English Composition I (3)
- ENG 122 English Composition II (3)

Mathematics - 2 courses - (8 credits)

- MAT 121 College Algebra (4)
or
MAT 123 Finite Mathematics (4) - See Advisor
and
MAT 125 Survey of Calculus (4)
or a higher level Calculus course

Arts and Humanities - 2 courses - (6 credits)

• 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 thru 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 211 Development of Theatre I (3)
- THE 212 Development of Theatre II (3)

• Literature & Humanities

- 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 268 Celtic Literature (3)

• Ways of Thinking

- PHI 111 Introduction to Philosophy (3)
- PHI 112 Ethics (3)
- PHI 113 Logic (3)
- PHI 114 Comparative Religions (3)
- PHI 214 Philosophy of Religion (3)
- PHI 218 Philosophy of the Environment (3)

• Foreign Languages

- (Must be intermediate/200-level)
- FL 211 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA
- FL 212 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA

History - 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 201 U.S. History I (3)
- HIS 202 U.S. History II (3)
- HIS 215 Women In U.S. History (3)
- HIS 225 Colorado History (3)
- HIS 244 History of Latin America (3)
- HIS 247 Contemporary World History (3)

Social and Behavioral Science - 2 courses - (6 credits)

- ECO 201 Macro Economics (3)
- ECO 202 Micro Economics (3)

Natural & Physical Sciences - 2 courses - (8 credits)

Courses can be either GT-SC1 or GT-SC2

AST 101 Astronomy I (4)
AST 102 Astronomy II (4)
BIO 105 Science of Biology (4)
BIO 111 General College Biology I w/Lab (5)
BIO 112 General College Biology II w/Lab (5)
BIO 116 Introduction to Human Disease (3)
BIO 201 Anatomy & Physiology I (4)
BIO 202 Anatomy & Physiology II (4)
BIO 204 Microbiology (4)
BIO 220 General Zoology (5)
BIO 221 Botany (5)
CHE 101 Introduction to Chemistry I (5)
CHE 111 General College Chemistry I (5)
CHE 112 General College Chemistry II (5)
ENV 101 Environmental Science (4)
GEO 111 Physical Geography: Land (4)
GEO 112 Physical Geography: Weather and Climate (4)
GEY 111 Physical Geology (4)
GEY 121 Historical Geology (4)
GEY 135 Environmental Geology (4)
MET 150 General Meteorology (4)
PHY 105 Conceptual Physics (4)
PHY 107 Energy Science and Technology (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.)

Additional AA-Business 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 the student can transfer, upon admission, to any Colorado public 4-year college or university with the appropriate 60 transferable credits. Grades "C" or higher are required for all general education coursework. "D" grades for Business-Major Requirements will count for degree completion, but will not transfer. In addition, a minimum 2.0 grade point average is required for degree completion.

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.

The Statewide Articulation Agreement for Business can be found at the Colorado Department of Higher Education website.

Other AA-Business Degree Requirements

1. A minimum of 60 credits is required for the Associate of Arts in Business Degree. This must include 37 credits in general education transfer courses, and 23 credits in additional required courses.
2. 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.
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. You must apply to graduate within one year of completing requirements.
5. No more than 6 credits of independent study course work may be applied toward this degree.
6. To earn multiple Red Rocks 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.

AA-Economics Degree Requirements

General Education and Major Course Requirements (40-42 credits). Approved Electives (18-20 credits) Total Credits (60 required).

Economics Major Requirements - 1 course (3 credits)

MAT 135 Introduction to Statistics (3)

Communication - 2 courses - (6 credits)

ENG 121 English Composition I (3)

ENG 122 English Composition II (3)

Mathematics - 1 course - (5 credits)

MAT 201 Calculus I (5)

Arts and Humanities - 3 courses - (9 credits)

Select 3 courses, with no more than 2 courses from any 1 category.

• 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 thru 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 211 Development of Theatre I (3)

THE 212 Development of Theatre II (3)

• Literature & Humanities

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 268 Celtic Literature (3)

• Ways of Thinking

PHI 111 Introduction to Philosophy (3)
 PHI 112 Ethics (3)
 PHI 113 Logic (3)
 PHI 114 Comparative Religions (3)
 PHI 214 Philosophy of Religion (3)
 PHI 218 Philosophy of the Environment (3)

• Foreign Languages

(Must be intermediate/200-level)
 FL 211 Second Year Foreign Language (3)
 FRE, GER, ITA, JPN, RUS, SPA
 FL 212 Second Year Foreign Language (3)
 FRE, GER, ITA, JPN, RUS, SPA

History - 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 201 U.S. History I (3)
 HIS 202 U.S. History II (3)
 HIS 215 Women In U.S. History (3)
 HIS 225 Colorado History (3)
 HIS 244 History of Latin America (3)
 HIS 247 Contemporary World History (3)

Social and Behavioral Science - 2 courses - (6 credits)

ECO 201 Macro Economics (3)
 ECO 202 Micro Economics (3)

Natural & Physical Sciences - 2 courses - (8-10 credits)

AST 101 Astronomy I (4)
 AST 102 Astronomy II (4)
 BIO 105 Science of Biology (4)
 BIO 111 General College Biology I w/Lab (5)
 BIO 112 General College Biology II w/Lab (5)
 BIO 116 Introduction to Human Disease (3)
 BIO 201 Anatomy & Physiology I (4)
 BIO 202 Anatomy & Physiology II (4)
 BIO 204 Microbiology (4)
 BIO 220 General Zoology (5)
 BIO 221 Botany (5)
 CHE 101 Introduction to Chemistry I (5)
 CHE 111 General College Chemistry I (5)
 CHE 112 General College Chemistry II (5)
 ENV 101 Environmental Science (4)
 GEO 111 Physical Geography: Land (4)
 GEO 112 Physical Geography: Weather and Climate (4)
 GEY 111 Physical Geology (4)
 GEY 121 Historical Geology (4)
 GEY 135 Environmental Geology (4)
 MET 150 General Meteorology (4)
 PHY 105 Conceptual Physics (4)
 PHY 107 Energy Science and Technology (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.)

Additional AA-Economics 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 the student can transfer, upon admission, to any Colorado public 4-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 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.

The Statewide Articulation Agreement for Economics can be found at the Colorado Department of Higher Education website.

Approved AA-Economics Electives

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
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, 251, 268
Computer Science	CSC 119, 160, 161, 165, 240, 261
Criminal Justice	CRJ-All courses above 109
Dance	DAN-All courses
<i>(Some Dance courses may transfer as physical education courses.)</i>	
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
Foreign Language	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-All courses 120 and above
Meteorology	MET 150
Music	MUS-All courses
Philosophy	PHI-All courses
Physical Education	PED-All courses
<i>(Maximum 3 credits from PED apply toward degree)</i>	
Physical Ed. and Recreation	PER 128, 252, and 253
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 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

Other AA-Economics Degree Requirements

1. A minimum of 60 credits is required for the Associate of Arts in Economics Degree. This must include 37-39 credits in general education transfer courses, 3 credits in additional required courses, and 18-22 credits in the areas specified above in approved electives.
2. You must complete 18-20 semester elective credits. These must be college-level transfer courses and may include no more than 3 credits in physical education (PED) – see approved electives above. 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. You must apply to graduate within one year of completing 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 Red Rocks 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.
9. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AA-History Degree Requirements

General Education and Major Course Requirements (49-54 credits). Approved Electives (6-11 credits) Total Credits (60 required).

History Major Requirements - 5 courses (15 credits)

HIS 101 Western Civilization: Antiquity-1650 (3)*
or
HIS 111 The World: Antiquity-1500 (3)*
HIS 102 Western Civilization: 1650-Present (3)*
or
HIS 112 The World: 1500-present (3)*
HIS 201 U.S. History to Reconstruction (3)
HIS 202 History Since Civil War (3)
COM 115 Public Speaking (3)
or
COM 125 Interpersonal Communication (3)

Additional History Requirements - 1 courses (3 credits)

**Students planning to transfer to CU Boulder must take HIS 101 and HIS 102*

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 201 U.S. History I (3)
HIS 202 U.S. History II (3)
HIS 215 Women in U.S. History (3)
HIS 225 Colorado History (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)

Communication - 2 courses - (6 credits)

ENG 121 English Composition I (3)
ENG 122 English Composition II (3)

Mathematics - 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 and Humanities - 3 courses - (9 credits)

• 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 thru 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 211 Development of Theatre I (3)
THE 212 Development of Theatre II (3)

• Literature & Humanities

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 268 Celtic Literature (3)

• Ways of Thinking

PHI 111 Introduction to Philosophy (3)
 PHI 112 Ethics (3)
 PHI 113 Logic (3)
 PHI 114 Comparative Religions (3)
 PHI 214 Philosophy of Religion (3)
 PHI 218 Philosophy of the Environment (3)

• Foreign Languages

(Must be intermediate/200-level)
 FL 211 Second Year Foreign Language (3) FRE, GER, ITA, JPN, RUS, SPA
 FL 212 Second Year Foreign Language (3) FRE, GER, ITA, JPN, RUS, SPA

Social and Behavioral Science - 2 courses - (6 credits)**• Economic & Political Systems**

ECO 101 Economics of Social Issues (3)
 ECO 201 Macro Economics (3)
 ECO 202 Micro Economics (3)
 ECO 245 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 225 Comparative Government (3)

• Geography

GEO 105 World Regional Geography (3)
 GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks

ANT 101 Cultural Anthropology (3)
 ANT 107 Introduction to Archaeology (3)
 ANT 111 Physical Anthropology (3)
 ANT 215 Indians of North America (3)
 COM 220 Intercultural Communication (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 & Development (3)
 PSY 238 Child Development (3)
 PSY 240 Health Psychology (3)
 PSY 249 Abnormal Psychology (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)

Natural & Physical Sciences - 2 courses - (7-10 credits)

AST 101 Astronomy I (4)
 AST 102 Astronomy II (4)
 BIO 105 Science of Biology (4)
 BIO 111 General College Biology I w/Lab (5)
 BIO 112 General College Biology II w/Lab (5)
 BIO 116 Introduction to Human Disease (3)
 BIO 201 Anatomy & Physiology I (4)
 BIO 202 Anatomy & Physiology II (4)
 BIO 204 Microbiology (4)
 BIO 220 General Zoology (5)
 BIO 221 Botany (5)
 CHE 101 Introduction to Chemistry I (5)
 CHE 111 General College Chemistry I (5)
 CHE 112 General College Chemistry II (5)
 ENV 101 Environmental Science (4)
 GEO 111 Physical Geography: Land (4)
 GEO 112 Physical Geography: Weather and Climate (4)
 GEY 111 Physical Geology (4)
 GEY 121 Historical Geology (4)
 GEY 135 Environmental Geology (4)
 MET 150 General Meteorology (4)
 PHY 105 Conceptual Physics (4)
 PHY 107 Energy Science and Technology (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.)

Additional AA-History 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 the student can transfer, upon admission, to any Colorado public 4-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 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.

The Statewide Articulation Agreement for History can be found at the Colorado Department of Higher Education website.

Approved AA-History Electives*

*Students planning on transferring to Colorado State University-Fort Collins are advised to complete at least two semesters of one college level foreign language.

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
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, 251, 268
Computer Science	CSC 119, 160, 161, 165, 240, 261
Criminal Justice	CRJ-All courses above 109
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
Foreign Language	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-All courses 120 and above
Meteorology	MET 150
Music	MUS-All courses
Philosophy	PHI-All courses
Physical Education	PED-All courses (Maximum 3 credits from PED can apply toward degree)
Physical Ed. and Recreation	PER 128, 252, and 253
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 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

Other AA-History Degree Requirements

1. A minimum of 60 credits is required for the Associate of Arts Degree in History. This must include 34-39 credits in general education transfer courses, 15 credits in additional required courses, and 6-11 credits in the areas specified above in approved electives.
2. You must complete 6-11 semester elective credits. These must be college-level transfer courses and may include no more than 3 credits in physical education (PED) – see approved electives above. 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. You must apply to graduate within one year of completing 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 Red Rocks 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.
9. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AA-Psychology Degree Requirements

General Education and Major Course Requirements (54-56 credits). Approved Electives (4-6 credits) Total Credits (60 required).

Psychology Major Requirements - 3 courses (9 credits)

PSY 101 General Psychology I (3)
PSY 102 General Psychology II (3)
COM 115 Public Speaking (3)
or
COM 125 Interpersonal Communication (3)

Additional Psychology Requirements - 3 courses (9 credits)

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 & Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (3)

Communication - 2 courses - (6 credits)

ENG 121 English Composition I (3)
ENG 122 English Composition II (3)

Mathematics - 1 course - (4 credits)

MAT 121 College Algebra (4)

Arts and Humanities - 3 courses - (9 credits)

No more than 2 courses from any one category

• 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 thru 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 211 Development of Theatre I (3)
THE 212 Development of Theatre II (3)

• Literature & Humanities

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 268 Celtic Literature (3)

• Ways of Thinking

PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religions (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)

• Foreign Languages

(Must be intermediate/200-level)
FL 211 Second Year Foreign Language (3) FRE, GER, ITA, JPN, RUS, SPA
FL 212 Second Year Foreign Language (3) FRE, GER, ITA, JPN, RUS, SPA

History - 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 201 U.S. History I (3)
HIS 202 U.S. History II (3)
HIS 215 Women In U.S. History (3)
HIS 225 Colorado History (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)

Social and Behavioral Science - 2 courses - (6 credits)

• Economic & Political Systems

ECO 101 Economics of Social Issues (3)
ECO 201 Macro Economics (3)
ECO 202 Micro Economics (3)
ECO 245 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 225 Comparative Government (3)

• Geography

GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks

ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archaeology (3)
ANT 111 Physical Anthropology (3)
ANT 215 Indians of North America (3)
COM 220 Intercultural Communication (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 & Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (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)

Natural & Physical Sciences - 2 courses - (8-10 credits)

One Biology course required

AST 101 Astronomy I (4)
AST 102 Astronomy II (4)
BIO 105 Science of Biology (4)
BIO 111 General College Biology I w/Lab (5)
BIO 112 General College Biology II w/Lab (5)
BIO 201 Anatomy & Physiology I (4)
BIO 202 Anatomy & Physiology II (4)
BIO 204 Microbiology (4)
BIO 220 General Zoology (5)
BIO 221 Botany (5)
CHE 101 Introduction to Chemistry I (5)
CHE 111 General College Chemistry I (5)
CHE 112 General College Chemistry II (5)
ENV 101 Environmental Science (4)
GEO 111 Physical Geography: Land (4)
GEO 112 Physical Geography: Weather and Climate (4)
GEY 111 Physical Geology (4)
GEY 121 Historical Geology (4)
GEY 135 Environmental Geology (4)
MET 150 General Meteorology (4)
PHY 105 Conceptual Physics (4)
PHY 107 Energy Science and Technology (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.)

Additional AA-Psychology 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 the student can transfer, upon admission, to any Colorado public 4-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 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.

The Statewide Articulation Agreement for Psychology can be found at the Colorado Department of Higher Education website.

Approved AA-Psychology Electives

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
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, 251, 268
Computer Science	CSC 119, 160, 161, 165, 240, 261
Criminal Justice	CRJ-All courses above 109
Dance	DAN-All courses
<i>(Some Dance courses may transfer as physical education courses.)</i>	
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
Foreign Language	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-All courses 120 and above
Meteorology	MET 150
Music	MUS-All courses
Philosophy	PHI-All courses
Physical Education	PED-All courses
<i>(Maximum 3 credits from PED apply toward degree)</i>	
Physical Ed. and Recreation	PER 128, 252, and 253
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 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

Other AA-Psychology Degree Requirements

1. A minimum of 60 credits is required for the Associate of Arts Degree in Psychology. This must include 36-38 credits in general education transfer courses, 18 credits in additional required courses, and 4-6 credits in the areas specified above in approved electives.
2. You must complete 6-11 semester elective credits. These must be college-level transfer courses and may include no more than 3 credits in physical education (PED) – see approved electives above. 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. You must apply to graduate within one year of completing 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 Red Rocks 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.
9. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AA-Spanish Degree Requirements

General Education and Major Course Requirements (47-52 credits). Approved Electives (8-13 credits) Total Credits (60 required).

Spanish Major Requirements - 3 courses (13 credits)

SPA 111 Spanish Language I (5)
 SPA 112 Spanish Language II (5)
 COM 115 Public Speaking (3)
 or

COM 125 Interpersonal Communication (3)

Communication - 2 courses - (6 credits)

ENG 121 English Composition I (3)
 ENG 122 English Composition II (3)

Mathematics - 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 and Humanities - 3 courses - (9 credits)

Both Spanish classes below are required.

• Foreign Languages

SPA 211 Spanish Language III (3)
 SPA 212 Spanish Language IV (3)

Choose 1 course from any category below**• 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 thru 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 211 Development of Theatre I (3)
 THE 212 Development of Theatre II (3)

• Literature & Humanities

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 268 Celtic Literature (3)

• Ways of Thinking

PHI 111 Introduction to Philosophy (3)
 PHI 112 Ethics (3)
 PHI 113 Logic (3)
 PHI 114 Comparative Religions (3)
 PHI 214 Philosophy of Religion (3)
 PHI 218 Philosophy of the Environment (3)

History - 1 course - (3 credits)

HIS 244 History of Latin America (3)

Social and Behavioral Science - 2 courses - (6 credits)**• Economic & Political Systems**

ECO 101 Economics of Social Issues (3)
 ECO 201 Macro Economics (3)
 ECO 202 Micro Economics (3)
 ECO 245 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 225 Comparative Government (3)

• Geography

GEO 105 World Regional Geography (3)
 GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks

ANT 101 Cultural Anthropology (3)
 ANT 107 Introduction to Archaeology (3)
 ANT 111 Physical Anthropology (3)
 ANT 215 Indians of North America (3)
 COM 220 Intercultural Communication (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 & Development (3)
 PSY 238 Child Development (3)
 PSY 240 Health Psychology (3)
 PSY 249 Abnormal Psychology (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)

Natural & Physical Sciences - 2 courses - (7-10 credits)

One course must have a laboratory

AST 101 Astronomy I (4)
 AST 102 Astronomy II (4)
 BIO 105 Science of Biology (4)
 BIO 111 General College Biology I w/Lab (5)
 BIO 112 General College Biology II w/Lab (5)
 BIO 116 Introduction to Human Disease (3)
 BIO 201 Anatomy & Physiology I (4)
 BIO 202 Anatomy & Physiology II (4)
 BIO 204 Microbiology (4)
 BIO 220 General Zoology (5)
 BIO 221 Botany (5)
 CHE 101 Introduction to Chemistry I (5)
 CHE 111 General College Chemistry I (5)
 CHE 112 General College Chemistry II (5)
 ENV 101 Environmental Science (4)
 GEO 111 Physical Geography: Land (4)
 GEO 112 Physical Geography: Weather and Climate (4)
 GEY 111 Physical Geology (4)
 GEY 121 Historical Geology (4)
 GEY 135 Environmental Geology (4)
 MET 150 General Meteorology (4)
 PHY 105 Conceptual Physics (4)
 PHY 107 Energy Science and Technology (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.)

Additional AA-Spanish 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 the student can transfer, upon admission, to any Colorado public 4-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 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.

The Statewide Articulation Agreement for Spanish can be found at the Colorado Department of Higher Education website.

Approved AA-Spanish Electives

Suggested elective course: Any 200-level Spanish course; courses outside the Spanish department with content related to the Spanish-speaking world.

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
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, 251, 268
Computer Science	CSC 119, 160, 161, 165, 225, 240, 261
Criminal Justice	CRJ-All courses above 109
Dance	DAN-All courses
<i>(Some Dance courses may transfer as physical education courses.)</i>	
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
Foreign Language	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-All courses 120 and above

Meteorology	MET 150
Music	MUS-All courses
Philosophy	PHI-All courses
Physical Education	PED-All courses
<i>(Maximum 3 credits from PED courses can apply toward degree)</i>	
Physical Ed. and Recreation	PER 128, 252, and 253
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 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

Other AA-Spanish Degree Requirements

1. A minimum of 60 credits is required for the Associate of Arts Degree in Spanish. This must include 34-39 credits in general education transfer courses, 13 credits in additional required courses, and 8-13 credits in the areas specified above in approved electives.
2. You must complete 8-13 semester elective credits. These must be college-level transfer courses and may include no more than 3 credits in physical education (PED) – see approved electives above. 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. You must apply to graduate within one year of completing 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 Red Rocks 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.
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

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 (3)

ENG 122 English Composition II (3)
and either

COM 115 Public Speaking (3)

or

COM 125 Interpersonal Communication (3)

or

COM 220 Intercultural Communication (3)

• Communication is a CCCS (Colorado Community College System) requirement and is in addition to the Statewide Guaranteed (GT) transfer courses

Mathematics - 1 course - (3-5 credits)

MAT 121 College Algebra (4)

MAT 122 College Trigonometry (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 and Humanities - 2 courses - (6 credits)

Select 3 courses, with no more than 2 courses from any 1 category.

• 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 thru 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 211 Development of Theatre I (3)

THE 212 Development of Theatre II (3)

• Literature & Humanities

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 268 Celtic Literature (3)

• Ways of Thinking

PHI 111 Introduction to Philosophy (3)

PHI 112 Ethics (3)

PHI 113 Logic (3)

PHI 114 Comparative Religions (3)

PHI 214 Philosophy of Religion (3)

PHI 218 Philosophy of the Environment (3)

• Foreign Languages

(Must be intermediate/200-level)

FL 211 Second Year Foreign Language (3)

FRE, GER, ITA, JPN, RUS, SPA

FL 212 Second Year Foreign Language (3)

FRE, GER, ITA, JPN, RUS, SPA

History - 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 201 U.S. History I (3)

HIS 202 U.S. History II (3)

HIS 215 Women In U.S. History (3)

HIS 225 Colorado History (3)

HIS 244 History of Latin America (3)

HIS 247 Contemporary World History (3)

Social and Behavioral Science - 2 courses - (6 credits)

Must cover two different categories

• Economic & Political Systems

ECO 101 Economics of Social Issues (3)

ECO 201 Macro Economics (3)

ECO 202 Micro Economics (3)

ECO 245 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 225 Comparative Government (3)

• Geography

GEO 105 World Regional Geography (3)

GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks

ANT 101 Cultural Anthropology (3)

ANT 107 Introduction to Archaeology (3)

ANT 111 Physical Anthropology (3)

ANT 215 Indians of North America (3)

COM 220 Intercultural Communication (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 & Development (3)

PSY 238 Child Development (3)

PSY 240 Health Psychology (3)

PSY 249 Abnormal Psychology (3)

SOC 101 Introduction to Sociology I (3)

SOC 102 Introduction to Sociology II (3)

SOC 207 Environmental Sociology (3)

SOC 205 Sociology of Family Dynamics (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 & Dying (3)

• 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 201 U.S. History I (3)

HIS 202 U.S. History II (3)

HIS 215 Women In History (3)

HIS 225 Colorado History (3)

HIS 244 History of Latin America (3)

HIS 247 Contemporary World History (3)

Natural & Physical Sciences - 3 courses - (12-15 credits)

Must take 2 lab courses in sequence and an additional lab science course.

AST 101 Astronomy I (4)
AST 102 Astronomy II (4)
BIO 111 General College Biology I (5)
BIO 112 General College Biology II (5)
BIO 201 Anatomy & Physiology I (4)
BIO 202 Anatomy & Physiology II (4)
BIO 204 Microbiology (4)
BIO 220 General Zoology (5)
BIO 221 Botany (5)
CHE 111 General College Chemistry I (5)
CHE 112 General College Chemistry II (5)
ENV 101 Environmental Science (4)
GEY 111 Physical Geology (4)
GEY 121 Historical Geology (4)
GEY 135 Environmental Geology (4)
MET 150 General Meteorology (4)
PHY 111 Physics: Algebra Based I (5)
PHY 112 Physics: Algebra Based II (5)
PHY 211 Physics: Calculus Based I (5)
PHY 212 Physics: Calculus Based II (5)

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 the student can transfer, upon admission, to any Colorado public 4-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 students to tailor their 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.

Approved AS Electives

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, student 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 above. These include AST, BIO, CHE, CSC, ENV, GEO 111 & 112, GEY, MET, PHY and MAT.** 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.

Anthropology	ANT-All courses
Astronomy	AST-All courses
Biology	BIO-All courses except 105 and 106
Chemistry	CHE-All courses
Computer Information Systems	CIS 118, 240, 251, 268
Communication	COM-All courses
Communication Disorders	CMD-All courses
Computer Science	CSC 119, 160, 161, 165, 225, 240, 261
Economics	ECO-All courses
English	ENG-All courses above ENG 122
Environmental Science	ENV 101
Foreign Language	All courses except 101 and 102
Geography	GEO-All courses
Geology	GEY-All courses
Health and Wellness	HWE 100
Mathematics	MAT-All courses above 121 Except 123, 125, 135, 155, and 156
Meteorology	MET 150
Physics	PHY-All courses except 105 and 107
Psychology	PSY 235

Many four-year college transfer guides are available via the CCHE Web site at:

<http://higher.ed.colorado.gov/Academics/Transfers/Guides/default.html>

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, 125, or 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 (file in Admissions). You must apply to graduate within one year of completing 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 Red Rocks 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.
8. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AS-Mathematics Degree Requirements

General Education and Major Course Requirements (56 credits). Approved Electives (4 credits) Total Credits (60 required).

Mathematics Major Requirements - 4 courses (17 credits)

MAT 202 Calculus II (5)
MAT 204 Calculus III with Engineering Applications (5)
CSC 160 Computer Science I*
COM 115 Public Speaking (3)
or
COM 125 Interpersonal Communication (3)

Communication - 2 courses - (6 credits)

ENG 121 English Composition I (3)
ENG 122 English Composition II (3)

Mathematics - 1 course - (5 credits)

MAT 201 Calculus I (5)

Arts and Humanities - 3 courses - (9 credits)

Select 3 courses, with no more than 2 courses from any 1 category.

• 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 thru 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 211 Development of Theatre I (3)
THE 212 Development of Theatre II (3)

• Literature & Humanities

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 268 Celtic Literature (3)

• Ways of Thinking

PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religions (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)

• Foreign Languages

(Must be intermediate/200-level)
FL 211 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA
FL 212 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA

Social and Behavioral Science - 3 courses - (9 credits)

Select 3 courses, 1 of which must be history, with no more than 2 courses from any 1 category.

• 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 201 U.S. History I (3)
HIS 202 U.S. History II (3)
HIS 215 Women In U.S. History (3)
HIS 225 Colorado History (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)

• Economic & Political Systems

ECO 101 Economics of Social Issues (3)
ECO 201 Macro Economics (3)
ECO 202 Micro Economics (3)
ECO 245 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 225 Comparative Government (3)

• Geography

GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)

• Human Behavior, Cultural & Social Frameworks

ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archaeology (3)
ANT 111 Physical Anthropology (3)
ANT 215 Indians of North America (3)
COM 220 Intercultural Communication (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 & Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (3)
SOC 101 Introduction to Sociology I (3)
SOC 102 Introduction to Sociology II (3)
SOC 207 Environmental Sociology (3)
SOC 205 Sociology of Family Dynamics (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)

Natural & Physical Sciences - 2 courses - (10 credits)

PHY 211 Physics: Calculus Based I (5)
PHY 212 Physics: Calculus Based II (5)

Additional AS-Mathematics 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 the student can transfer, upon admission, to specific Colorado public 4-year colleges or universities with the appropriate 60 transferable credits. Grades "C" or higher are required for all general education coursework. "D" grades for electives and additional required courses will count for degree completion, but will not transfer. In addition, a minimum 2.0 grade point average is required for degree completion.

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.

The Statewide Articulation Agreement for Mathematics can be found at the Colorado Department of Higher Education website.

Approved AS-Mathematics Electives

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.

Anthropology	ANT-All courses
Astronomy	AST-All courses
Biology	BIO-All courses except 105 and 106
Chemistry	CHE-All courses
Computer Information Systems	CIS 118, 240, 251, 268
Communication	COM-All courses
Communication Disorders	CMD-All courses
Computer Science	CSC 119, 160, 161, 165, 240, 261
Economics	ECO-All courses
English	ENG-All courses above ENG 122
Environmental Science	ENV 101
Foreign Language	All courses except 101 and 102
Geography	GEO-All courses
Geology	GEY-All courses
Health and Wellness	HWE 100
Mathematics	MAT-All courses above 121 Except 123, 125, 135, 155, and 156
Meteorology	MET 150
Physics	PHY-All courses except 105 and 107
Psychology	PSY 235

Other AS-Mathematics Degree Requirements

1. A minimum of 60 credits is required for the Associate of Science in Mathematics Degree. This must include 39 credits in general education transfer courses, 17 credits in additional required courses, and 4 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 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 (file in Admissions). You must apply to graduate within one year of completing requirements.
5. No more than 6 credits of independent study course work may be applied toward this degree.
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 Red Rocks 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.
8. With the approval of a faculty advisor and the instructional vice president, up to 3 credits of internship may apply toward this degree.

AS-Psychology Degree Requirements

General Education and Major Course Requirements (47 credits). Approved Electives (13 credits) Total Credits (60 required).

Psychology Major Requirements - 3 courses - (9 credits)

PSY 101 General Psychology I (3)

PSY 102 General Psychology II (3)

COM 115 Public Speaking (3)

or

COM 125 Interpersonal Communication (3)

Communication - 2 courses - (6 credits)

ENG 121 English Composition I (3)

ENG 122 English Composition II (3)

Mathematics - 1 course - (4 credits)

MAT 121 College Algebra (4)

Arts and Humanities - 3 courses - (9 credits)

Required Course

PHI 111 Introduction to Philosophy (3)

or

PHI 112 Ethics (3)

Remaining 2 courses must come from 2 different categories below.

• 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 thru 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 211 Development of Theatre I (3)
THE 212 Development of Theatre II (3)

• **Literature & Humanities**

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 268 Celtic Literature (3)

• **Ways of Thinking**

PHI 111 Introduction to Philosophy (3)
PHI 112 Ethics (3)
PHI 113 Logic (3)
PHI 114 Comparative Religions (3)
PHI 214 Philosophy of Religion (3)
PHI 218 Philosophy of the Environment (3)

• **Foreign Languages**

(Must be intermediate/200-level)
FL 211 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA
FL 212 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA

History - 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 201 U.S. History I (3)
HIS 202 U.S. History II (3)
HIS 215 Women In U.S. History (3)
HIS 225 Colorado History (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (3)

Social and Behavioral Science - 6 courses - (6 credits)

• **Economic & Political Systems**

ECO 101 Economics of Social Issues (3)
ECO 201 Macro Economics (3)
ECO 202 Micro Economics (3)
ECO 245 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 225 Comparative Government (3)

• **Geography**

GEO 105 World Regional Geography (3)
GEO 106 Human Geography (3)

• **Human Behavior, Cultural & Social Frameworks**

ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archeology (3)
ANT 111 Physical Anthropology (3)
ANT 215 Indians of North America (3)
COM 220 Intercultural Communication(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 & Development (3)
PSY 238 Child Development (3)
PSY 240 Health Psychology (3)
PSY 249 Abnormal Psychology (3)
SOC 101 Introduction to Sociology I (3)
SOC 102 Introduction to Sociology II (3)
SOC 207 Environmental Sociology (3)
SOC 205 Sociology of Family Dynamics (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)

Natural & Physical Sciences - 2 courses - (10 credits)

BIO 111 General College Biology I (5)
CHE 111 General College Chemistry I (5)

Additional AS-Psychology 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 the student can transfer, upon admission, to specific Colorado public 4-year colleges or universities with the appropriate 60 transferable credits. Grades "C" or higher are required for all general education coursework. "D" grades for electives and additional required courses will count for degree completion, but will not transfer. In addition, a minimum 2.0 grade point average is required for degree completion.

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.

The Statewide Articulation Agreement for Psychology can be found at the Colorado Department of Higher Education website.

Approved AS-Psychology Electives

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.

Astronomy	AST-All courses
Biology	BIO - All courses except 105 and 106
Chemistry	CHE-All courses
Computer Science	CSC 119, 160, 161, 165, 240, 261
Environmental Science	ENV 101
Geography	111 and 112
Geology	GEY-All courses
Health and Wellness	HWE 100
Mathematics	MAT-All courses above 121 Except 123, 125, 135, 155, and 156
Meteorology	MET 150
Physics	PHY-All courses except 105 and 107

Students planning to transfer to the University of Colorado at Denver should complete both BIO 112 and CHE 112 as electives.

Other AS-Psychology Degree Requirements

1. A minimum of 60 credits is required for the Associate of Science in Mathematics Degree. This must include 36 credits in general education transfer courses, 9 credits in additional required courses, and 15 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 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 (file in Admissions). You must apply to graduate within one year of completing requirements.
5. No more than 6 credits of independent study course work may be applied toward this degree.
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 Red Rocks 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.
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 – Specialist Degree Requirements

Completion of the degree with a "C" or higher in every course, guarantees that the student can transfer, upon admission, to the specific Colorado 4-year college or university with the appropriate 60 transferable credits. Grades "C" or higher are required for all general education coursework. "D" grades for required courses will count for degree completion, but will not transfer. In addition, a minimum 2.0 grade point average is required for degree completion.

Meet with a faculty advisor from your area of study to review a degree worksheet. This degree is a pre-professional degree intended to transfer to specific four-year colleges or universities in Colorado with whom RRCC has signed an articulation agreement. Each individual course may be considered for transfer to other colleges and universities.

General education and program specific requirements depend on the transfer agreement in place of the specific degree. You must complete the degree requirements as listed for the specific AGS you are earning. Consult a faculty advisor for course information.

1. A minimum of 60 credits is required for the Associate of General Studies Specialist Degree.
2. You must complete a minimum of 15 credits through Red Rocks Community College.
3. 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 requirements.
4. No more than 6 credits of independent study course work may be applied toward this degree.
5. 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.
6. The college reserves the right to substitute or delete courses.
7. To earn multiple Red Rocks 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.
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 – Specialist Programs

The following programs have a transfer agreement with Metropolitan State College of Denver:

Graphic Design/Print Production
Video Production

Other AGS – Specialist degree requirements

1. A minimum of 60 credits is required for the Associate of General Studies degree. Meet with a faculty advisor.
2. You must earn a cumulative grade point average of 2.0 (C average) in order to graduate. The grade in all transfer courses must be a C or higher.
3. You must complete a minimum of 15 credits in your program area at RRCC.
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 semester. You must apply to graduate within one year of completing requirements.
5. No more than six credits of independent study course work may be applied toward an associate degree program.
6. There is no limit on special-topics courses allowed to count toward a degree. In individual cases, the limit will be determined by the program area. If you are taking special-topics courses, consult with your advisor regarding how these credits will apply toward a degree.
7. The college reserves the right to substitute or delete courses.
8. If you are applying for an additional degree at RRCC, you must complete an additional 15 credits at RRCC and the requirements for the degree.
9. With the approval of a faculty advisor, up to three credits of internship may count toward a degree.

AGS – Generalist Degree Requirements

General Education Requirements (16 credits). College level electives (14 credits). Select any generally transferable academic courses from the list on the next page. General electives (30 credits). Select any courses numbered 100 or above. 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)

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 and 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 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA
FL 212 Second Year Foreign Language (3)
FRE, GER, ITA, JPN, RUS, SPA
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 268 Celtic Literature (3)
MUS 120 Music Appreciation (3)
MUS 121 Music History Medieval thru 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 214 Philosophy of Religion (3)

PHI 218 Philosophy of the Environment (3)
THE 105 Theatre Appreciation (3)
THE 211 Development of Theatre I (3)
THE 212 Development of Theatre II (3)

Social and Behavioral Science (3 credits)

ANT 101 Cultural Anthropology (3)
ANT 107 Introduction to Archaeology (3)
ANT 111 Physical Anthropology (3)
ANT 215 Indians of North America (3)
COM 220 Intercultural Communication (3)
ECO 101 Economics of Social Issues (3)
ECO 201 Macro Economics (3)
ECO 202 Micro Economics (3)
ECO 245 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 201 U.S. History I (3)
HIS 202 U.S. History II (3)
HIS 215 Women In History (3)
HIS 225 Colorado History (3)
HIS 244 History of Latin America (3)
HIS 247 Contemporary World History (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 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 & Development (3)
PSY 238 Child Development (3)
PSY 249 Abnormal Psychology (3)
SOC 101 Introduction to Sociology I (3)
SOC 102 Introduction to Sociology II (3)
SOC 205 Sociology of Family Dynamics (3)
SOC 215 Contemporary Problems (3)
SOC 216 Sociology of Gender (3)
SOC 220 Sociology of Religion (3)
SOC 231 Sociology of Deviant Behavior (3)

Natural & Physical Sciences (4 credits minimum)

AST 101 Astronomy I (4)
AST 102 Astronomy II (4)
BIO 105 Science of Biology (4)
BIO 111 General College Biology I (5)
BIO 112 General College Biology II (5)
BIO 201 Anatomy & Physiology I (4)
BIO 202 Anatomy & Physiology II (4)
BIO 204 Microbiology (4)
BIO 220 General Zoology with Lab (5)
CHE 101 Introduction to Chemistry I (5)
CHE 111 General College Chemistry I (5)
CHE 112 General College Chemistry II (5)
ENV 101 Environmental Science (4)
GEO 111 Physical Geography (4)
GEO 112 Physical Geography - Weather and Climate (4)
GEY 111 Physical Geology (4)
GEY 121 Historical Geology (4)
GEY 135 Environmental Geology (4)
MET 150 General Meteorology (4)
PHY 105 Conceptual Physics (4)
PHY 107 Energy Science and Technology (4)
PHY 111 Physics: Algebra Based I (5)
PHY 112 Physics: Algebra Based II (5)
PHY 211 Physics: Calculus Based I (5)

PHY 212 Physics: Calculus Based II (5)
 SCI 155 Integrated Science I (4)
 SCI 156 Integrated Science II (4)

Additional AGS – Generalist Catalog Requirements

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

Completion of the degree with a "C" or higher in every course, guarantees that the student can transfer, upon admission, to any Colorado public 4-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 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
Anthropology	ANT-All courses
Art	ART-All courses
American Sign Language	ASL 121, 122
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, 251, 268
Computer Science	CSC 119, 160, 161, 165, 240, 261
Criminal Justice	CRJ-All courses above 109
Dance	DAN-All courses
<i>(Some Dance courses may transfer as Physical Education courses)</i>	
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
Foreign Language	All courses except 101, 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-All courses 120 and above
Meteorology	MET 150
Music	MUS-All courses
Philosophy	PHI-All courses
Physical Education	PED-All courses
<i>(Maximum 3 credits from PED apply toward degree)</i>	
Physical Education and Recreation	PER 128, 252, and 253
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 155, 156
Sociology	SOC-All courses
Theatre	THE-All courses

Many four-year college transfer guides are available via the CCHE Web site 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 16 semester elective credits. These must be college-level transfer courses and may include no more than 3 credits in physical education (PED) – see approved electives above. 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 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 Red Rocks 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.

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

AAS Degree Requirements

General education courses (15 credits). Total credits (45-60 required).

The Associate of Applied Science degree is for the student who is preparing for entry-level employment in a career-oriented program of study or who is 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 a faculty 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 and Humanities (3 credits)

ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE

Natural & Physical Sciences (3 credits)

AST, BIO, CHE, ENV, GEY, PHY, SCI

Social and Behavioral Science: (3 credits)

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)

ART, 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 through Red Rocks Community College.
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 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 Red Rocks 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.

The college reserves the right to substitute or delete courses in a degree or certificate program.

Accounting

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 135 Spreadsheet Applications for Accounting	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
BTE 108 Ten-Key by Touch or faculty advisor-approved elective	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 145 Complete PC Database: Access	3
Faculty advisor-approved business electives (Recommended: ACC, BUS, MAN, MAR, REE, SBM)	4
Required General Education Courses:	
COM 105 Career Communication or COM 125 Interpersonal Communication	3
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 and Behavioral Science, Arts and Humanities, Natural & Physical Sciences	6
Total Credits	60

Accounting Technician AAS Degree

This program prepares you to perform bookkeeping and accounting tasks.

Required Courses	Credits
ACC 101 Fundamentals of Accounting or faculty advisor-approved elective	3
ACC 121 Accounting Principles I	4
ACC 122 Accounting Principles II	4
ACC 135 Spreadsheet Applications for Accounting	3
ACC 138 Payroll and Sales Tax	3
ACC 245 Computerized Accounting with a Professional Package	3
BTE 108 Ten-Key by Touch or faculty advisor approved elective	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 135 Complete PC Word Processing	3
CIS 145 Complete PC Database: Access	3
Faculty advisor-approved business electives (Recommended: ACC, BUS, MAN, MAR, REE, SBM)	6
General Education Courses Required:	
COM 105 Career Communication or COM 125 Interpersonal Communication	3
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 and Behavioral Science, Arts and Humanities, Natural & Physical Sciences	6
Total Credits	60

Accounting Certificates

Accounting Fundamentals Certificate

This certificate provides students with the basic accounting concepts of business. The certificate can be used as a standalone, 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 101 Fundamentals of Accounting or ACC 121 Accounting Principles I	3 or 4
ACC 138 Payroll and Sales Tax	3
BTE 100 Computer Keyboarding or faculty advisor-approved elective	1
BTE 108 Ten-Key by Touch or faculty advisor-approved elective	1
BUS 115 Introduction to Business	3
CIS 118 Introduction to PC Applications	3
Total Credits	14-15

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 101	Fundamentals of Accounting or faculty advisor-approved elective	3
ACC 121	Accounting Principles I	4
ACC 122	Accounting Principles II	4
ACC 135	Spreadsheet Applications for Accounting	3
ACC 138	Payroll and Sales Tax	3
ACC 245	Computerized Accounting with a Professional Package	3
BTE 100	Computer Keyboarding or faculty advisor-approved elective	1
BTE 108	Ten-Key by Touch or faculty advisor-approved elective	1
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		31

Air Conditioning, Heating and Refrigeration

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 Sarah Goepel at 303.914.6273. Current students should contact Larry Snyder at 303.914.6306 or larry.snyder@rrcc.edu.

Bachelor of Science transfer program: All Construction Technology 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. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a Bachelor of Science in Technical Management in as few as two semesters. Additionally, graduates of the HVAC/R Program may transfer to Ferris State University to pursue a baccalaureate degree. Contact your Construction Technology advisor for details.

Related course work may be found under:

Construction Technology, Electricity, Industrial Maintenance Technology, Process Technology, 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

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
Construction Technology Core Requirements		4
Choose a minimum of 4 credits from the following course prefixes: ENT, ENY, AEC, or OSH.		
General Education Courses		
(See AAS Degree Requirements on page 52)		15
Total Credits		61.5

Air Conditioning AAS Degree

Required Courses		Credits
Air Conditioning Certificate		34.5
HVA 263	Chillers	4
Construction Technology Core Requirements		8
Choose a minimum of 8 credits from the following course prefixes: ENT, ENY, AEC, or OSH.		
General Education Courses		
(See AAS Degree Requirements on page 52)		15
Total Credits		61.5

Refrigeration AAS Degree

Required Courses	Credits
Refrigeration Certificate	30.5
HVA 231 Pneumatic Controls	4
HVA Electives	4
Construction Technology Core Requirements	8
Choose a minimum of 8 credits from the following course prefixes: ENT, ENY, AEC, or OSH.	
General Education Courses	15
(See AAS Degree Requirements on page 52)	
Total Credits	61.5

Heating AAS Degree

Required Courses	Credits
HWE 113 First Aid and Adult CPR	0.5
OSH 127 10-HR Construction Industry Standards	1
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
Construction Technology Core Requirements	4
Choose a minimum of 4 credits from the following course prefixes: ENT, ENY, AEC, or OSH.	
General Education Courses	15
(See AAS Degree Requirements on page 52)	
Total Credits	60.5

Hydronic Heating AAS Degree

Required Courses	Credits
Hydronic Heating Certificate	37.5
Construction Technology Core Requirements	10
Choose a minimum of 10 credits from the following course prefixes: ENT, ENY, AEC, or OSH.	
General Education Courses	15
(See AAS Degree Requirements on page 52)	
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
HWE 113 First Aid and Adult CPR	0.5
OSH 127 10-HR Construction Industry Standards	1
HVA 102 Basic Refrigeration	4
HVA 105 Electricity for HVAC/R	4
HVA 113 Refrigerant Recovery Training	1
Total Credits	10.5

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	4
or HVA 261 A/C Systems Service and Repair	
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
HWE 113 First Aid and Adult CPR	0.5
OSH 127 10-HR Construction Industry Standards	1
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
Total Credits	14.5

HVAC Controls Technician Certificate

Required Courses	Credits
HWE 113 First Aid and Adult CPR	0.5
OSH 127 10 HR Construction Industry Standards	1
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
Total Credits	21.5

Forced-Air Heating Certificate

Required Courses	Credits
HWE 113 First Aid and Adult CPR	0.5
OSH 127 10-HR Construction Industry Standards	1
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
Total Credits	33.5

Hydronic Heating Certificate

Required Courses	Credits
HWE 113 First Aid and Adult CPR	0.5
OSH 127 10-HR Construction Industry Standards	1
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
Total Credits		37.5

HVAC Energy Efficiency Certificate

Required Courses		Credits
HWE 113	First Aid and Adult CPR	0.5
OSH 127	10-HR Construction Industry Standards	1
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
Total Credits		21.5

Energy and HVAC (Advanced) Certificate

Required Courses		Credits
HWE 113	First Aid and Adult CPR	0.5
OSH 127	10-HR Construction Industry Standards	1
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 Photovoltaic 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
Total Credits		37.5

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
Arts & Humanities	
Any course	3
Communication	3
COM 115 or ENG 121 or ENG 131 or higher	3
Mathematics	
MAT 107 or higher	3
Natural & Physical Sciences	
Any course	3
Social and Behavioral Science	
Institution Specific GEN ED requirements	3
Total Credits	18

Anthropology

Degree: Associate of Arts

The completion of the following courses are 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

Required Courses	Credits	
ANT 101	Cultural Anthropology*	3
ANT 107	Introduction to Archeology*	3
ANT 111	Physical Anthropology	3
*Fulfills General Education requirement.		
Additional Required Courses:	6	
Choose any 3 credit ANT course not listed above.		
Choose an additional elective course from either ANT, SS2 or SS3 general education courses		
General Education Courses		
(See AA Degree Requirements on page 32)	32	
Approved AA Electives	13	
Total Credits	60	

Art

Degree: Associate of Arts

If you plan to transfer to a four-year college or university to complete a major in art, 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 art-related careers.

Art AA Degree

Required Courses		Credits
ART 111	Art History Ancient to Medieval*	3
ART 112	Art History Renaissance to Modern*	3
ART 121	Drawing I	3
ART 221	Drawing II	3
ART 131	2D Design	3
ART 132	3D Design	3
ART 151	Painting I	3
*Fulfills General Education requirements		
General Education Courses		
(See AA Degree Requirements on page 32)		32
Approved AA electives		7
Total Credits		60

Auto Collision Repair

(In cooperation with and taught at WarrenTech)

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 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.

Degree: Associate of Applied Science

Auto Collision Technology

Certificates:

Automotive Collision Industry Introduction

NATEF Non-Structural Analysis and Damage Repair

NATEF Painting and Refinishing

NATEF Structural Analysis and Damage Repair

Estimating and Management

Auto Collision Repair Degrees

Auto Collision Technology AAS Degree

Required Courses		Credits
A minimum of 45 credits from the following courses:		
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 170	Auto Collision Technology Lab Experiences I	1-9
ACT 171	Auto Collision Technology Lab Experiences II	1-9
ACT 172	Auto Collision Technology Lab Experiences III 1-9	1-9
ACT 175	Special Topics	0.5-9
ACT 180	Auto Collision Repair Internship Level I	1-9
ACT 181	Auto Collision Repair Internship Level II	1-9
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		
(See AAS Degree Requirements on page 52)		15
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

Auto Collision Repair Certificates (NATEF)

For the following certificates, you must successfully complete the following CORE courses (prerequisites) or obtain faculty consent:

ACT 101	Introduction to Automotive Collision Tech	4
ACT 110	Safety in Collision Repair	2

Non-Structural Analysis and Damage Repair Certificate

Required Courses	Credits
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
Choose from the following to complete credit requirements:	
ACT 170 Auto Collision Technology Lab Experiences I	1-9
ACT 171 Auto Collision Technology Lab Experiences II	1-9
ACT 172 Auto Collision Technology Lab Experiences III	1-9
ACT 175 Special Topics	0.5-9
ACT 180 Auto Collision Repair Internship Level I	1-9
ACT 181 Auto Collision Repair Internship Level II	1-9
Total Credits	30

Painting and Refinishing Certificate

Required Courses	Credits
ACT 141 Refinishing Safety	1
ACT 142 Surface Preparation I	2
ACT 143 Spray Equipment Operation	2
ACT 144 Refinishing I	2
ACT 241 Paint Defects	3
ACT 242 Surface Preparation II	2
ACT 243 Refinishing II	2
ACT 244 Final Detail	2
Choose from the following to complete credit requirements:	
ACT 170 Auto Collision Technology Lab Experiences I	1-9
ACT 171 Auto Collision Technology Lab Experiences II	1-9
ACT 172 Auto Collision Technology Lab Experiences III	1-9
ACT 175 Special Topics	0.5-9
ACT 180 Auto Collision Repair Internship Level I	1-9
ACT 181 Auto Collision Repair Internship Level II	1-9
Total Credits	27

Structural Analysis and Damage Repair Certificate

Required Courses	Credits
ACT 111 Metal Welding and Cutting I	3
ACT 131 Structural Damage Diagnosis	3
ACT 132 Structural Damage Repair	3
ACT 211 Metal Welding and Cutting II	2
ACT 220 Structural Repair II	4
ACT 231 Advanced Structural Damage Diagnosis and Repair	3
ACT 232 Fixed Glass Repair	2
Choose from the following to complete credit requirements:	
ACT 170 Auto Collision Technology Lab Experiences I	1-9
ACT 171 Auto Collision Technology Lab Experiences II	1-9
ACT 172 Auto Collision Technology Lab Experiences III	1-9
ACT 175 Special Topics	0.5-9
ACT 180 Auto Collision Repair Internship Level I	1-9
ACT 181 Auto Collision Repair Level II Internship	1-9
Total Credits	24

Estimating and Management Certificate

Required Courses	Credits
ACT 205 Estimating and Shop Management	3
ACT 226 Production	4
ACT 244 Final Detail	2
Choose from the following to complete credit requirements:	
ACT 170 Auto Collision Technology Lab Experiences I	1-9
ACT 171 Auto Collision Technology Lab Experiences II	1-9
ACT 172 Auto Collision Technology Lab Experiences III	1-9
ACT 175 Special Topics	0.5-9
ACT 180 Auto Collision Repair Internship Level I	1-9
ACT 181 Auto Collision Repair Internship Level II	1-9
Total Credits	20

Automotive Customization

(In cooperation with and taught at WarrenTech)

This two year program is designed to give students basic and advanced skill training needed for successful entry into the automotive customizing and refinishing industry through theory and lab experiences.

Degree: Associate of Applied Science

Automotive Customization

Certificates:

- Metal Fabrication
- Chassis Fabrication
- Custom Body Work
- Custom Refinishing
- Custom Refinishing II

Automotive Customization Degrees

Automotive Customization AAS Degree

Required Courses	Credits
ACT 101 Intro to Auto Collision Tech	4
ACT 110 Safety in Collision Repair	2
ACT 111 Metal Welding and Cutting	3
ACT 165 Automotive Body Customizing I	3
AUT 109 High Performance Suspension & Chassis Design	2
AUT 110 High Performance Suspension & Chassis Setup	4
AUT 116 High Performance Brake Systems	2
ACT 211 Metal Welding And Cutting II	2
ACT 166 Automotive Body Customizing II	3
ACT 122 Panel Repair And Replacement	3
ACT 123 Metal Finishing and Body Filling	3
ACT 142 Surface Prep I	2
ACT 167 Auto Customizing II	3
ACT 141 Refinishing Safety	1
ACT 242 Surface Prep II	2
ACT 143 Spray Equipment Operation	2

ACT 144	Refinishing I	2
ACT 243	Refinishing II	2
ACT 160	Custom Paint	3
General Education Courses		
(See AAS Degree Requirements on page 52)		15
Total Credits		63

Automotive Customization Certificates

Metal Fabrication Certificate

Required Courses		Credits
ACT 101	Into to Auto Collision Tech	4
ACT 110	Safety in Collision Repair	2
ACT 111	Metal Welding and Cutting	3
ACT 165	Automotive Body Customizing I	3
Total Credits		11

Chassis Fabrication Certificate

Required Courses		Credits
AUT 109	High Performance Suspension & Chassis Design	2
AUT 110	High Performance Suspension & Chassis Setup	4
AUT 116	High Performance Brake Systems	2
ACT 211	Metal Welding And Cutting II	2
ACT 166	Automotive Body Customizing II	3
Total Credits		13

Custom Body Work Certificate

Required Courses		Credits
ACT 122	Panel Repair and Replacement	3
ACT 123	Metal Finishing and Body Filling	3
ACT 142	Surface Prep I	2
ACT 167	Auto Customizing II	3
Total Credits		11

Custom Refinishing Certificate

Required Courses		Credits
ACT 141	Refinishing Safety	1
ACT 242	Surface Prep II	2
ACT 143	Spray Equipment Operation	2
ACT 144	Refinishing I	2
ACT 243	Refinishing II	2
ACT 160	Custom Paint	3
Total Credits		12

Custom Refinishing II Certificate

Required Courses		Credits
ACT 161	Auto Graphics & Designs	3
ACT 163	Auto Special Effects & Refinishing	3
Total Credits		6

Automotive Service Technology

(In cooperation with and taught at WarrenTech)

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 WarrenTech automotive classroom/lab. 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:

Manual Drive Train and Axles

Brake Specialist

Automatic Transmission/Transaxles

Suspension and Steering

Engine Performance

Heating and Air Conditioning

Electrical and Electronic Systems

Engine Repair

Auto Parts Specialist

Automotive Service Technology Degrees

Automotive Service Technology AAS Degree

A minimum of 60 credits must be taken from the following courses.

Required Courses		Credits
ASE 101	Auto Shop Orientation	2
ASE 102	Introduction to the Auto Shop	2
ASE 110	Brakes I	3
ASE 210	Brakes II	3
ASE 140	Suspension and Steering I	3
ASE 240	Suspension and Steering II	3
ASE 265	Heating and A/C	5
ASE 150	U joint and Axle Shaft Service	2
ASE 151	Manual Transmission/Transaxles	2
ASE 152	Differentials and 4WD/AWD	2
ASE 250	Auto Trans/Transaxle Service	1
ASE 251	Auto Trans/Transaxle Diagnosis	5
ASE 130	General Engine Diagnosis	2
ASE 132	Ignition System Diagnosis/Repair	2
ASE 134	Automotive Emissions	2
ASE 233	Fuel Injection/Exhaust	4
ASE 235	Drivability Diagnosis	1
ASE 120	Basic Automotive Electricity	2
ASE 123	Automotive Battery, Starting, Charging	2
ASE 221	Auto Body Electrical	4
ASE 231	Automotive Computers	2
ASE 160	Engine Removal and Install	1
ASE 161	Engine Repair and Rebuild	5
ASE 170	Auto Parts Lab	2

ASE 201	Automotive Parts Management I	1
ASE 203	Automotive Parts Management II	2
ASE 282	Internship: General I	0.5-6
DPM 106	Diesel Fuel System	3
General Education Courses		
(See AAS Degree Requirements on page 52)		15
Total Credits		83.5

Automotive Parts Management AAS Degree

A minimum of 60 credits must be taken from the following courses.

Required Courses	Credits	
ASE 101	Auto Shop Orientation	2
ASE 102	Introduction to the Auto Shop	2
ASE 110	Brakes I	3
ASE 120	Basic Automotive Electricity	2
ASE 123	Automotive Battery, Starting, Charging	2
ASE 132	Ignition System Diagnosis/Repair	2
ASE 134	Automotive Emissions	2
ASE 140	Suspension and Steering I	3
ASE 151	Manual Transmission/Transaxles	2
ASE 152	Differentials and 4WD/AWD	2
ASE 161	Engine Repair and Rebuild	5
ASE 221	Auto Body Electrical	4
ASE 231	Automotive Computers	2
ASE 233	Fuel Injection/Exhaust	4
ASE 251	Auto Trans/Transaxle Diagnosis	5
ASE 170	Auto Parts Lab	2
ASE 201	Automotive Parts Management I	1
ASE 203	Automotive Parts Management II	2
Total Automotive Credits		47

General Education Courses

(See AAS Degree Requirements on page 52)

ENG 101	Composition I	3
ENG 102	Composition II	3
COM 115	Public Speaking	3
HUM	Statewide General Ed Core (2 courses)	6
HIS	History	3
ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Macroeconomics	3
MAT 156	Introduction to Statistics	3
SCI	Natural/Physical Science w/Labs.	8
	Statewide General Ed Core (2 Courses)	
Total General Ed Credits		25
Total Credits		72

Automotive Service Technology NATEF Specialty Area Certificates

Manual Drive Train and Axles Certificate

Required Courses	Credits	
ASE 150	U-joint and Axle Shaft Service	2
ASE 151	Manual Transmission/Transaxles	2
ASE 152	Differentials and 4WD/AWD	2
Total Credits		6

Brake Specialist Certificate

Required Courses	Credits	
ASE 110	Brakes I	3
ASE 210	Brakes II	3
Total Credits		6

Automatic Transmission/Transaxles Certificate

Required Courses	Credits	
ASE 250	Auto Trans/Transaxle Service	1
ASE 251	Auto Trans/Transaxle Diagnosis	5
Total Credits		6

Suspension and Steering Certificate

Required Courses	Credits	
ASE 140	Suspension and Steering I	3
ASE 240	Suspension and Steering II	3
Total Credits		6

Engine Performance Certificate

Required Courses	Credits	
ASE 130	General Engine Diagnosis	2
ASE 132	Ignition System Diagnosis/Repair	2
ASE 134	Automotive Emissions	2
ASE 233	Fuel Injection/Exhaust	4
ASE 235	Drivability Diagnosis	1
Total Credits		11

Heating and Air Conditioning Certificate

Required Courses	Credits	
ASE 265	Heating and A/C	5
Total Credits		5

Electrical and Electronic Systems Certificate

Required Courses	Credits	
ASE 120	Basic Automotive Electricity	2
ASE 123	Automotive Battery, Starting, Charging	2
ASE 221	Auto Body Electrical	4
ASE 231	Automotive Computers	2
Total Credits		10

Engine Repair Certificate

Required Courses	Credits	
ASE 160	Engine Removal and Install	1
ASE 161	Engine Repair and Rebuild	5
Total Credits		6

Auto Parts Specialist Certificate

Required Courses	Credits	
ASE 170	Auto Parts Lab	2
ASE 201	Automotive Parts Management	1
ASE 203	Automotive Parts Management II	2
ASE 282	Internship: General I	0.5-6
Total Credits		Minimum of 7

Biology

Degree: Associate of Science

The completion of the following courses is appropriate if you are planning to transfer to a four-year college or university to complete a major in biology. You should consult with a biology faculty advisor before beginning any program of study. These courses provide the basic preparation leading to biology-related careers. Some courses might not be offered each semester.

Biology AS Degree

Required Courses	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 43)	
Approved electives	7
Total Credits	60

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, 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

Management and Supervision

Real Estate

Registered Appraiser

Small Business Startup

Business Degrees

Business AA Degree

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 following courses. 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 Major Required Courses	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 Communications and Report Writing	3
BUS 226 Business Statistics	3
COM 115 Public Speaking	3
General Education Courses	
Communication (3 courses)	
ENG 121 English Composition I	3
ENG 122 English Composition II	3
Mathematics (2 courses)	3
MAT 121 College Algebra	4
or MAT 123 Finite Mathematics	4
and MAT 125 Survey of Calculus (or higher-level calculus course)	4
Arts and Humanities (2 courses)	
Social and Behavioral Sciences (2 courses)	
ECO 201 Principles of Macroeconomics	3
ECO 202 Principles of Microeconomics	3
History (1 course)	
HIS course from AA Degree Requirements list	3
Natural & Physical Sciences (2 courses)	
Total Credits	
	60

Business - Management and Supervision AAS Degree

The Business - Management and Supervision Degree allows students 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)	
Required General Education Courses:	
ENG 121 English Composition I	3
MAT 107 Career Math/Business	3
or any MAT course 100 or higher	3
ECO 201 Principles of Macroeconomics	3
PHI 112 Ethics	3
Faculty advisor-approved general education elective	
Total Credits	
	60

Business – Interdisciplinary AAS Degree

The Business – Interdisciplinary Degree gives students the opportunity to apply and blend career and technical skills with core business courses. Students 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
Faculty advisor-approved business electives		1
(Recommended ACC, BUS, MAN, MAR, REE, SBM)		
Interdisciplinary credits		15
Fifteen 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.)		
Required General Education Courses:		
ENG 121	English Composition I or ENG 131 Technical Writing	3
MAT 107	Career Math/Business 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 the foundational business concepts so the students 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 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
REE 201	Real Estate Brokers I	6
REE 202	Real Estate Brokers II	6
Required General Education Courses:		
ENG 121	English Composition I	3
MAT 107	Career Math/Business 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 Communications	3
Total Credits		9

Management and Supervision Certificate

Students gain a broad perspective of topics that affect managing people and operations in business.

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

Registered Appraiser Certificate

These courses meet the educational requirements to become a Colorado registered appraiser.

Required Courses		Credits
REE 119	15-Hour National USPAP Course	1
REE 120	Basic Appraisal Principles	2
REE 121	Basic Appraisal Procedures	2
Total Credits		5

Small Business Startup Certificate

This condensed program offers students the opportunity to obtain an overview of small business concepts to get them started on the road to establishing their 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

Carpentry

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, as well as general carpentry classes. 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 Sarah Goepel at 303.914.6273. Current students should contact Larry Snyder at 303.914.6306 or larry.snyder@rrcc.edu.

Bachelor of Science transfer program: All Construction Technology 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. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a Bachelor of Science in Technical Management in as few as two semesters. Additional transfer options may be available in individual program areas. Contact your Construction Technology advisor for details.

Related course work may be found under:

Air Conditioning, Heating and Refrigeration, Construction Management/Technology, Electricity, Fine Woodworking, Industrial Maintenance Technology, Plumbing, Process Technology, and Renewable Energy Technology.

Certificates:

- Residential Remodeling
- Advanced Remodeling
- Home Energy Efficiency

Carpentry Certificates

Residential Remodeling Certificate

Required Courses		Credits
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
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
Total Credits		20.5

Advanced Remodeling Certificate

Required Courses		Credits
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
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
Total Credits		31.5

Home Energy Efficiency Certificate

Required Courses		Credits
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
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
Total Credits		20.5

Chemistry

Degree: Associate of Science

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 chemistry. You are urged to consult with a chemistry faculty advisor before beginning any program of study. These courses provide the basic preparation leading to chemistry-related careers. Some courses might not be offered each semester.

Chemistry AS Degree

Required Courses

	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

(See AS Degree Requirements on page 43) **27**

Approved electives

3

Total Credits 60

Recommended General Education courses:

BIO 111	General College Biology	5
MAT 121	College Algebra	4
Total Credits		60
Highly recommended for transfer to UNC		
(Consult a faculty advisor):		
BIO 202	Human Anatomy and Physiology II	4

Communication Studies AA Degree

The study of communication helps you develop oral and written communication skills. Critical thinking, problem-solving, interpersonal skills, presentation skills, and teamwork are some of the concepts addressed. This program provides basic preparation leading to communication-related careers in organizations and corporations dealing with education, business, public service, tourism, journalism, public relations, politics, broadcasting, and sales.

Completion of the following courses is intended to be appropriate for those who plan to transfer to a four-year college or university to complete a major in communication. Consult with a faculty advisor prior to beginning any program of study.

Required Courses

	Credits
COM 115 Public Speaking*	3
COM 125 Interpersonal Communication*	3
COM 216 Principles of Speech Communication II	3
COM 217 Group Communication	3
COM 220 Intercultural Communication	3
COM 225 Organizational Communication	3

*Fulfills General Education requirement

General Education Courses

(See AA Degree Requirements on page 32) **35**

Approved Electives

7

Total Credits 60

Recommended Approved Elective course:

ASL 121	American Sign Language	5
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Communication

Degrees: Associate of Arts

Communication Disorders (Speech – Language Pathology and Audiology)

Communication Studies

Communication Degrees

Communication Disorders AA Degree

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 a faculty advisor or the department chair before beginning this course of study.

Required Courses

	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

(See AA Degree Requirements on page 32) **35**

Computer Information Systems

Degrees: Associate of Applied Science

Computer Network Specialist

Computer Security Specialist

Computer Support Technician

Game Development

Microsoft Certified Technology Specialist (MCTS)

PC Applications Specialist

Programming Specialist

Web Development

Certificates:

Computer Network Specialist

Computer Security Specialist

Computer Support Technician

Game Development

**Microsoft Certified Technology Specialist (MCTS)
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 CIS, CNG, CSC, CWB, and MGD courses required for a certificate or degree.

Required Courses	Credits
Faculty advisor-approved business course or ACC 121 Accounting Principles I	3 (4)
ENG 121 English Composition I	3
ENG 122 English Composition II or ENG 131 Technical Writing	3
MAT 121 College Algebra (or higher)	4
COM 115 Public Speaking or THE 118 Acting Skills: Trades/Business	3
CIS 268 System Analysis and Design I	3
CIS 289 Capstone	3
Credit from any two of the following three areas:	6
Humanities (ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA, THE)	
Natural & Physical Sciences (AST, BIO, CHE, ENV, GEY, PHY, SCI)	
Social and Behavioral Science (ANT, ECO, GEO, HIS, POS, PSY, SOC)	
Total Credits	28-29

Computer Information Systems Degrees

Computer Network Specialist AAS Degree

This area of emphasis prepares you for a job in the computer networking field. Students in this program gain hands-on experience with computer hardware, software and networks. Upon successful completion of the program, the student 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 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 Fundamentals of Security	3
Choose 15 credit hours from the following:	15
CIS 222 UNIX System Administration	
CNG 136 Guide to Disaster Recovery	
CNG 209 MS Server Active Directory Configuration	
CNG 210 MS Network Infrastructure Configuration	
CNG 211 Windows Configuration: Win 7	
CNG 212 Manage a MS Windows Server Environment	
CNG 253 Firewalls and How They Work	
CNG 257 Network Defense and Counter Measures	

CNG 258 Computer Forensics	
CNG 260 CISCO Network Associate I	
CNG 261 CISCO Network Associate II	
CNG 262 CISCO Network Associate III	
CNG 263 CISCO Network Associate IV	
CNG 280 Internship	
Required Credits	35
Computer Information Systems Requirements	28-29
Total Credits	63-64

Computer 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 Network Security Fundamentals	3
CNG 132 Principles of Network Security	3
CNG 136 Guide to Disaster Recovery	3
CNG 253 Firewalls and How They Work	3
CNG 257 Network Defense/Countermeasures	3
CNG 258 Computer Forensics	4
CNG 259 Enterprise Security	4
Faculty advisor-approved electives	6
Required Credits	35
Computer Information Systems Requirements	28-29
Total Credits	63-64

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 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 Network Security Fundamentals	3
CNG 211 Windows Configuration: Win 7	3
Choose 12 credit hours from the following:	12
CIS 222 UNIX System Administration	
CNG 136 Guide to Disaster Recovery	
CNG 209 MS Server Active Directory Configuration	
CNG 210 MS Network Infrastructure Configuration	
CNG 212 Manage a MS Windows Server Environment	
CNG 253 Firewalls and How They Work	
CNG 257 Network Defense and Counter Measures	
CNG 258 Computer Forensics	
CNG 280 Internship	
Required Credits	35
Computer Information Systems 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 160 Computer Science I: C++	4
CSC 161 Computer Science II: C++	4
CIS 220 Fundamentals of UNIX	3
CWB 245 Complete Web Animation: Flash	3
CSC 126 Game Design and Development	3
MGD 111 Adobe Photoshop I	3
MGD 211 Adobe Photoshop II	3
Choose two from the following:	6
CSC 240 Java Programming	
CSC 246 Mobile App Development	
CSC 261 Programming in C#.NET	
CSC 280 Internship	
Or faculty advisor-approved elective	
Required Credits	32
Computer Information Systems Requirements	28-29
Total Credits	60-61

Microsoft Certified Technology Specialist (MCTS) AAS Degree

This area of emphasis provides you with the skill set necessary to complete the MCTS (Microsoft Certified Technology Specialist) as either a Microsoft Database Administrator or Microsoft Developer. You will develop and maintain Windows and Web applications that use the .NET Framework and Visual Studio and learn the skills necessary to design, implement, and administer Microsoft SQL Server databases.

Required Courses	Credits
CSC 119 Introduction to Programming	3
CSC 236 Introduction to C# Programming	4
CIS 220 Fundamentals of Unix	3
CWB 110 Complete Web Authoring: HTML	3
CIS 240 Database Design and Development	3
CIS 251 Intro to Structured Query Language (SQL)	3
CSC 261 Programming in C# .NET	3
CWB 164 XML	3
Choose three from the following:	9
CSC 250 Programming with MS ADO .NET	
CSC 253 MS ASP .NET Web Application Development: C#	
CSC 262 VS.NET Application Development: C#	
CIS 252 Implement and Maintain SQL Server Database	
CIS 253 Programming Microsoft SQL Server Database	
CIS 280 Internship	
CSC 280 Internship	
Or faculty advisor-approved elective	
Required Credits	34
Computer Information Systems Requirements	28-29
Total Credits	62-63

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 Windows Complete	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 two from the following;	6
CSC 119 Introduction to Programming	
CNG 101 Introduction to Networking	
CIS 280 Internship	
Or faculty advisor-approved electives	
Required Credits	35
Computer Information Systems Requirements	28-29
Total Credits	63-64

Programming Specialist AAS Degree

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 language. 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	3
CSC 160 Computer Science I: C++ or CSC 236 Intro to C# Programming	4
CIS 240 Database Design and Development	3
CNG 101 Introduction to Networking	3
CIS 220 Fundamentals of UNIX	3
Choose three object-oriented programming courses with at least one second semester course	9
CSC 161 Computer Science II: C++	
CSC 261 Programming in C++	
CSC 246 Mobile App Development or any OOP faculty advisor-approved course	
CSC 225 Computer Architecture/Assembly Language Programming	
Choose 6 Faculty advisor-approved electives	6
Any CSC faculty-advisor approved	
CIS 251 Intro to SQL	
CSC 280 Internship or any faculty advisor-approved	
Required Credits	34
Computer Information Systems 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 Web sites. 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
CWB 130 Dreamweaver	3
CWB 204 Cascading Style Sheets	3
CSC 119 Introduction to Programming	3
CSC 160 Computer Science I: C++ or CSC 236 Intro to C# Programming	4
CIS 220 Fundamentals of UNIX	3
CIS 240 Database Design and Development	3
CIS 251 Intro to Structured Query Language (SQL)	3
CWB 205 Complete Web Scripting: JavaScript	3
Choose two from the following	6
CSC 240 Java Programming	
CSC 261 Programming in C# .NET	
CSC 248 Internet Java Programming	
CSC 253 MS ASP .NET Web Application Development: C#	
CWB 164 XML	
CWB 208 Web Application Development: PHP	
CIS 244 SQL PL/SQL	
CWB 245 Complete Web Animation I: Flash	
CWB 246 Complete Web Animation II: Flash	
CWB 280 Internship	
Or faculty advisor-approved elective	
Required Credits	34
Computer Information Systems Requirements	28-29
Total Credits	62-63

Computer Information Systems Certificates

Computer Network Specialist Certificate

This area of emphasis prepares you for a job in the computer networking field. Students in this program gain hands-on experience with computer hardware, software and networks. Upon successful completion of the program, the student 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 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 Fundamentals of Security	3
Choose 15 credit hours from the following:	15
CIS 222 UNIX System Administration	
CNG 136 Guide to Disaster Recovery	
CNG 209 MS Server Active Directory Configuration	
CNG 210 MS Network Infrastructure Configuration	
CNG 211 Windows Configuration: Win 7	
CNG 212 Manage a MS Windows Server Environment	
CNG 253 Firewalls and How They Work	
CNG 257 Network Defense and Counter Measures	
CNG 258 Computer Forensics	
CNG 260 CISCO Network Associate I	
CNG 261 CISCO Network Associate II	
CNG 262 CISCO Network Associate III	

CNG 263 CISCO Network Associate IV	
CNG 280 Internship	
Total Credits	35

Computer 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
CIS 220 Fundamentals of UNIX	3
CIS 222 UNIX System Administration	3
CNG 131 Network Security Fundamentals	3
CNG 132 Principles of Network Security	3
CNG 136 Guide to Disaster Recovery	3
CNG 253 Firewalls and How They Work	3
CNG 257 Network Defense/Counter measures	3
CNG 258 Computer Forensics	4
CNG 259 Enterprise Security	4
Faculty advisor-approved electives	6
Total Credits	35

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 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 Network Security Fundamentals	3
CNG 211 Windows Configuration: Win 7	3
Choose 12 credit hours from the following:	12
CIS 222 UNIX System Administration	
CNG 136 Guide to Disaster Recovery	
CNG 209 MS Server Active Directory Configuration	
CNG 210 MS Network Infrastructure Configuration	
CNG 212 Manage a MS Windows Server Environment	
CNG 253 Firewalls and How They Work	
CNG 257 Network Defense and Counter Measures	
CNG 258 Computer Forensics	
CNG 280 Internship	
Total Credits	35

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 160 Computer Science I: C++	4
CSC 161 Computer Science II: C++	4
CIS 220 Fundamentals of UNIX	3
CWB 245 Complete Web Animation: Flash	3
CSC 126 Game Design and Development	3
MGD 111 Adobe Photoshop I	3
MGD 211 Adobe Photoshop II	3
Choose two from the following:	6
CSC 240 Java Programming	
CSC 246 Mobile App Development	

CSC 261	Programming C#.NET	
CSC 280	Internship or faculty advisor-approved electives	
Total Credits		32

Microsoft Certified Technology Specialist (MCTS) Certificate

This area of emphasis provides you with the skill set necessary to complete the MCTS (Microsoft Certified Technology Specialist) as either a Microsoft Database Administrator or Microsoft Developer. You will develop and maintain Windows and Web applications that use the .NET Framework and Visual Studio and learn the skills necessary to design, implement, and administer Microsoft SQL Server databases.

Required Courses		Credits
CSC 119	Introduction to Programming	3
CSC 236	Introduction to C# Programming	4
CIS 220	Fundamentals of Unix	3
CWB 110	Complete Web Authoring: HTML	3
CIS 240	Database Design and Development	3
CIS 251	Intro to Structured Query Language (SQL)	3
CSC 261	Programming in C# .NET	3
CWB 164	XML	3
Choose three from the following		
CSC 250	Programming with MS ADO .NET	
CSC 253	MS ASP .NET Web Application Development: C#	
CSC 262	VS.NET Application Development: C#	
CIS 252	Implement and Maintain SQL Server Database	
CIS 253	Programming Microsoft SQL Server Database	
CIS 280	Internship	
CSC 280	Internship or faculty advisor-approved elective	
Total Credits		34

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 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	Windows Complete	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 two from the following		
CSC 119	Introduction to Programming	
CNG 101	Introduction to Networking	
CIS 280	Internship or faculty advisor-approved elective	
Total Credits		35

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	3
CSC 160	Computer Science I: C++ or CSC 236 Intro to C# Programming	4
CIS 220	Fundamentals of UNIX	3
CIS 240	Database Design and Development	3
CNG 101	Introduction to Networking	3
CIS 268	System Analysis and Design	3
Choose three object-oriented programming courses with at least one, second-semester course		
CSC 161	Computer Science II: C++	
CSC 261	Programming in C++	
CSC 246	Mobile App Development or any OOP faculty advisor-approved course	
CSC 225	Computer Architecture/Assembly Language Programming	
Choose 6 Faculty advisor-approved electives		
Any CSC faculty-advisor approved		
CIS 251	Intro to SQL	
CSC 280	Internship or any faculty advisor-approved	
Faculty advisor-approved electives		6
Total Credits		34

Web Development Certificate

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 Web sites. 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
CWB 130	Dreamweaver	3
CWB 204	Cascading Style Sheets	3
CSC 119	Introduction to Programming	3
CSC 160	Computer Science I: C++ or CSC 236 Introduction to C# Programming	4
CIS 220	Fundamentals of UNIX	3
CIS 240	Database Design and Development	3
CIS 251	Intro. to Structured Query Language (SQL)	3
CWB 205	Complete Web Scripting: JavaScript	3
Choose two from the following		
CSC 240	Java Programming	
CSC 261	Programming in C#.NET	
CSC 248	Internet Java Programming	
CSC 253	MS ASP .NET Web Application Development: C#	
CWB 164	XML	
CWB 208	Web Application Development: PHP	
CIS 244	SQL PL/SQL	
CWB 245	Complete Web Animation I: Flash	
CWB 246	Complete Web Animation II: Flash	
CWB 280	Internship or faculty advisor-approved elective	
Total Credits		34

Computer Science

Degree: Associate of Science

Important note: Please refer to the CIS department Web site, www.rccc.edu/cis/ or talk to an advisor for the most current course, degree, and certificate information. You must earn a minimum grade of C in all CIS, CNG, CSC, CWB, and MGD courses required for a certificate or degree.

Computer Science AS Degree

The completion of the following courses is for those planning to transfer to a four-year college or university to complete a major in computer science. Consult a faculty advisor before beginning any program.

Required Courses	Credits
CSC 160 Computer Science I: C++	4
CSC 161 Computer Science II: C++	4
CSC 165 Discrete Structures	3
MAT 201 Calculus I*	5
MAT 202 Calculus II*	5
PHY 211 Physics: Calculus-Based I*	5
PHY 212 Physics: Calculus-Based II*	5
*Fulfills General Education Requirements	
General Education Courses	24
(See AS Degree Requirements on page 43)	
Approved Electives	5
Total Credits	60

Construction Management and Technology Programs

Information for Students in All Construction Technology Programs

Construction Technology Core Requirements and General Education Requirements are included in most program areas. The basic requirements are outlined below. A Construction Technology advisor will work with you to identify courses within the area which complement your career goals.

Advising: Please contact the Construction Technology office directly at 303.914.6512 for information about the programs. You will be assigned an advisor in your program area.

Construction Technology Core Requirements

Choose a minimum of 10 credits from the following course prefixes: CON, ENT, ENY AEC, OSH

10

General Education Courses

English/Communication:	3
ENG or COM (100 or higher)	
Mathematics:	3
MAT 107 (or higher) Construction Management students on the Regis University transfer track should substitute MAT 120 or higher.	
Choose from two of the following areas:	6
Humanities:	
ART, FRE, GER, HUM, ITA, JPN, LIT, MUS, PHI, RUS, SPA	
Natural & Physical Sciences:	
AST, BIO, CHE, GEY, PHY	
Social and Behavioral Science:	
ANT, ECO, GEO, HIS, POS, PSY, SOC	
General Education Electives:	3
Choose from any of the above prefixes or CIS 118	
Total General Education Course Requirements	15

Bachelor of Science Transfer Program: All Construction Technology programs' 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. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a bachelor of science in Technical Management in as few as two semesters. Additional transfer options may be available in individual program areas. Contact your Construction Technology advisor for details.

Bachelor of Applied Science, Construction Management transfer program: Upon completion of an AAS in Construction Management, students are eligible to apply to Regis University's College of Professional Studies "Associate's to Bachelor's" program. Transfer up to 98 of the 128 credits required for a Bachelor of Applied Science degree. Find the Transfer Guide link at www.rccc.edu/construction, or under Transfer Guide on the A-Z Index link at www.rccc.edu.

Skills upgrade courses, certificates, and associate of applied science degrees are available in the following program areas:

Air Conditioning, Heating and Refrigeration – Energy Efficiency on page 54

Carpentry on page 63

Electricity: Commercial/Industrial/Residential – Energy Maintenance & Operations on page 76)

Fine Woodworking on page 83

Industrial Maintenance Technology – Energy Maintenance on page 89

Plumbing on page 101

Process Technology – Energy Operations on page 103

Renewable Energy Technology – Energy Efficiency on page 104

Water Quality Management Technology on page 111

Wind Energy Technology – Energy Maintenance on page 113

Construction Management and Technology

Course work in this program bridges all trade and specialty areas, providing the basic technology, supervision and management skills needed in all segments of the industry. Construction Management students have a mix of required and elective coursework that provides a platform of strong fundamental skills in preparation for specialization in supervision, management or small business ownership. Construction Technology and Building Maintenance students can choose to incorporate a wide range of trade, as well as management, skills into their degree plan. Special topic seminars are offered each semester, allowing students to keep current with new trends in the industry such as LEED, BIM, energy conservation/efficiency management tools, software, etc.

The flexible programs allow you to choose courses that build on previous employment or academic experience. Consult with a Construction Technology advisor to develop your individual educational plan. Please inquire about alternative credit pathways including: credit transfers from other colleges, credit for apprenticeship classes, and portfolio credit for prior learning (recognizing work-based skills which align with our coursework).

Transfer Option:

Students who complete an AAS in Construction Management are eligible to apply to Regis University's College of Professional Studies "Associate's to Bachelor's" program. Transfer up to 98 of the 128 credits required for a Bachelor of Applied Science degree. Find the Transfer Guide link at www.rrcc.edu/construction, or under Transfer Guide on the A-Z Index link at www.rrcc.edu.

Information: 303.914.6512

Degrees: Associate of Applied Science

- Construction Management
- Construction Technology Technician
- Building Maintenance Technician
- Trades Degree

Certificates:

- Construction Management 1
- Construction Management 2
- Construction Management 3
- Construction Technology Fundamentals
- Construction Technology Technician
- Building Maintenance Technician
- Building Codes

Construction Management and Technology Degrees

Construction Management AAS Degree

Major Requirements	Credits
Construction Management Certificates 1, 2, and 3	46
General Education Courses	15
Total Credits	61

Construction Technology Technician AAS Degree

You must complete a minimum of 46 credits in a variety of construction areas. Meet with your Construction Technology advisor to design an educational plan. Construction Technology electives must be pre-approved by your Construction Technology advisor.

Required Courses	Credits
Construction Technology Technician Certificate	30
Construction Technology Electives	16
General Education Courses	15
Total Credits	61

Building Maintenance Technician AAS Degree

Required Courses	Credits
Building Maintenance Technician Certificate	46
General Education Courses	15
Total Credits	61

Trades AAS Degree

The Trades AAS degree program consists of a maximum of 58 credits of trade-specific credits. Students may earn these credits via apprenticeship training (classroom and on-the-job hours) or technical education course work and training, plus a maximum of 20 credits of core general education courses at RRCC. For those registered apprentices who complete a three-year registered apprenticeship program, 20 RRCC credits will be required. For those completing a four-year or five-year apprenticeship program, 17 RRCC general education credits will be required. This program is offered jointly by RRCC, Emily Griffith Opportunity School, and the Joint Apprenticeship Training Committee.

Construction Management and Technology Certificates

Construction Management 1 Certificate

It is not required that courses be taken in this order: please consult with your Construction Management advisor to determine the most useful sequencing of courses to meet your career goals.

Required Courses	Credits
CIS 118 Intro to PC Applications	3
CON 230 Blueprint Reading	4
ENT 146 Construction Materials and Methods	3
Construction Management Major Elective Options*	4
Total Credits	14

Construction Management 2 Certificate

It is not required that courses be taken in this order: please consult with your Construction Management advisor to determine the most useful sequencing of courses to meet your career goals.

Required Courses		Credits
AEC 221	Building Electrical/Mechanical Systems	3
CON 262	Oral and Written Communication	2
CON 264	Contract Documents	2
CON 265	Planning and Scheduling	2
CON 267	Accident Prevention and Loss Control	2
	Construction Management Major Elective Options*	5
Total Credits		16

Construction Management 3 Certificate

It is not required that courses be taken in this order: please consult with your Construction Management advisor to determine the most useful sequencing of courses to meet your career goals.

Required Courses		Credits
CON 245	Construction Project Management	4
CON 147	Field Engineering 1	3
	Construction Management Major Elective Options*	9
Total Credits		16

*Suggested Construction Management Major Elective Options

CON 142	International Residential Code	4
CON 143	International Building Code	4
CON 228	Estimating (EIC 217, Elect. Est. may be substituted)	4
CON 232	Managing the Submittal Process	2
CON 261	Leadership and Motivation	2
CON 263	Problem Solving and Decision Making	2
CON 266	Understanding and Managing Project Costs	2
ACC 101	Fundamentals of Accounting	3
BUS 217	Business Communication and Report Writing	3
CIS 155	PC Spreadsheet Concepts: MS Excel	3
Other MAN, SBM, BUS, or CIS courses as approved.		
Trade Classes: CAR, EIC, HVA, PLU, ENY (up to 8 credits)		
CON 280	Internship (1-6 credits)	
CON 285	Independent Study (1-6 credits)	

Other courses as approved by Construction Management advisor

Semester schedules should be checked for special topic seminars offered under the CON program which will address current industry topics and qualify as major elective options.

Construction Technology Fundamentals Certificate

Construction Technology electives must be pre-approved by your Construction Technology advisor.

Required Courses		Credits
	Construction Technology Core Requirements	10
	Construction Technology Electives	4
Total Credits		14

Construction Technology Technician Certificate

Construction Technology electives must be pre-approved by your Construction Technology advisor.

Required Courses	Credits
Construction Technology Fundamentals Certificate	14
Construction Technology Electives	16
Total Credits	30

Building Maintenance Technician Certificate

You must complete a total of 36 credits, including a minimum of four credits from four of the five program areas listed under "Building Maintenance Technician Areas of Study." No more than sixteen credits from any one area will count toward the completion of this certificate. Meet with your Construction Technology advisor to design an education plan.

Required Courses	Credits
Building Maintenance Technician Areas of Study**	36
Construction Technology Core Requirements	10
Total Credits	46

**Building Maintenance Technician Areas of Study

Courses must be pre-approved by Construction Technology Advisor

Air Conditioning, Heating, Refrigeration and Ventilation
Carpentry/Fine Woodworking
Electricity
Plumbing
Renewable Energy Technology

Building Codes Certificate

Choose any two courses	Credits
CON 142 International Residential Code	4
CON 143 International Building Code	4
EIC 130 National Electrical Code I	4
EIC 135 National Electrical Code II	4
HVA 206 Mechanical Codes	4
PLU 207 International Plumbing Code	4
PLU 208 International Fuel Gas Code	4
Total Credits	8

Cosmetology

(In cooperation with and taught at WarrenTech)

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).

Certificates:

Cosmetologist

Hairstylist

Manicurist

Esthetician (skin)

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 & Sales	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
NAT 230 Nail Tech Prep - State Board	4
NAT 275 Special Topics: Disinfection, Sanitation/Safety I	3
NAT 275 Special Topics: Disinfection, Sanitation/Safety II	1
EST 160 Intro to Disinfection, Sanitation and Safety	2
EST 161 Intermediate Disinfection, Sanitation and Safety	3
EST 230 Preparation for State Board	2
EST 260 Advanced Disinfection, Sanitation and Safety	2
Total Credits	80

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 & Sales	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
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
NAT 230 Nail Tech Prep - State Board	4
NAT 275 Special Topics: Disinfection, Sanitation/Safety I	3
NAT 275 Special Topics: Disinfection, Sanitation/Safety II	1
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
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 and Safety	2
EST 161 Intermediate Disinfection, Sanitation and Safety	3
EST 230 Preparation for State Board	2
EST 260 Advanced Disinfection, Sanitation and Safety	2
Total Credits	20

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. The associate of art 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. Articulations are pending with several four-year colleges in psychology, human services, social work and counseling psychology for the associate of art degree with an emphasis in victim assistance.

For information on the Criminal Justice Degree Program, go to: www.rrcc.edu/criminal or call 303.914.6434.

Degrees: Associate of Arts

Criminal Justice
Victim Assistance

Criminal Justice Degrees

Criminal Justice AA Degree

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 criminal justice or criminology. You are urged to consult with a criminal justice advisor before beginning any program of study. These 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.

Required Courses

	Credits
CRJ 110 Introduction to Criminal Justice	3
CRJ 125 Policing Systems	3
CRJ 135 Judicial Function	3
CRJ 145 Correctional Process	3
CRJ 257 Victimology	3
CRJ 205 Principles of Criminal Law	3
CRJ 236 CRJ Research Methods	3
CRJ 289 Capstone	1

General Education Courses

(See AA Degree Requirements on page 32)
Total Credits 38

61

Victim Assistance AA Degree

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 criminal justice degree faculty for information on the AA in Victim Assistance at 303.914.6434 for advising.

Required Courses

	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

(See AA Degree Requirements on page 32)
Total Credits 38

61

Culinary Arts

(In cooperation with the Rocky Mountain Chefs of Colorado)

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 students 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 Web site at: www.rrcc.edu/culinary prior to orientation sessions.

ALL pertinent information about the program is posted and up-to-date on the Web site. Please do not call for information on the program unless you have read the Web site in detail. Interested students must attend an orientation session as outlined on Web site to receive a sponsoring house list.

Degree: Associate of Applied Science

Culinary Arts

Certificate:

Culinary Arts

Culinary Arts AAS Degree

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 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
Required General Education Courses:		15
ENG 121	English Composition I	3
MAT 107	Career Math (or above)	3
COM 115	Public Speaking	3
CIS 118	Intro to PC Application	3
Choose one course from the following areas:		3
Arts and Humanities		
Social and Behavioral Science		
Total Credits		75

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 261	Cost Controls	3
CUA 281	Culinary Arts Internship III	5
Total Credits		60

Dance

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 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 any program of study.

Dance AA Degree

Required Courses		Credits
DAN 111	Modern Dance I	1
DAN 112	Modern Dance II	2
DAN 113	Modern Dance III	2
DAN 121	Jazz I	1
DAN 122	Jazz II	2
DAN 123	Jazz III	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 one of the following for a total of one credit:		
DAN 105	Hip Hop I	1
DAN 106	Hip Hop 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		
(See AA Degree Requirements on page 32)		38
Total Required Credits		60

Diagnostic Medical Sonography

See Sonography on page 107

Early Childhood Education

All Early Childhood Education degrees and certificates require students to take the Accuplacer test before their first semester. You must earn a C or higher in all ECE courses to graduate with a degree or certificate in Early Childhood.

Degree: Associate of Arts

Degree: Associate of Applied Science

Certificates:

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 ENG 121 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 111 Infant/Toddler Theory/Practice	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
ECE 260 The Exceptional Child	3
General Education Course Requirements:	38
Communication (3 courses).	9
COM 125 not acceptable.	
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 and Humanities (2 courses)	
MUS 120 Music Appreciation or ART 110 Art Appreciation	3
LIT 255 Children's Literature 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 201 U.S. History I or HIS 202 U.S. History II	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 (Please see ECE advisor for alternative classes)	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 above)	3
COM 125 Interpersonal Communication	3
MAT 107 Career Math (or above)	3
Credit from two of the following areas:	6
Arts and Humanities, Natural & Physical Sciences, Social and Behavioral Science	
Faculty advisor-approved electives from above	3
Total Credits	60

Early Childhood Education Certificates

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 238 Child Growth and Development	3
Total Credits	15

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

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

Required Courses	Credits
MAT 121 College Algebra *	4
POS 105 Introduction to Political Science*	3
HIS 247 Contemporary World History*	3
ECO 201 Principles of Macroeconomics*	3
ECO 202 Principles of Microeconomics*	3
* Fulfills General Education degree requirements.	
General Education Courses	29
(See AA Degree Requirements on page 32)	
Approved Electives	15
Total Credits	60

Electricity Commercial-Industrial-Residential

This program prepares you for the many career opportunities in the electrical industry. A thorough treatment of DC, AC, and polyphase electric circuits and solid-state power devices minimizes the possibility of technological obsolescence. Motor controls and programmable controllers let you design and build control systems. The electrical installation courses use the latest techniques according to the National Electrical Code. The electrical code and fire alarm classes are especially useful as preparation for NICET (National Institute for Certification in Engineering Technologies) state license and certification examinations. This program is excellent for electricians, engineers, firefighters, building department inspectors, and maintenance personnel because it uses an extensive lab environment for important, hands-on experience in electrical classes. For advising, please call 303.914.6509.

Bachelor of Science transfer program: All Construction Technology 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. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a bachelor of science in Technical Management in as few as two semesters. Contact your Construction Technology advisor for details.

Related course work may be found under:

Air Conditioning, Heating and Refrigeration, Construction Technology, Industrial Maintenance Technology, Process Technology, and Renewable Energy Technology.

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 Fire Code
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 from list below)	18
EIC 102, 124, 125, 160, 167, 169, 211, 217, 220, 240, AEC 221, CIS 118, CON 230. Other courses as approved by Electrical Department Advisor.	
General Education Courses (See AAS Degree Requirements on page 52)	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	4
Required Credits	32
Elective Courses (Choose from list below)	14
EIC 100, 102, 124, 125, 135, 150, 155, 160, 169, 211, 217, 226, 230, 233, 240, AEC 221, CIS 118, CON 230. Other courses as approved by Electrical Department Advisor.	
General Education Courses (See AAS Degree Requirements on page 52)	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 NICET (National Institute for Certification in Engineering Technologies) 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, 102, 124, 125, 155, 160, 169, 211, 217, 220, 226, 230, 233, 240, AEC 221, CIS 118, CON 105, 230, 245 FST 204. Other courses as approved by Electrical Department Advisor.	
General Education Courses (See AAS Degree Requirements on page 52)	15
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.

Consult with a Construction Technology advisor for details.

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 Construction Technology 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 a Construction Technology 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	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 Controls I	4
EIC xxx Advanced Industrial Controls	4
EIC 225 Programmable Controllers	4
EIC 226 Programmable Controls Advanced	4
EIC 230 Instrumentation & Controls II	4
Required Credits	45
General Education Courses	
(See AAS Degree Requirements on page 52)	15
Total Credits	60

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 International Energy Conservation Code	4
Total Credits	16

Residential Construction Electrician Certificate

Relating to AAS/Construction Electrician

Required Courses	Credits
CON 230 Blueprint 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
CON 230 Blueprint 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
AEC 221 Building Electrical/Mechanical Systems	3
EIC 124 Electrical Safety Requirements	1
EIC 215 Advanced Code Calculations	4
EIC 205 Advanced Electrical Planning	4
EIC 217 Electrical Estimating	4
EIC 240 Fire Alarm Fundamentals	4
Total Credits	20

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	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	4
EIC 230	Instrumentation and Controls 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 xxx	Advanced Industrial Electrical Controls	4
EIC 225	Programmable Controls	4
EIC 226	Programmable Controls Advanced	4
EIC 230	Instrumentation & Controls I	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 xxx	Advanced Industrial Electrical Controls	4
EIC 226	Advanced Programmable Controllers	4
EIC 230	Instrumentation and Controls I	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 Fire 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 242	National Fire Alarm Code	4
FST 204	Fire Codes and Ordinances	3
Prerequisite: Permission of instructor (Exemption from FST prerequisite courses is granted to Construction Technology students.)		
Total Credits		15

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: AAS degree maintenance electrician 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 108

Emergency Management and Planning

Degree: Associate of Applied Science

Emergency Management and Planning

Certificate:

Emergency Management and Planning

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 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.

Information: www.rccc.edu/emplan.

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 280	Business Emergency Management	3
EMP 291	Public Information Officer	3

Required Courses

General Education Courses

(See AAS Degree Requirements on page 52)

Elective Course Recommendations

EMP, EMS, FST, LEA, CRJ, GIS, CIS, BUS, MAN, PRA

Total Credits

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 280	Business Emergency Management	3
EMP 291	Public Information Officer	3

Total Credits

30

Emergency Medical Services

This program is designed to train workers in the field of emergency medical service. It begins with an entry-level EMT-Basic certificate program and includes an Advanced EMT certificate program, a Paramedic certificate program, and an associate of applied science degree in Paramedicine. Consult the Web site: <http://www.rccc.edu/ems/index.html> 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. Student's 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 Web site at: www.sahems.org

Prerequisite Courses

		Credits
EMS 125	Emergency Medical Technician – Basic	9
EMS 170	Emergency Medical Technician – Basic Clinical	1
EMS 130	Intravenous Therapy for EMTs	2
HPR 190	Basic EKG Interpretation	2

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:		
Communication:		
(Any ENG or COM (100 or higher)		
Mathematics:		
MAT 107 or above		
Natural & Physical Sciences:		
BIO 201 Anatomy and Physiology I		
BIO 202 Anatomy and Physiology II		
Arts and Humanities or Social and Behavioral Science		
Total Credits		

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Emergency Medical Services Certificates

Information: www.rccc.edu/ems

Emergency Medical Technician Certificate

This program prepares the student 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 125	Emergency Medical Technician-Basic	9
EMS 170	Emergency Medical Technician-Basic Clinical	1
Total Credits		10

Advanced Emergency Medical Technician Certificate

This program prepares the student 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 I V 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 the student 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 54

Carpentry – Home Energy Efficiency on page 63

Construction Management and Technology on page 70

Electricity: Commercial/Industrial/Residential – Energy Maintenance & Operations on page 76

Process Technology on page 103

Renewable Energy Technology – Energy Efficiency Weatherization and Energy Auditing on page 104

Water Quality Management Technology on page 111

Wind Energy Technology on page 113

Advising: Please contact the Energy Technology programs offices directly:

Troy Wanek - Renewable Energy Technology 303.914.6668, troy.wanek@rccc.edu

Larry Snyder – Renewable Energy Technology, 303.914.6306, larry.snyder@rccc.edu;

Chuck Beck – Process Technology and Industrial Maintenance, 303.914.6063, chuck.beck@rccc.edu;

Mike Smith – Water Quality Management Technology, 303.914.6325, mike.smith@rccc.edu.

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. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a Bachelor of Science in Technical Management in as few as two semesters. Additional transfer options may be available in individual program areas. Contact your Construction Technology advisor for details.

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. Students will use CAD (Computer-Aided Design) 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. Students must earn a C or higher in all courses to graduate.

Degrees: Associate of Applied Science

Architectural

Civil

Mechanical

Certificates:

Architectural

Civil

Mechanical

Intro to AutoCAD

Revit

SolidWorks

Sustainable Design Applications

Engineering Graphics Technology Degrees

Architectural AAS Degree

The Architectural AAS degree prepares you for a career in a construction or architectural firm. Electives allow you to select a preferred path in this field. It might be helpful to remember that one credit is equal to 20 hours of class time.

Required Courses	Credits
AEC 121 Construction Materials And Systems	3
AEC 218 Sustainable Building Systems	3
AEC 275 SpTp: Architectural Graphics	3
CAD 101 Computer Aided Drafting I	3
CAD 102 Computer Aided Drafting II	3
EGT 230 Drafting and Design I: Arch	6
EGT 231 Drafting and Design II: Arch	6
CAD 224 Revit	3
CAD 227 Revit Advanced	3
CAD 289 Capstone (Fourth Semester Class)	6
CON 230 Blueprint Reading	4
MGD 111 Adobe Photoshop I	3

Required Architectural Credits	46
General Education Courses	15
(See AAS Degree Requirements on page 52)	
Total Credits	61

Civil AAS Degree

Required Courses	Credits
CAD 101 Computer Aided Drafting I	3
CAD 102 Computer Aided Drafting II	3
EGT 230 Drafting and Design I: Civil	6
EGT 231 Drafting and Design II: Civil	6
CAD 233 Civil 3D	3
CAD 285 Independent Study	6
CAD 289 Capstone (Fourth Semester Class)	6
COM 105 Career Communications	3
GIS 101 Intro to Geographic Information Systems	3
GIS 210 Intermediate GIS	3
PHY 105 Conceptual Physics	4
Required Civil Credits	46
General Education Courses	
(See AAS Degree Requirements on page 52)	15
Total Credits	61

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
EGT 231 Drafting and Design II: Mech	6
CAD 256 SolidWorks Basic	6
CAD 257 SolidWorks Intermediate	6
CAD 258 SolidWorks Advanced	6
CAD 289 Capstone (Fourth Semester Class) Mech	6
CAD 285 Independent Study Mech	6
PHY 105 Conceptual Physics	4
Required Mechanical Credits	46
General Education Courses	
(See AAS Degree Requirements on page 52)	15
Total Credits	61

Engineering Graphics Technology Certificates

Architectural Certificate

Required Courses	Credits
AEC 121 Construction Materials and Systems	3
CAD 101 Computer Aided Drafting I	3
CAD 102 Computer Aided Drafting II	3
CAD 224 Revit	3
EGT 230 Drafting and Design I: Arch	6
EGT 231 Drafting and Design II: Arch	6
And, one of the following electives:	
CAD 227 Revit Advanced	3
AEC 218 Sustainable Building Systems	3
AEC 275 SpTp: Architectural Graphics	3
Total Credits	27

Civil Certificate

Required Courses	Credits
CAD 101 Computer Aided Drafting I	3
CAD 233 Civil 3D	3
GIS 101 Intro to Geographic Information	3
EGT 231 Drafting and Design II: Civil	6
Total Credits	15

Mechanical Certificate

Required Courses

CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
EGT 231	Drafting and Design II: Mech	6
Total Credits		12

Intro to AutoCAD Certificate

Required Courses

CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
Total Credits		6

Revit Certificate

Required Courses

CAD 224	Revit	3
CAD 227	Revit Advanced	3
Total Credits		6

Drafting Certificate (pending approval)

Required Courses

CAD 101	Computer Aided Drafting I	3
CAD 102	Computer Aided Drafting II	3
AEC 275	SpTp: Architectural Graphics	3
IND 111	Drafting for Interiors	4
IND 112	Graphic Communication	4
Total Credits		17

SolidWorks Certificate

Required Courses

CAD 256	SolidWorks Basics	6
CAD 257	SolidWorks Intermediate	6
CAD 258	SolidWorks Advanced	6
Total Credits		18

Sustainable Design Applications Certificate

Required Courses

AEC 218	Sustainable Building Systems	3
IND 231	Sustainable Design	3
Total Credits		6

Engineering - Pre-Engineering

Degree: Associate of Science

If you plan to transfer to a four-year college or university to complete a major in engineering, you should complete the following courses. 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 Web site. Consult with a faculty advisor before beginning this program of study. These courses provide the basic preparation leading to engineering-related careers.

Engineering - Pre-Engineering AS Degree

Required Courses

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	5

MAT 261 Differential Equations 4

* Fulfills General Education requirements

General Education Courses 26

(see AS Degree Requirements on page 43)

Total Credits 60

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.

English Degrees

Literature AA Degree

Recommended Courses		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

*State-guaranteed general education courses

General Education Courses

(See AA Degree Requirements on page 32) 33

Suggested elective 3

(Select an elective with an ENG or LIT prefix, after talking with an English faculty advisor, that helps you earn the AA degree.)

Total Credits 60

Creative Writing AA Degree

Recommended Courses		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

(See AA Degree Requirements on page 32) 36

Suggested electives 6

(Select electives with ENG and/or LIT prefixes, after talking with an English faculty advisor, that help you earn the AA degree.)

Total Credits 60

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, and wood turning. 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 Craftsman

Luthier Fundamentals

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. Students are 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: Frame Joinery	4
FIW 202 Furniture II: Carcass & Chair Construction	4
FIW 203 Furniture III: Period Furniture Reproduction	4
(FIW 213 Contemporary Furniture II may be substituted for Furniture III)	
BUS 102 Entrepreneurial Operations	3
FIW 212 Contemporary Furniture Making	4
FIW Electives	12
General Education Courses	15
(See AAS Degree Requirements on page 52)	15
Total Credits	60

Fine Woodworking Certificates

Woodworking Fundamentals Certificate

This certificate is designed to give students the basics of most woodworking applications. It is well suited for those students 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: Frame Joinery	4
Total Credits	7

Craftsman Certificate

This certificate is designed for students 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: Frame Joinery	4
FIW 202 Furniture II: Carcass & Chair 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, basic 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 students 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: Frame Joinery	4
FIW 202 Furniture II: Carcass & Chair Construction	4
FIW 203 Furniture III: Period Furniture Reproduction	4
(FIW 213 Contemporary Furniture II may be substituted for Furniture III)	
Total Credits	21

Contemporary Furniture Fundamentals Certificate

This certificate is designed for students who want to explore the design and creative elements of contemporary furniture construction. It is well suited for students that 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: Frame Joinery	4
FIW 212	Contemporary Furniture Making	4
Total Credits		19

Fine Furniture Craftsman Certificate

This certificate is designed for students who want to design and build period or contemporary pieces of fine furniture. It is well suited for 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: Frame Joinery	4
FIW 202	Furniture II: Carcass & Chair Construction	4
FIW 203	Furniture III: Period Furniture Reproduction	4

(Substitutions to Furniture III are possible, but must be approved)

Total Credits		26
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Contemporary Furniture Craftsman Certificate

This certificate combines the skills of building and the skills of designing in the field of custom furniture building. Students are expected to develop individual portfolios that demonstrate their 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: Frame Joinery	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 students progress through this certificate, they 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 xxx	Lutherie Class (Acoustic or electric guitar, Mandolin, or Violin)	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: Frame Joinery	4
FIW 202	Furniture II: Carcass & Chair	4
Total Credits		34

Post-Degree Advanced Craftsman Certificate

This certificate expands skills to the level of Advanced Craftsman. Students are expected to develop individual portfolios that demonstrate their 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 xxx	Guitar Making (2 semesters) Other instrument building classes may be substituted.	12
FIW 109	Intro to Cabinetmaking	4
FIW 122	Woodcarving	3
FIW 128	Doormaking	4
FIW 200	Veneering and Marquetry or FIW 177 Inlay	3
FIW 201	Furniture I: Frame Joinery	4
FIW 202	Furniture II: Carcass & Chair Construction	4
FIW 203	Furniture III: Period Furniture Reproduction (FIW 213 may be substituted for Furniture III)	4
FIW 212	Contemporary Furniture	4
FIW xxx	Electives approved by advisor	18
Total Credits		60

Woodturner Certificate

This certificate is designed for students desiring to validate their experience in the world of wood turning. Students 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 students desiring to achieve proficiency in wood turning. Students 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		18

Luthier Technician Certificate

This certificate is design for the student 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	SpTp: Advanced Instrument Finishing and Setup	3
Total Credits		6

Luthier Craftsman Certificate

This certificate is for students exploring the possibility of entering the lutherie field. It allows the student to learn skills needed to make a musical instrument thus providing a starting point into the field of lutherie.

Required Courses		Credits
FIW 102 or	Classical Guitar Construction	6
FIW 103 or	Steel String Guitar Construction	6
FIW 130 or	Mandolin Construction	6
FIW 131	Electric Guitar Construction	6
Total Credits		6

Luthier Fundamentals Certificate

As students progress through our rapidly growing Lutherie program, they often seek employment within the musical instrument repair and construction business or become entrepreneurs within this field of woodworking. Students should plan to take their electives under the luthier program with special topic classes focused on their field of study. This certificate is designed to validate their experience in this field.

Required Courses		Credits
FIW 102	Classical Guitar Making	6
FIW 103	Steel String Guitar Making (Other Instrument building classes may be substituted for FIW 102 or FIW 103)	6
FIW 131	Electric Guitar	6
FIW 105	Guitar Setup & Repair	3
FIW 175	SpTp: Advanced Instrument Finishing	3
FIW 126	French Polish	1
FIW xxx	Elective	6
Total Credits		31

Fire Science Technology

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 of science degree.

Information: www.rrcc.edu/fire

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 Academy	9
FST 102	Principles/Emergency Services	3
FST 103	Occupational Health and Safety for Fire	3
FST 104	Fire Protection Systems	3
FST 105	Building Construction for Fire Prof	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 250	Chemistry for Fire Protection	3
Elective Courses		6
FST, EMS, or EMP (only)		
Required Course Credits		45
General Education Courses		15
(See AAS Degree Requirements on page 52)		
Total Credits		60

Fire Service Management AAS Degree

This degree is for students experienced as firefighters preparing for career advancement. Students 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, towards a bachelor of science degree in public administration or applied science.

Required Courses	Credits
FST 102 Principles/Emergency Services	3
FST 103 Occupational Health and Safety for Fire	3
FST 104 Fire Protection Systems	3
FST 105 Building Construction for Fire Prof	3
FST 106 Fire Prevention	3
FST 250 Chemistry for Fire Protection	3
FST 251 Legal Aspects of Fire Service	3
FST 289 Capstone	3

Electives

FST 201, FST 202, FST 204, FST 205, FST 206, FST 207, FST 251, FST 253, FST 255, or FST 257

Required Course Credits 45

General Education Courses 15

(See AAS Degree Requirements on page 52)

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. Students 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 Occupational Health and Safety for Fire	3
FST 104 Fire Protection Systems	3
FST 105 Building Construction for Fire Prof	3
FST 106 Fire Prevention	3
FST 250 Chemistry for Fire Protection	3

Elective Courses 27

FST, EMS, or EMP (only)

Required Course Credits 45

General Education Courses 15

(See AAS Degree Requirements on page 52)

Total Credits 60

Fire Science Technology Certificate

Fire Fighter I Certificate

Strongly recommended prerequisite: EMS 125/170 (EMT-Basic)

Required Courses	Credits
FST 100 Firefighter I Academy	9
FST 107 HazMat Operations (Level I)	3
FST 170 Fire Academy Clinical I	1

Total Credits 13

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 (Colorado CDFS certification)

Required Courses	Credits
FST 250 Chemistry for Fire Protection	3
FST 201 Instructional Methodology	3
FST 202 Strategy and Tactics I	3
FST 204 Principles of Code Enforcement	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 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

Required Courses	Credits
FST 105 Building Construction for Fire Prof	3
FST 106 Fire Prevention	3
FST 204 Principles of Code Enforcement	3

Total Credits 9

Foreign Languages

Degree: Associate of Arts

If you plan to transfer to a four-year college or university to complete a major in a foreign language, you must 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 professional advancement in careers such as business, computer technology, medicine, engineering, and in the natural and behavioral sciences.

Foreign Languages AA Degree

Required Courses	Credits
Choose one (FRE, GER, SPA)	
FRE/GER/SPA 111	
French/German/Spanish Language I	5
FRE/GER/SPA 112	
French/German/Spanish Language II	5
FRE/GER/SPA 211*	

French/German/Spanish Language III FRE/GER/SPA 212*	3
French/German/Spanish Language IV * Fulfills General Education requirement	3
General Education Courses (See AA Degree Requirements on page 32)	32
Approved Electives	12
Total Credits	60

Geology

Degree: Associate of Science

The completion of the following courses is appropriate for you if you plan to transfer to a four-year college or university to complete a major in geology. Consult with a geology faculty advisor before beginning any program of study. Some courses might not be offered each semester. These courses provide the basic preparation leading to geology-related careers.

Geology AS Degree

Required Courses	Credits
CHE 111 General College Chemistry I	5
GEY 111 Physical Geology*	4
CHE 112 General College Chemistry II	5
GEY 121 Historical Geology*	4
GEY xxx GEY elective	4
MAT 121 College Algebra*	4
MAT 122 College Trigonometry	3
*Fulfills General Education requirement	
General Education Courses (See AS Degree Requirements on page 43)	27
Approved electives	4
Total Credits	60

History

Degree: Associate of Arts

The completion of the following courses is appropriate for students 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

Required Courses	Credits
HIS 101 Western Civ: Antiquity-1650* or HIS 111 The World: Antiquity-1500*	3
HIS 102 Western Civ: 1650-Present* or HIS 112 The World: 1500-Present*	3
HIS 201 U.S. History to Reconstruction	3
HIS 202 U.S. History since Civil War	3
HIS 225 Colorado History or HIS 247 20th Century World	3
*Fulfills General Education requirement	
General Education Courses (See AA Degree Requirements on page 32)	32
Approved Electives	13
Total Credits	60

Holistic Health

This program provides the opportunity to learn a variety of complementary healing modalities. Upon completion of the program students may apply their knowledge in wellness centers, clinics, spas and fitness centers.

Information: www.rrcc.edu/health/holcert.html

Degree: Associate of Applied Science

Holistic Health

Certificates:

Holistic Health Practitioner

Reflexology

Holistic Health AAS Degree

This program provides the opportunity to learn a variety of complementary healing modalities. Upon completion of the program students may apply their knowledge in wellness centers, clinics, spas and fitness centers. The AAS degree can be transferred to Metropolitan State College in Denver into their Bachelors of Science Degree in Integrative Therapeutic Practice 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 Counseling	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

English/Communication

ENG 121, 122, COM 115 or 125

Mathematics:

MAT 135

Natural & Physical Sciences

BIO 111, 201, 202, CHE 101

Social & Behavioral Science

HIS: Choose any Statewide GT courses

ANT 101 Cultural Anthropology

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 Counseling	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.

Required Courses	Credits
HHP 166 Introduction to Reflexology	1
HHP 260 Advanced Reflexology	1
HHP 169 Healing Hands and Feet	1
HHP 164 Hand Reflexology	1
HHP 188 Practicum Reflexology Lab	2
HHP 270 Clinical	2
HHP 263 Creating a Holistic Practice	0.5
HHP 190 Crystals and Mineral Usage	0.5
Total Credits	9

Industrial Maintenance Technology – Energy Maintenance

Under Revision: See Mechanical Trades, Electricity Commercial/Industrial/Residential, Wind Energy Technology

Information: 303.914.6063, Chuck.Beck@rrcc.edu

www.rrcc.edu/isod

Law Enforcement

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. The following courses are required for all law enforcement students:

Required Courses	Credits
LEA 101 Basic Law Enforcement Academy I	6
LEA 102 Basic Law Enforcement Academy II	12
LEA 104 Basic Law Enforcement Academy IV	1
LEA 105 Basic Law	8
LEA 106 Arrest Control Techniques	3
LEA 107 Law Enforcement Driving	3
LEA 108 Firearms	3
PED 112 Conditioning Lab	1

Required Course Credits **37**

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 Law Enforcement Operations	3
CRJ 135 Judicial Function	3
CRJ 205 Principles of Criminal Law	3

Required Advisor Approved Electives General Education Courses (See AAS Degree Requirements on page 52)

Recommended General Education Courses:

ENG 121	3
COM 115 or COM 125	3
MAT 120 (or higher)	4
Natural & Physical Sciences (any)	3
PSY or SOC (any)	3
Total General Education Course Requirements	16
Total Credits	61

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. Students earn 37 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/lawenforcement for details.

Required Courses	Credits
LEA 101 Basic Police Academy I	6
LEA 102 Basic Police Academy II	12
LEA 104 Basic Law Enforcement Academy IV	1
LEA 105 Basic Law	8
LEA 106 Arrest Control Techniques	3
LEA 107 Law Enforcement Driving	3
LEA 108 Firearms	3
PED 112 Conditioning Lab	1
Total Credits	37

Management and Marketing

See Business on page 61

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

Required Courses	Credits
MAT 201 Calculus I *	5

MAT 202	Calculus II	5
MAT 204	Calculus III	5
MAT 261	Differential Equations	4
CSC 160	Computer Science I	4
PHY 211	Physics: Calculus Based I*	5
PHY 212	Physics: Calculus Based II*	5
*Fulfills General Education requirements		
General Education Courses		27
(See AS Degree Requirements on page 43)		60
Total Credits		

Mechanical Trades

New students should contact Sarah Goepel at 303.914.6273.
Current students should contact Larry Snyder at 303.914.6306 or larry.snyder@rrcc.edu.

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 54, Carpentry on page 63, or Plumbing on page 101 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.

Bachelor of Science transfer program: All Construction Technology 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. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a Bachelor of Science in Technical Management in as few as two semesters.

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 52)		62
Total Credits		

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
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
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
Total Credits		37

Medical Imaging

See Radiologic Technology on page 103 or Sonography on page 107

Medical Office Technology

The medical office programs are designed to prepare the student for a career as an allied health professional, assisting physicians/providers in various medical and business settings. Accuplacer results should place all students into ENG 121 or higher or documented previous ENG 121 or college degree. All program students must complete and pass a criminal background check 90 days prior to enrolling in internships by using American DataBank's online background check procedures at www.healthcareex.com. Immunizations and CPR are required of all Medical Assisting students prior to internship. A minimum grade of C must be achieved for all program required courses to graduate with a certificate or degree. Students should consult with the Medical Assisting Coordinator or refer to the Web site to ensure proper sequencing of courses and other educational options. Most MOT courses are not offered in the summer semester.

Information: www.rbcc.edu/health/medasst.html

Degrees: Associate of Applied Science

Medical Assisting
Medical Office

Certificates:

Medical Assisting
Medical Office
Medical Billing/Coding
Fundamentals of Medical Office Technology
Certificate (pending approval)

Medical Office Technology Degrees

Medical Assisting AAS Degree

The Medical Assisting program prepares you for a career as a multi-skilled professional in the allied health field performing administrative and clinical procedures. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). All students who successfully complete the program are required to take the national certification exam (AAMA) to become a Certified Medical Assistant. A math prerequisite of MAT 060 or higher is required for MOT 140 and 150 for all certificate and degree students. 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
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
MOT 110	Medical Office Administration	4
MOT 120	Medical Office Financial Management	3
MOT 150	Pharmacology for Medical Assistants	3
MOT 130	Insurance Billing and Coding	3
MOT 136	Introduction to Clinical Skills	2
MOT 140	Medical Assisting Clinical Skills	4
MOT 138	Medical Assisting Laboratory Skills	4
PSY 101	General Psychology	3
MOT 181	Administrative Internship and	2
MOT 182	Clinical Internship or	3
MOT 183	Medical Assisting Internship	5
General Education Courses		
(See AAS Degree Requirements on page 52)		15
Total Credits		60

Medical Office AAS Degree

The Medical Office Program is designed to prepare the student for a career as an allied health professional, assisting physicians in front-office operations. 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		11
General Education Courses		
(See AAS Degree Requirements on page 52)		15
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 allied health field performing administrative and clinical procedures. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). All students who successfully complete the program are required to take the national certification exam (AAMA) to become a Certified Medical Assistant. A math prerequisite of MAT 060 or higher is required for MOT 140 and 150 for all certificate and degree students. 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
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
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
PSY 101	General Psychology	3
MOT 181	Administrative Internship and	2
MOT 182	Clinical Internship or	3
MOT 183	Medical Assisting Internship	5
Total Credits		45

Medical Office Certificate

The Medical Office Program is designed to prepare the student for a career as an allied health professional, assisting health care providers in front-office operations. 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
HPR 106	Law and Ethics for Health Prof	2
HPR 178	Medical Terminology	2
BIO 106	Basic Anatomy and Physiology	4
CIS 118	Introduction to PC Applications	3
COM 126	Communication in Healthcare	3
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
Total Credits		34

Medical Billing/Coding Certificate

The Medical Billing/Coding Certificate will prepare the student to use and apply medical coding for insurance reimbursement and billing in a physician 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. At the completion of the program, including an internship, you are eligible to take the National Certified Professional Coding (CPC) exam. Students seeking the AAS degree will follow the requirements for the Medical Office degree. 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
BIO 106	Basic Anatomy and Physiology	4
CIS 118	Introduction to PC Applications	3
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
Total Credits		23

Fundamentals of Medical Office Technology Certificate (pending approval)

This certificate will introduce the Medical Office Technology student to the profession by completing the basic fundamental

required courses. The courses in this certificate will apply towards all the other certificates and degrees in MOT and do not need to be retaken if a grade of C or better is achieved. Students can decide upon completion, which plan of study (certificate or degree) they will pursue. The MOT 110 class 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

The Multimedia-Gaming-Design, Photography and Journalism Departments use state of the art equipment and have four classroom instructional labs with 16 - 24 workstations in each classroom. The MGD/PHO/JOU Student Computer Lab allows you to work outside the classroom with the same applications that are used in the classrooms. The computers in MGD, PHO and JOU are the fastest available. Currently, the labs are equipped with Intel Power Macs, which allow students to choose between operating systems, the computers are loaded with both Windows 7 and Macintosh OSX. Peripheral devices are also available, including color output, black and white output, flatbed scanners, 3D digital scanner, Wacom tablets and video capture stations.

The MGD/PHO/JOU Department also has two darkrooms for the use of MGD/PHO/JOU students. The department has several film, digital, and digital video cameras which students may use on a 48-hour check-out basis.

Red Rocks Community College offers both associate degrees and certificates in the MGD/PHO/JOU programs. If you plan to transfer to a baccalaureate institution, you should consider the Associate of General Studies. The certificate programs and associate of applied science degrees will prepare you to enter the work force upon graduation.

Degrees: Associate of Applied Science

Graphic Design & Print Production

Video Production

Web Design & Development

Professional Photography: Traditional Film

Professional Photography: Digital Photography

Professional Photography: Traditional Film and Digital Photography

Digital Media Journalism

Degrees: Associate of General Studies – MSCD

Graphic Design/Print Production

Video Production

Certificates:

Graphic Design & Print Production
Video Production
Web Design
Advanced Web Design
Professional Photography: Traditional Film
Professional Photography: Digital Photography
Professional Photography: Traditional Film and Digital Photography
Digital Media Journalism

Recommended General Education Courses for AAS in MGD/PHO/JOU

Mathematics

MAT 107 Career Math 3

Humanities

ART 149 Animation Drawing/Design 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 humanities and the General Education course electives. You may substitute MGD/PHO advisor approved-classes if ART 121, and 131 or 132 are used to fulfill the General Education Course Requirements.

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

Course	Description	Credits
ART 121	Drawing I* or ART 149 Animation Drawing/Design	3
ART 131	Visual Concepts 2-D Design*	3
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
MGD 114	Adobe InDesign	3
MGD 118	Digital Color Theory or MGD 116 Typography I	3
MGD 121	Painter for Digital Media or MGD 216 Adobe Acrobat Professional	3
MGD 202	Point of Purchase Packaging Design or MGD 212 Adobe Illustrator II	3
MGD 211	Adobe Photoshop II	3
MGD 213	Electronic Prepress	3
MGD xxx	Business for Creatives or MGD 280 Internship or MGD 289 Capstone	3

MGD/PHO Advisor Approved Electives 6

Recommended MGD Electives:

MGD 141	Web Design I: Dreamweaver	3
MGD 143	Motion Graphic Design I: Adobe Flash	3
JOU 225	Internet Media	3
ART 139	Digital Photography I*	3

General Education Courses

(See AAS Degree Requirements on page 52) 15

*ART 121 and ART 132 or ART 139 may be used to fulfill one 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 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.

MGD Advisor: Thomas Harrop, thomas.harrop@rrcc.edu

Required Courses

Course	Description	Credits
MGD 101	Introduction to Computer Graphics or MGD 102 Introduction to Multimedia	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 104	Videography I	3
MGD 143	Motion Graphic Design I: Adobe Flash	3
MGD 152	Digital Animatics	3
MGD 163	Sound Design I: Apple Logic Pro	3
MGD 164	Digital Video Editing I: Final Cut Pro	3
MGD 165	Adobe After Effects I	3
MGD 204	Videography II	3
MGD 263	Sound Design II: Apple Logic Pro	3
MGD 264	Digital Video Editing II: Final Cut Pro	3
MGD xxx	Business for Creatives or MGD 280 Internship or MGD 289 Capstone	3

MGD/PHO Advisor Approved Electives 6

Recommended MGD Electives:

MGD 265	Adobe AfterEffects II	3
MGD 121	Painter for Digital Media	3
ART 139	Digital Photography*	3
ART 149	Animation Drawing and Design*	3
MUS 105	Intro to Electronic/Computer Music*	3

General Education Courses

(See AAS Degree Requirements on page 52) 15

*ART 139 and/or MUS 105 may be used to fulfill one Humanities and the General Education Elective Course Requirements.

Total Credits 60

Digital Media Journalism AAS Degree

The AAS in Digital Media Journalism prepares students 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. Students 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.

MGD Advisor: Thomas Harrop, thomas.harrop@rrcc.edu

Required Courses

Course	Description	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
MGD 216	Adobe Acrobat Professional	3
JOU 225	Internet Media	3
JOU 215	Publications Production and Design	3

Faculty Advisor Approved Electives from MGD

MGD Recommended Electives

JOU 121	Photojournalism	3
MGD 143	Motion Graphic Design I: Adobe Flash	3
MGD 141	Web Design I: Adobe Dreamweaver	3
MGD 164	Digital Video Editing I: Apple Final Cut Pro	3
ART 139	Digital Photography I*	3
MUS 105	Intro to Computer/Electronic Music*	3

General Education Courses

(See AAS Degree Requirements on page 52)

*ART 139 and MUS 105 may be used to fulfill one Humanities and the General Education Elective Course Requirements.

Total Credits 60

Professional Photography - Traditional Film AAS Degree

The Professional Photography: Traditional Film AAS degree prepares you for a career as a professional film photographer. You will learn traditional film photography techniques in print production, lighting, equipment, and business management. History and photographic film theory are covered as well. You will need a 35mm SLR film camera.

PHO Advisor: Michael Fulks, michael.fulks@rrcc.edu

Required Courses Credits

ART 113	History of Photography	3
ART 138	Film Photography I	3
ART 238	Film Photography II	3
PHO 143	Perception and Photography	3
PHO 260	Event and Wedding Photography	3
ART 144	Portrait Photography	3
ART 142	Landscape Photography	2
	and PHO 240 Field Techniques & Exploration	1
	or ART 143 Figure Photography I	

PHO 204	Commercial Studio Lighting	3
MGD 268	Business for Creatives	3
JOU 121	Photojournalism	3
PHO 235	Architectural Photography	3
PHO xxx	Close Up & Macro Photography	3
PHO xxx	Darkroom Alternative Processes	3

MGD/PHO Advisor Approved Electives

PHO Recommended Electives:

ART 139	Digital Photography I*	3
MUS 105	Intro to Computer/Electronic Music*	3
ART 121	Drawing I*	3
ART 131	Visual Concepts: 2D Design*	3

General Education Courses

(See AAS Degree Requirements on page 52)

*ART 121 and/or ART 131 or ART 139 and/or MUS 105 may be used to fulfill one Humanities and the General Education Elective.

Total Credits 60

Professional Photography - Digital Photography AAS Degree

The Professional Photography: Digital Photography AAS degree prepares you for a career as a professional photographer in a digital work environment. You will learn techniques in digital photography, such as camera techniques, digital printing

production, lighting, equipment, and business management. History and digital photography theory are covered as well. You will need a digital SLR camera or a digital camera with manual settings.

PHO Advisor: Michael Fulks, michael.fulks@rrcc.edu

Required Courses Credits

ART 113	History of Photography	3
PHO 143	Perception and Photography	3
ART 139	Digital Photography I	3
ART 239	Digital Photography II	3
MGD 111	Adobe Photoshop I	3
ART 145	Digital Darkroom I	3
ART 144	Portrait Photography	3
ART 142	Landscape Photography	2
	AND PHO 240 Field Techniques & Exploration	1
	or ART 143 Figure Photography I	3
PHO 204	Commercial Studio Lighting	3
MGD xxx	Business for Creatives	3
MGD 121	Corel Painter for Digital Media	3
JOU 121	Photojournalism	3
	or PHO 260 Event and Wedding Photography	
PHO 266	Professional Digital Workflow: Adobe Lightroom	3

PHO/MGD Advisor Approved Electives

PHO Recommended Electives

MUS 105	Intro to Computer/Electronic Music*	3
ART 121	Drawing I*	3
ART 131	Visual Concepts: 2D Design*	3

General Education Courses

(See AAS Degree Requirements on page 52)

*ART 121 and/or ART 131 or ART 139 and/or MUS 105 may be used to fulfill one Humanities and the General Education Elective.

Total Credits 60

Professional Photography - Traditional Film & Digital Photography AAS Degree

The Professional Photography: Traditional Film & Digital Photography AAS degree prepares you for a career as a professional photographer, blending both film and digital skills. You will learn techniques in both film and digital photography, such as camera techniques, print production, lighting, equipment, and business management. History and photographic theory are covered as well. You will need both a traditional film SLR camera and a digital SLR camera or a digital camera with manual settings.

PHO Advisor: Michael Fulks, michael.fulks@rrcc.edu

Required Courses Credits

*ART 113	History of Photography	3
*ART 138	Film Photography I	3
ART 238	Film Photography II	3
ART 143	Perception and Photography	3
ART 139	Digital Photography I	3
ART 239	Digital Photography II	3
MGD 111	Adobe Photoshop I	3
ART 145	Digital Darkroom I	3
ART 144	Portrait Photography	3
ART 143	Figure Photography I	3
	or PHO 260 Event & Wedding Photo	

PHO 204	Commercial Studio Lighting	3
MGD 268	Business for Creatives	3
MGD 121	Corel Painter for Digital Media	3
	or PHO 266 Professional Digital Workflow Adobe Lightroom	

MGD/PHO Advisor Approved Electives**PHO Recommended Electives:**

ART 139	Digital Photography I*	3
MUS 105	Intro to Computer/Electronic Music*	3
ART 121	Drawing I*	3
ART 131	Visual Concepts: 2D Design*	3

General Education Courses**(See AAS Degree Requirements on page 52)**

*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 Humanities and the General Education Elective. Students may substitute ART/PHO/MGD classes if the ART 113 and ART 138 are counted toward the Humanities and General Education Course Requirements.

Total Credits**15****60****Multimedia Graphic Design AGS Specialist Degrees-MSCD**

The articulation agreement with Metropolitan State College of Denver allows students to transfer up to 60 RRCC semester hours of the Associate of General Studies toward MSCD's Bachelor's Degree in Technical Communication through the department of Technical Communication. These degrees do not allow for the substitution of classes, either in the Core Curriculum Requirements, or in the Program Specific Requirements. If the student does not follow the degree plan exactly as presented in the Degree and Certificate Planning Guide, Metropolitan State College of Denver reserves the right to accept RRCC credit as general elective credit, not program specific credit. The AGS is the only degree plan that MSCD accepts for full transfer into the Technical Communications Program.

Graphic Design & Print Production AGS Degree

The Graphic Design & Print Production emphasis within the Multimedia Graphic Design Department prepares you for work in the traditional graphic design and printing industries. You will use the computer to design for electronic production output. In addition, you will learn design techniques for packaging and point of sale and other forms of print media. Printing technology is also addressed.

You must contact an MGD faculty advisor during your first semester for degree advising.

Required Courses

	Credits	
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
MGD 114	Adobe InDesign	3
MGD 202	Point of Purchase Package Design	3
MGD 213	Electronic Prepress	3
MGD 268	Business for Creatives	3

MGD Advisor Approved Electives**General Education Courses****(See AGS-Specialist Degree Requirements on page 49)****Total Required Credits****34-40****60****Video Production AGS 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

6 production, such as sound and digital editing, as well as motion graphics.

3**3****3****3**

You must contact an MGD faculty advisor during your first semester for degree advising.

Required Courses

	Credits	
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 104	Videography I	3
MGD 143	Motion Graphic Design I: Adobe Flash	3
MGD 163	Sound Design I: Apple Logic Pro	3
MGD 164	Digital Video Editing I: Final Cut Pro	3
MGD 165	Adobe AfterEffects I	3
MGD xxx	Business for Creatives	3

MGD Advisor Approved Electives**General Education Courses****(See AGS-Specialist Degree Requirements on page 49)****Total Required Credits****34-40****60****Multimedia Graphic Design Certificates****Graphic Design/Print Production Certificate**

The graphic design/print production emphasis prepares you for careers in printing, graphic design, and prepress production. An established industry, the printing/graphics industry has many job opportunities and exciting projects to work on in the Denver Metro area. The Graphic Design and Print Production certificate, when combined with the Motion Graphics Animation AAS degree, the Interactive Training and Simulation AAS degree, Video Production AAS Degree, 3D Design and Animation AAS or the Web Design and Development AAS degree adds 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 121	Corel Painter for Digital Media or MGD 216 Adobe Acrobat Professional	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**30****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, Motion Graphics Animation AAS degree, 3D Design and Animation AAS degree, Game Design and Development AAS degree or the Interactive Training and Simulation AAS degree adds 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 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3

MGD 104	Videography	3	JOU 241	Magazine Article Writing	3
MGD 163	Sound Design I: Apple Logic Pro	3	MGD 216	Adobe Acrobat Professional	3
MGD 164	Digital Video Editing I: Final Cut Pro	3	JOU 225	Internet Media	3
MGD 165	Adobe AfterEffects I	3	JOU 215	Publications Production and Design	3
MGD 264	Digital Video Editing II: Final Cut Pro	3	Total Credits		30
MGD 204	Videography II	3			
Total Credits		27			

Web Design Certificate

The Web design express 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, Motion Graphic Animation AAS degree, or Video Production AAS degree adds additional marketable skills to the traditional AAS degree.

It is highly recommended that students also take CWB 110 Complete Web Authoring or have basic HTML coding skills before taking MGD 141.

Required Courses		Credits
CWB 110	Complete Web Authoring: HTML	3
MGD 111	Adobe Photoshop I	3
MGD 112	Adobe Illustrator I	3
MGD 141	Web Design I: Adobe Dreamweaver	3
MGD 143	Web Motion Graphic Design I: Adobe Flash	3
MGD 241	Web Design II: Adobe Dreamweaver	3
Total Credits		18

Advanced Web Design Certificate

You will evaluate the look and feel of Web sites, learn HTML and HTML editors, and learn advanced Web production techniques, such as adding sound, video, or animation to a Web site. 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
MGD 243	Web Motion Graphic Design II: Adobe Flash	3
JOU 225	Internet Media	3
Total Credits		18

Digital Media Journalism Certificate

The Digital Media Journalism certificate prepares students for work with blogs, microblogs, and social networking applications for delivering mass media using the Internet as the primary means of media distribution. Students 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

Professional Photography – Traditional Film Certificate

You will learn traditional film photography techniques in photographic darkroom production, lighting, equipment, and business management. History and photographic film theory are covered as well. You will need a 35mm SLR film camera with Manual Controls.

Required Courses		Credits
ART 113	History of Photography	3
ART 138	Film Photography I	3
ART 238	Film Photography II	3
PHO 143	Perception and Photography	3
ART 143	Figure Photography I or ART 142 Landscape Photography (2) and PHO 240 Field Techniques and Exploration (1)	3
PHO 260	Event and Wedding Photography	3
ART 144	Portrait Photography	3
PHO 204	Commercial Studio Lighting	3
MGD 268	Business for Creatives	3
JOU 121	Photojournalism	3
Total Credits		30

Professional Photography – Digital Photography Certificate

Students learn techniques in digital photography such as camera techniques, digital printing production, lighting, equipment, and business management. History and digital photography theory are covered as well. Students need a digital SLR camera or a digital camera with manual settings.

Required Courses		Credits
ART 113	History of Photography	3
ART 139	Digital Photography I	3
ART 239	Digital Photography II	3
PHO 143	Perception and Photography	3
MGD 111	Adobe Photoshop I	3
PHO 260	Special Events and Weddings or PHO 232 Commercial Portraiture	3
ART 145	Digital Darkroom I	3
ART 144	Portrait Photography	3
PHO 204	Commercial Studio Lighting	3
MGD 268	Business for Creatives	3
PHO 266	Professional Digital Workflow: Adobe Lightroom or ART 158 Figure Photography I or MGD 121 Painter for Digital Media	3
Total Credits		30

Professional Photography – Traditional Film and Digital Photography Certificate

You will learn techniques in both film and digital photography such as camera techniques, print production, lighting, equipment, and business management. History and photographic theory are covered as well. You will need both a traditional film SLR camera and a digital SLR camera or a digital camera with manual settings.

Required Courses		Credits
ART 113	History of Photography	3
ART 138	Film Photography I	3

ART 139	Digital Photography I	3
MGD 111	Adobe Photoshop I	3
ART 145	Digital Darkroom I	3
PHO 143	Perception and Photography	3
ART 144	Portrait Photography or PHO 260 Event and Wedding Photography	3
PHO 204	Commercial Studio Lighting	3
MGD 268	Business for Creatives	3
PHO 266	Professional Digital Workflow: Adobe Lightroom or ART 143 Figure Photography I or MGD 121 Painter for Digital Media	3
Total Credits		30

Nursing

Certificates:

Nurse Aide

RN Refresher Program

Nursing Certificates

Nurse Aide Certificate

Applicants must be 18 years of older. Lifting requirement. Open enrollment with one of the following acceptance requirements documented with Red Rocks Community College: Accuplacer score in sentence skills of 95 or higher or SAT verbal score of 440 or higher or ACT English score of 18 or higher or ENG 090 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. 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. Drug screening will be done during the first week of school.

For a Step by Step Nursing Assistant Enrollment process, please visit our Web site at:
www.rrcc.edu/health/nuraidcour.html.

Required Courses		Credits
NUA 101	Nurse Aide Theory/Lab	4
NUA 170	Nurse Aide Clinical	1
Total Credits		5

RN Refresher Program Certificate

Requirements for this program: A current Colorado RN license, or a license to be reinstated proof of immunizations, liability insurance, Health Care Provider – BLS certification, and a letter from a physician stating you are physically and mentally able to participate in this course, including a lifting requirement. You must pass HPR 210 and NUR 290 with a grade of C or higher in order to participate in NUR 291 clinical rotation. You also must pass HPR 210, NUR 290, and NUR 291 with a grade of C or higher in order to receive a Certificate of Completion. This is not an open enrollment offering. You must make a separate application to the program.

For more information: www.rrcc.edu/health/rnrefresh.

Required Courses		Credits
NUR 290	RN Refresher	10
NUR 291	RN Refresher Clinical	2
HPR 210	Physical Assessment	2
Total Credits		14

Outdoor Recreation

Certificates

Introduction to Outdoor Recreation Leadership
(This certificate is only offered at WarrenTech)

Outdoor Recreation Leadership with an Emphases
in one or more of the following:

Winter Skills Specialist

Water-based Skills Specialist

Mountaineering Skills Specialist

Outdoor Recreation Generalist

Information: www.rrcc.edu/outdoor. 303.914.6238 or
email bill.haas@rrcc.edu

Outdoor Recreation Certificates

Introduction to Outdoor Recreation Leadership Certificate

This certificate is only offered at WarrenTech.

Required Courses		Credits
PER 253	Outdoor Leadership	2
PED 154	Backpacking	2
PER 161	Backcountry Cooking	1
HWE 120	Wilderness First Aid	1
PED 163	Orienteering and Route Finding	2
PED 165	Wilderness Survival Skills	3
PED 150	Rock Climbing I	2
OUT 216	Challenge Course Facilitation	2
Total Credits		15

Outdoor Recreation Leadership Certificate

By completing the Outdoor Recreation Leadership 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 ski areas, flyfishing guide services, summer adventure camps, community nature centers and outdoor programs, whitewater river outfitters, outdoor equipment purveyors, and companies employing wilderness guides. 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.

In order to complete the Outdoor Recreation Leadership Certificate, you must complete the following 20 credits plus at least one (1) area of emphasis in either: Winter Skills Specialist, Water-based Skills Specialist, Mountaineering Skills Specialist, or Outdoor Recreation Generalist.

Required Courses for the Outdoor Recreation Leadership Certificate		Credits
PER 160	Wilderness Ethics	3

PED 162	Map and Compass (GPS)	3
PED 165	Wilderness Survival Skills	3
PER 128	Introduction to Recreation	2
PER 252	Principles of Outdoor Recreation	3
PER 253	Outdoor Leadership	2
HPR 125	Outdoor Emergency Care and CPR or HWE 129 Wilderness First Responder	4
Total Required Credits		20

In addition to the courses above, you must complete at least one area of emphasis:

Emphasis in:

Winter Skills Specialist (Total Credits 27)

Select 7 credits from the following courses:

PED 157	Basic Mountaineering	3
PER 152	Avalanche Safety Level I	1
PED 166	Winter Wilderness Survival Skills	1
PER 168	Outdoor Equipment and Facilities	2
PED 132	Snowshoeing	1
PED 131	Nordic Skiing	2
PED 138	Introduction to Winter Sports	1
PED 156	Snow and Glacier Climbing	3
PED 280	Internship	3

Emphasis in:

Water-based Skills Specialist (Total Credits 27)

Select 7 credits from the following courses:

PER 150	Water Safety Instructor	3
PED 128	Basic Sailing	1
PED 129	Scuba Diving	1
PER 151	Lifeguard Training	2
PER 153	Whitewater Rafting Guide	2
PED 207	Intermediate Whitewater Canoeing	1
PED 237	Paddle Sports	2
PED 280	Internship	3

Emphasis in:

Mountaineering Skills Specialist (Total Credits 30)

Select 10 credits from the following courses:

PED 150	Rock Climbing I	2
PED 151	Rock Climbing II	2
PED 154	Backpacking	2
PED 155	Outdoor Expedition	3
PED 156	Snow and Glacier Climbing	3
PED 157	Basic Mountaineering	3
PED 159	Colorado's Fourteeners	2
PED 166	Winter Wilderness Survival Skills	2
PED 280	Internship	3

Emphasis in:

Outdoor Recreation Generalist (Total Credits 32)

You can design your own course of study by choosing at least four credits from each of the three programs of emphasis above, 12 credits in addition to the required **Outdoor Recreation Leadership Certificate** courses. Students completing this program emphasis can expect a well-rounded outdoor recreation experience and training in various aspects of outdoor recreation and leadership competencies.

Park Ranger Technology

The Park Ranger Technology 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 (PRT) certificate programs are designed around all agency requirements and allow students to design a program around specific interests, career goals, and previous training or education. The PRT Certificate Program 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 PRT Certificate of Concentration, the PRT program advisor will help you design an appropriate 2-year associates 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 PRT 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: www.rrcc.edu/park. 303.914.6238 or email bill.haas@rrcc.edu

Certificates:

Introduction to Park Ranger Technology

Law Enforcement

Outdoor Recreation

Resource Interpretation

Park Ranger Technology Certificates

Introduction to Park Ranger Technology Certificate

The Introduction to Park Ranger Technology Certificate is for students 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 101-108	Post Law Enforcement Academy	37
PRA 102	Introduction to Park Ranger Technology	3
PRA 203	Natural Resource Management	3
PRA 280	Park Ranger Internship	3
Total Credits		46

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

PRA 102	Introduction to Park Ranger Technology	3
PRA 203	Natural Resource Management	3
PRA 205	Resource Interpretation	3
PRA 218	Outdoor Recreation Leadership	3
PER 128	Introduction to Recreation	2
PER 252	Principles of Outdoor Recreation	3
PRA 280	Park Ranger Internship	3

Required Course credits**Elective Courses****Choose 13 credits from the following:**

HPR 125	Outdoor Emergency Care or HWE 129 Wilderness First Responder	4
GIS 101	Geographic Information Systems	3
PED 124	Mountain Biking	1
PED 129	Scuba Diving	1
PED 131	Nordic Skiing	2
PED 132	Snowshoeing	1
PED 150	Rock Climbing I	2
PED 151	Rock Climbing II	2
PED 153	Hiking	1
PED 154	Backpacking	2
PED 155	Outdoor Expedition	3
PED 157	Basic Mountaineering	3
PED 159	Colorado Fourteeners	2
PED 162	Map and Compass for the Outdoors	3
PED 163	Orienteering and Routefinding	3
PED 165	Wilderness Survival Skills	3
PED 166	Winter Wilderness Survival Skills	2
PED 207	Intermediate Whitewater Canoeing	1
PED 237	Paddle Sports	2
PER 168	Outdoor Equipment and Facilities	3
PER 152	Avalanche Safety Level I	1
PER 153	Whitewater Rafting Guide	2
PER 160	Wilderness Ethics	3
PER 161	Backcountry Cooking	1

Total Credits**20
13****33****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

PRA 102	Introduction to Park Ranger Technology	3
PRA 203	Natural Resource Management	3
PRA 205	Resource Interpretation	3
PRA 218	Outdoor Recreation Leadership	3
PRA 280	Park Ranger Internship	3
PER 160	Wilderness Ethics	3

Total Credits**Credits****18****Philosophy****Degree: Associate of Arts**

The completion of the following courses is appropriate if you are planning to transfer to a four-year college or university to complete a major in philosophy. Meet with a philosophy faculty advisor before beginning any program of study.

Philosophy AA Degree**Required Courses**

PHI 111	Introduction to Philosophy	3
PHI 112	Ethics	3
PHI 113	Logic	3
PHI 114	Comparative Religions	3

General Education Courses**(See AA Degree Requirements on page 32)****Approved Electives****Total Credits****32
16
60****Phlebotomy****Certificate**

This CCHE approved certificate is designed to prepare individuals to gain employment as a Phlebotomist in the health care industry. Students will receive an extensive and varied program of study that includes theory and practice, specimen setup and process, medical terminology specific to the laboratory, customer service skills, regulatory issues, venipuncture and fingerstick technique and numerous other collection procedures. After successful completion of this course and the phlebotomy internship, the student is eligible to apply and sit for the national AMT (American Medical Technologist) certification exam. Immunizations and background check are required before the start of the internship. Students must complete a criminal background check 90 days prior to enrolling in the internship by using American DataBank's online background check procedures at www.healthcareex.com. 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 this course at: www.rccc.edu/health/phlebotomy.html.

Permission of the instructor is required to register for both courses. Students must be at least 18 years old to register for this program.

Required Courses

HPR 112	Phlebotomy Certification	4
HPR 180	Phlebotomy Internship	3
Total Credits		7

Photography

See Multimedia Graphic Design on page 92

Physical Education-Outdoor Education

Degree: Associate of General Studies

Please meet with the Outdoor Physical Education faculty advisor before beginning this program.

The associate of general studies degree in outdoor physical education is also designed as a stand-alone program to allow you to enter a career as an outdoor educator, wilderness guide, or one of many careers in the outdoor industry.

Information: 303.914.6238 or email bill.haas@rrcc.edu

Physical Education-Outdoor Education AGS Degree

Required Courses		Credits
PED 150	Rock Climbing I	2
PED 151	Rock Climbing II or PER 252 Principles of Outdoor Recreation	2
PED 162	Map and Compass	3
PED 165	Wilderness Survival Skills	3
PED 166	Winter Wilderness Survival Skills	2
PED 237	Paddle Sports	2
PER 253	Outdoor Leadership	2
General Education Courses (See AGS – Generalist Degree Requirements on page 50)		38
Approved Electives		6
Total Credits		60-61

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. Students will then be scheduled for three off-campus clinical rotations. Students 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 Web site is the most current source for program information. www.rrcc.edu/pa

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 Web site. At the time of application, candidates must have completed a Bachelors 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	3
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	1.5
Required Clinical Courses		Credits
PAP 240, PAP 241	Family Medicine I, II	6
PAP 242, PAP 243	Internal Medicine I, II	6
PAP 244	Women's Health	3
PAP 245	Emergency Medicine	3
PAP 246	Surgery	3
PAP 247	Pediatrics	3
PAP 248	Psychiatry	3
PAP 249	Geriatrics/LTC	3
PAP 250, PAP 251	Elective I, II	6
Total Credits		80

Physics

Degree: Associate of Science

The completion of the following courses is appropriate for you if you plan to transfer to a four-year college or university to complete a major in physics. Consult with a physics faculty advisor before beginning any program of study.

These courses provide the basic preparation leading to physics-related careers. Some courses might not be offered each semester.

Physics AS Degree

Required Courses		Credits
CSC 160	Computer Science I	5
MAT 201	Calculus I *	5
MAT 202	Calculus II	5
MAT 204	Calculus III with special topics	5

PHY 211	Physics: Calculus-Based I *	5
PHY 212	Physics: Calculus-Based II *	5
*Fulfills General Education requirements		
General Education Courses		
(See AS Degree Requirements on page 43)		
Approved electives		
Total Credits		

27
3
60

Plumbing

Certificate

This program is under revision.

New students should contact Sarah Goepel at 303.914.6273.
Current students should contact Larry Snyder at 303.914.6306 or larry.snyder@rrcc.edu.

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 54, Carpentry on page 63, or Mechanical Trades on page 90 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.

Bachelor of Science transfer program: All Construction Technology 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. Students may transfer 80+ credit hours from Red Rocks Community College to DeVry University and complete a Bachelor of Science in Technical Management in as few as two semesters.

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.

Plumbing Service Certificate

Required Courses		Credits
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	1.5
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
Total Credits		18

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

Recommended Courses		Credits
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 136	American Presidency *	3
POS 225	Comparative Government*	3
POS 215	Current Political Issues *	3
ECO 201	Principles of Macroeconomics*	3
HIS 247	Contemporary World History*	3

*Fulfills General Education requirement

General Education Courses		Credits
(See AA Degree Requirements on page 32)		
Approved Electives		
Total Credits		

27
9
60

Power Equipment and Sport Vehicle Technology

(In cooperation with and taught at Warren Tech)

This two year program is designed to provide students 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		
(See AAS Degree Requirements on page 52)		15
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

(In cooperation with and taught at WarrenTech)

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.

Degree: Associate of Applied Science

Precision Machining

Certificates:

Lathe Operator

Mill Operator

CNC Lathe Operator

CNC Mill Operator

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 201	Introduction to CNC Turning Operations	3
MAC 205	Introduction to CNC Milling Operations	3
MAC 250	Advanced Inspection Techniques	3
MAC 252	Practical Metallurgy	3
Choose 15 credits from any of the following courses:		
MAC 123	Horizontal Mill Set Up and Operations Description	3
MAC 130	Conventional Lathe Operations	4
MAC 141	Advanced Machining Operations	4
MAC 202	CNC Turning Operations II	3
MAC 206	CNC Milling Operations II	3
MAC 221	Surface Grinder Setups and Operations	3
MAC 223	Tool and Cutter Grinder	3
MAC 240	CAD/CAM 2D	3
MAC 245	CAD/CAM 3D	3
MAC 258	Interpreting Engineering Drawings	3
TEC 205	Geometric Dimensioning and Tolerancing	3
Required General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math (or higher)	3
Credits from any two of the following three areas:		9
Arts and Humanities: (ART, FRE, GER, HUM, LIT, MUS, PHI, COM, SPA, THE)		
Natural & Physical Sciences: (AST, BIO, CHE, GEY, PHY)		
Social and Behavioral Science: (ANT, ECO, HIS, POS, PSY, SOC)		
Total Credits		60

Precision Machining Certificates

Lathe Operator Certificate

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 112	Advanced Engine Lathe	3
Total Credits		15

Mill Operator Certificate

Required Courses		Credits
MAC 101	Introduction to Machine Shop	3
MAC 102	Blueprint Reading	3
MAC 120	Introduction to Milling Machine	3
MAC 121	Intermediate Milling Machine	3
MAC 122	Advanced Milling Machine Operations	3
Total Credits		15

CNC Lathe Operator Certificate

Required Courses		Credits
MAC 201	Introduction to CNC Turning Operations	3
MAC 202	CNC Turning Operations II	3
MAC 240	CAD/CAM 2D	3
Total Credits		9

CNC Mill Operator Certificate

Required Courses	Credits
MAC 205 Introduction to CNC Milling Operations	3
MAC 206 CNC Milling Operations II	3
MAC 240 CAD/CAM 2D	3
Total Credits	9

CHE 101	Introduction to Chemistry w/lab	5
PHY 105	Conceptual Physics	4
SOC 101	Introduction to Sociology or PSY 101 General Psychology I	3
Total Credits		64

Process Technology – Energy Operations

Degree: Associate of Applied Science

Process Technology – Energy Operations

Certificates:

Introduction to Process Plant Safety

Process Technology – Energy Operations AAS Degree

The Process Technology – Energy Operations Program will prepare students for entry level employment as industrial operations technicians and operators. A process operator/technician is a key member of a team of people responsible for planning, analyzing, and controlling the production of electrical energy, oil and gas energy resources, alternate energy production and food and beverage and consumer products.

This program will provide the student with an understanding of process equipment and its principles of operation and control. The graduate will understand the technical aspects of the work, the responsibilities of the work and the importance of safety in this vitally important, shift oriented position.

The industries interested in the graduates from the program include, but are not limited to energy source production, oil and gas exploration and production, mining and mineral processing, petroleum product manufacturing, pharmaceutical production, food and beverage, electric power generation, drinking water treatment and wastewater treatment.

Information: 303.914.6063, chuck.beck@rrcc.edu

Required Courses	Credits
PRO 100 Introduction to Process Technology	4
PRO 110 Safety, Health and Environment	3
PRO 120 Process Technology: Equipment I	4
PRO 125 Industrial Equipment	4
PRO 130 Process Instrumentation I	3
PRO 131 Process Instrumentation II	3
PRO 210 Process Technology II: Systems	4
PRO 220 Process Technology III: Operations	4
PRO 230 Quality in Process Technology	3
PRO 240 Industrial Trouble Shooting	4
PRO 280 Internship or seek advisor approval for elective course(s) in HVA, WQM, IMA	3
Required General Education Courses:	
CIS 118 Introduction to PC Applications	3
BUS 118 Business Survival Skills	3
ENG 121 English Composition I	3
MAT 108 Technical Mathematics	4

Process Technology – Energy Operations Certificates

Students completing this program possess the skills and knowledge for entry level positions within the industry in the specific area of interest.

Introduction to Process Plant Safety Certificate

Required Courses	Credits
PRO 100 Introduction to Process Technology	4
PRO 110 Safety, Health, and Environment	3
Total Credits	7

Psychology

Degree: Associate of Arts

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 students 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.

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. Graduates who pass this national certifying examination are qualified to assume diagnostic radiographer positions in thousands of medical facilities across the nation, both in hospitals and private clinics or offices. After gaining on-the-job experience, you may be allowed to participate in advanced level examinations, such as computed tomography,

magnetic resonance imaging, or mammography. The radiography program is also an entry-level program for advanced imaging modalities, such as ultrasound, nuclear medicine, and radiation therapy.

You must complete the recommended general education course work, as well as HPR 178 and RTE 101 prior to applying. When enrolled in the clinical internship courses, students spend 30 to 34 hours per week at a healthcare facility. Students can expect to rotate through a variety of shifts on weekdays and weekend, during the day, at night, or overnight.

Admission to the radiologic technology program is through a competitive selection process. Applications are accepted once a year in May. Please visit the Medical Imaging Web site www.rrcc.edu/radiology or contact an academic advisor for more information on the application process. Information sessions for the Radiologic Technology Program are held regularly throughout the year. **Additional fees apply for most RTE courses.

Prerequisite Courses	Credits
HPR 178 Medical Terminology	2
Required Courses	Credits
RTE 101 Introduction to Radiology	2
RTE 111 Patient Care	2
RTE 121 Radiologic Procedures I	3
RTE 131 Radiographic Pathology and Image Evaluation I	1.5
RTE 141 Radiographic Equipment and Imaging I	3
RTE 181 Clinical Internship I (Additional fees)	5
RTE 122 Radiologic Procedures II	3
RTE 132 Radiographic Pathology & Image Evaluation II	1.5
RTE 142 Radiographic Equipment and Imaging II	3
RTE 182 Clinical Internship II	5
RTE 183 Clinical Internship III	7
RTE 221 Advanced Medical Imaging	3
RTE 231 Radiation Biology/Protection	2
RTE 281 Clinical Internship IV	8
RTE 282 Clinical Internship V	8
RTE 289 Registry Review (Capstone)	3
Recommended General Education Courses:	17
English	
ENG 121	3
Mathematics	
MAT 107 or higher	3
Social and Behavior Science	
PSY 235 or any PSY or SOC equivalent	3
Natural & Physical Sciences	
BIO 201 and BIO 202 or equivalent	8
Total Credits	77

Radiologic Technology Certificates

For more information regarding these courses, please contact the program office at 303.914.6034. 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 61

Renewable Energy Technology

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 as well as globally.

There is an increasing demand for skilled solar equipment installers, system designers, project managers, business managers, 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 Sarah Goepel at 303.914.6273.

Current students should contact: Larry Snyder, 303.914.6306, larry.snyder@rrcc.edu or Troy Wanek 303.914.6668, troy.wanek@rrcc.edu

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:

Grid Tie 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

Energy Efficiency Weatherization

Renewable Energy Technology Degrees

Renewable Energy Technology AAS Degree

Students seeking an AAS degree in Renewable Energy Technology will 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: Larry Snyder 303.914.6306,
larry.snyder@rrcc.edu or Troy Wanek 303.914.6668,
troy.wanek@rrcc.edu

Solar Thermal 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
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	4
ENY 275	SpTp: Thermal Install II & Controls	4
ENY 176	SpTp: Applied Information Technology for Energy	4
PLU 101	Piping Skills	4
ENY 132	NABCEP Entry Level Prep Class	1
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
Internship or Elective:		8
Seek advisor approval for elective courses in CON, BUS, ACT, CIS, ENY, MAR, MAN, COM, HVA, EIC, or PLU		
General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy Science & Technology: GT-SC1	4
PHI 218	Environmental Ethics: GT-AH3	3
Choose three credits from the following areas:		
ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, AST, BIO, CHE, GEY, PHY, ANT, ECO, GEO, HIS, POS, PSY, SOC, or CIS 118		
Total Credits		62.5

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
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 130	Solar Photovoltaic Grid Tie	2
EIC 110	Electrical Installations I	4
EIC 130	National Electrical Code I	4
ENY 176	SpTp: Applied Information Technology for Energy	4
ENY 131	Advanced PV Install	2
ENY 132	NABCEP Entry Level Prep Class	1
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
ENY 277	SpTp: Advanced PV Concepts & Commercial Applications	4
Internship or Elective:		4
Seek advisor approval for elective courses in CON, BUS, ACT, CIS, ENY, MAR, MAN, COM, HVA, EIC, PLU		
General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy, Science and Technology: GT-SC1	4
PHI 218	Environmental Ethics: GT-AH3	3
Choose three credits from the following areas:		
ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, AST, BIO, CHE, GEY, PHY, ANT, ECO, GEO, HIS, POS, PSY, SOC, or CIS 118		
Total Credits		62.5

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
HWE 113	First Aid and Adult CPR	0.5
HVA 105	Electricity for HVAC/R	4
ENY 130	Solar PV Grid-Tie	2
ENY 176	SpTp: Applied Information Technology for Energy	4
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
Advisor-Approved Electives		16
Internship or Elective		4
General Education Courses:		
ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy Science and Technology: GT-SC1	4
PHI 218	Environment Ethics: GT-AH3	3
Choose three credits from the following areas:		
ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, AST, BIO, CHE, GEY, PHY, ANT, ECO, GEO, HIS, POS, PSY, SOC, or CIS 118		
Total Credits		61.5
*The elective list for Business Owner is a mix of advisor-approved classes within CON, BUS, MAR, ACT, MAN, COM, CIS, or PSY		

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
HWE 113	First Aid and Adult CPR	0.5
HVA 105	Electricity for HVAC/R	4
ENY 176	SpTp: Applied Information Technology for Energy	4
ENY 120	Solar Thermal System Install	4
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4

Advisor-Approved Electives

15

Internship or Elective:

4

The elective list for Business Owner is a mix of advisor-approved classes within CON, BUS, ACT, MAR, MAN, COM, CIS, or PSY

General Education Courses:

ENG 131	Technical Writing	3
MAT 107	Career Math	3
PHY 107	Energy Science and Technology: GT-SC1	4
PHI 218	Environmental Ethics: GT-AH3	3

Choose three credits from the following areas:

ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, AST, BIO, CHE, GEY, PHY, ANT, ECO, GEO, HIS, POS, PSY, SOC, or CIS 118

Total Credits 62.5

Renewable Energy Technology Certificates

Grid Tie Entry Level 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
HVA 105	Electricity for HVAC/R	4
EIC 110	Electrical Installations I	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

Total Credits 20.5

Advanced Photovoltaic Installation 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
HVA 105	Electricity for HVAC/R	4
EIC 110	Electrical Installations I	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	Advanced Solar PV	2
ENY 132	NABCEP Entry Level Prep Class	1
ENY 231	Solar Contracting	4
ENY 277	SpTp: Advanced PV Concepts & Commercial Applications	4

Total credits 31.5

Solar Photovoltaic Designer Certificate

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
HWE 113	First Aid and Adult CPR	0.5
HVA 105	Electricity for HVAC/R	4
ENY 130	Solar Photovoltaics Grid Tie	2

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ENY 176	SpTp: Applied Information Technology for Energy	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		30.5

Solar Thermal Entry Level 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
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
PLU 101	Piping Skills	4
Total credits		18.5

Solar Thermal Installer 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
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	SpTp: Thermal Install II & Controls	4
PLU 101	Piping Skills	4
ENY 231	Solar Contracting	4
Total Credits		26.5

Solar Thermal Designer Certificate

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
HWE 113	First Aid and Adult CPR	0.5
HVA 105	Electricity for HVAC/R	4
ENY 120	Solar Thermal System Install I	4
ENY 176	SpTp: Applied Information Technology for Energy	4
ENY 231	Solar Contracting	4
ENY 240	Estimating for Energy	4
ENG 131	Technical Writing	3
Total Credits		30.5

Post EIC Degree Solar Photovoltaic 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
HVA 105	Electricity for HVAC/R	4
CAR 123	Roof Framing	1
CAR 125	Roofing Materials and Methods	1
ENY 130	Solar Photovoltaics Grid-Tie	2
ENY 131	Advanced PV Install	2
ENY 280	Internship or Advisor-Approved Electives	4
ENY 277	SpTp: Advanced PV Concepts & Commercial Applications	4
Total Credits		22.5

Post HVA Degree Solar Thermal 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	SOC 218	Sociology of Diversity	3
HVA 105	Electricity for HVAC/R	4	SOC 237	Sociology of Death and Dying	3
CAR 123	Roof Framing	1	General Education Courses		
CAR 125	Roofing Materials and Methods	1	(See AA Degree Requirements on page 32)		
ENY 120	Solar Thermal System Install I	4	*Fulfills General Education requirements.		
ENY 275	SpTp: Thermal Install II & Controls	4	Approved Electives		
ENY 280	Internship or Advisor-Approved Electives	4	Total Credits		
Total Credits		22.5	60		

Energy Auditing Certificate

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
ENY 276	SpTp: Energy Auditing Field Course	3
ENY 177	SpTp: Commercial Building Energy Audit	4
ENY 280	Internship	3
Advisor-Approved Electives:		6

Seek advisor approval for elective courses in SOC, PSY, PHI, or AEC

Students completing ENY 102 and ENY 275 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 **23.5**

Energy Efficiency Weatherization Certificate

ENY 102	Building Energy Auditing Techniques	3
OSH 127	10-HR Construction Industry Standards	1
HWE 113	First Aid and Adult CPR	0.5
ENY 153	Renewable Energy Construction	4
ENY 175	SpTp: Insulation and Air Sealing	1
CAR 130	Windows and Exterior Doors	1
CAR 135	Thermal/Moisture Methods/Mat	1
CAR 102	Hand and Power Tools	1
CAR 175	SpTp: EPA Certified Lead Renovator	0.5
Total Credits		13

RN Refresher

See Nursing on page 97

Secondary Education

See Teacher Education on page 108

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 students 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

Required Courses	Credits
SOC 101 Introduction to Sociology I *	3
SOC 102 Introduction to Sociology II *	3
Choose one from the following advanced classes	3
SOC 205 Sociology of Family Dynamics	
SOC 215 Contemporary Social Problems	

Sonography

Degrees: Associate of Applied Science

Diagnostic Medical Sonography

Vascular Technology

Diagnostic Cardiac Sonography

Certificates:

Diagnostic Medical Sonography

Vascular Technology

Diagnostic Cardiac Sonography

The Sonography program prepares the student for entry-level positions in the field with specialization in general sonography, vascular technology, or cardiac sonography. Upon completion of the program, you will be eligible to take the American Registry for Diagnostic Medical Sonography (ARDMS) certifying examination. You may choose between the associate of applied science degree option or the certificate of completion option.

You must complete a qualifying degree (two-year healthcare degree, or a four-year degree in any field), as well as RTE 255 and DMS 101 prior to applying. When enrolled in the clinical internship courses, students spend 30 to 34 hours per week at a healthcare facility. Students can expect to rotate through a variety of shifts on weekdays and weekend, during the day, at night, or overnight.

Admission to the Sonography Program is through a competitive selection process. Applications are accepted once a year in May. Please visit the Medical Imaging Web site www.rccc.edu/dms or contact an academic advisor 303.914.6034 for more information on the application process. Information sessions for the Sonography Program are held regularly throughout the year.

**Additional fees apply for DMS 244, DMS 280, and DMS 289.

Sonography Degrees

Diagnostic Medical Sonography AAS Degree

Prerequisite course:	Credits
RTE 255 Multiplanar Sectional Imaging or equivalent	2
Required Courses	Credits
DMS 205 Small Parts Ultrasound	2
DMS 206 Vascular 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 280 Ultrasound Clinical Observation	2.5

DMS 281	Clinical Internship I	8	DMS 289	Ultrasound Capstone	3
DMS 282	Clinical Internship II	10	DMS Elective Courses		4
DMS 283	Clinical Internship III	10	Total Credits		59.5
DMS 289	Ultrasound Capstone	3			
DMS Elective Courses		4			
General Education Courses		15			
(See AAS Degree Requirements on page 52)		74.5			
Total Credits					

Vascular Technology AAS Degree

Required Courses	Credits
DMS 203 Cerebrovascular Sonography	2
DMS 204 Venous Sonography	2
DMS 241 Ultrasound Physics I	2
DMS 242 Ultrasound Physics II	2
DMS 244 Ultrasound Scan Lab	6
DMS 251 Cardiovascular Anatomy and Physiology	2
DMS 252 Abdominal Vascular Sonography	2
DMS 261 Introduction to Vascular Testing	2
DMS 262 Arterial Sonography	2
DMS 280 Ultrasound Clinical Observation	2.5
DMS 281 Clinical Internship I	8
DMS 282 Clinical Internship II	10
DMS 283 Clinical Internship III	10
DMS 289 Ultrasound Capstone	3
DMS Elective Courses	4
General Education Courses	15
(See AAS Degree Requirements on page 52)	74.5
Total Credits	

Diagnostic Cardiac Sonography AAS Degree

Required Courses	Credits
DMS 251 Cardiovascular Anatomy and Physiology	2
DMS 255 Adult Echocardiography I	2
DMS 256 Adult Echocardiography II	2
DMS 267 Adult Echocardiographic Pathology	3
DMS 235 Pediatric Echocardiography	2
DMS 206 Vascular Sonography	2
DMS 241 Ultrasound Physics I	2
DMS 242 Ultrasound Physics II	2
DMS 244 Ultrasound Scan Lab	6
DMS 280 Ultrasound Clinical Observation	2.5
DMS 281 Clinical Internship I	8
DMS 282 Clinical Internship II	10
DMS 283 Clinical Internship III	10
DMS 289 Ultrasound Capstone	3
DMS Elective Courses	4
General Education Courses	15
(See AAS Degree Requirements on page 52)	75.5
Total Credits	

Sonography Certificates

Diagnostic Medical Sonography Certificate

Prerequisite Course	Credits
RTE 255 Multiplanar Sectional Imaging or equivalent	2
Required Courses	Credits
DMS 205 Small Parts Ultrasound	2
DMS 206 Vascular 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 280 Ultrasound Clinical Observation	2.5
DMS 281 Clinical Internship I	8
DMS 282 Clinical Internship II	10
DMS 283 Clinical Internship III	10

DMS 289	Ultrasound Capstone	3
DMS Elective Courses		4
Total Credits		59.5

Vascular Technology Certificate

Required Courses	Credits
DMS 203 Cerebrovascular Sonography	2
DMS 204 Venous Sonography	2
DMS 241 Ultrasound Physics I	2
DMS 242 Ultrasound Physics II	2
DMS 244 Ultrasound Scan Lab	6
DMS 251 Cardiovascular Anatomy and Physiology	2
DMS 252 Abdominal Vascular Sonography	2
DMS 261 Introduction to Vascular Testing	2
DMS 262 Arterial Sonography	2
DMS 280 Ultrasound Clinical Observation	2.5
DMS 281 Clinical Internship I	8
DMS 282 Clinical Internship II	10
DMS 283 Clinical Internship III	10
DMS 289 Ultrasound Capstone	3
DMS Elective Courses	4
Total Credits	59.5

Diagnostic Cardiac Sonography Certificate

Required Courses	Credits
DMS 251 Cardiovascular Anatomy and Physiology	2
DMS 255 Adult Echocardiography I	2
DMS 256 Adult Echocardiography II	2
DMS 267 Adult Echocardiographic Pathology	3
DMS 235 Pediatric Echocardiography	2
DMS 206 Vascular Sonography	2
DMS 241 Ultrasound Physics I	2
DMS 242 Ultrasound Physics II	2
DMS 244 Ultrasound Scan Lab	6
DMS 280 Ultrasound Clinical Observation	2.5
DMS 281 Clinical Internship I	8
DMS 282 Clinical Internship II	10
DMS 283 Clinical Internship III	10
DMS 289 Ultrasound Capstone	3
DMS Elective Courses	4
Total Credits	60.5

Speech and Communication

See Communication on page 64

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)

Certificates:

Paraeducator

Teacher Education Additional Program of Study:

Adult Education & Family Literacy

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. 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

Communication

ENG 121	English Composition I (<u>B</u> or higher)	3
ENG 122	English Composition II (<u>B</u> or higher)	3

Arts and Humanities

LIT 115, LIT 201, or LIT 202		3
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Mathematics

MAT 155	Integrated Math 1	3
MAT 156	Integrated Math II	3

Social and Behavioral Science

GEO 105	World Regional Geography	3
HIS 201	United States History I or HIS 202 United States History II	3

POS 111	American Government	3
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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

(Meet with the teacher education faculty advisor for a list of approved credits for each institution.)

Total Credits		61
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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 Certificates

Paraeducator Certificate

The federal No Child Left Behind Act mandates paraeducator requirements.

In order to be considered as a highly qualified paraeducator, you must meet one of the following requirements:

- successfully complete two years of post-secondary education (48 credits)
OR
- demonstrate your knowledge through a formal academic assessment (the Work Keys test) of writing, reading, and mathematics skills.

RRCC has developed a Paraeducator Certificate to assist paraeducators in meeting these new requirements. If you plan to transfer to a four-year college or university to complete teacher certification, you should consider the Associate of Arts degree, Elementary Education.

This certificate helps prepare you to work as a paraeducator in the K-12 classroom.

In order to be considered highly qualified, you must complete one of the above requirements.

Required Courses	Credits	
EDU 221	Introduction to Education	3
EDU 261	Teaching, Learning and Technology	3
EDU 240	Teaching the Exceptional Learner	3
EDU 288	Practicum	1
MAT 107	Career Math (See Advisor)	3
Students can select 3 credit hours from the following:		
EDU 234; PSY 238; LIT 255 or one advisor-approved elective.	3	
Total Required Credits	16	

Teacher Education Additional Program of Study

Adult Education and Family Literacy

Completing this program allows adult and family literacy educators to meet the federal No Child Left Behind Act and receive a Literacy Instruction Authorization (LIA) certificate from the Colorado Department of Education. The LIA is earned through completion of the first four courses listed below. EDU 135 is optional for Adult Education and Family Literacy (AEFLA) program staff but is required for Even Start program staff.

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
EDU 135	Family Literacy in Adult Education (Required for Even Start Program Staff)	3
Total Credits	15	

Theatre Arts

Consult with the Program Chair of Theatre Arts and Dance before beginning any program of study.

Degrees: Associate of Arts

Emphasis in Theatre Arts

Degree: Associate of Applied Science

Theatre Technology

Certificates:

Costume Basics

Costume and Fashion

Stagehand Basics

Stagecraft

Theatre Arts Degrees

Theatre Arts 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 Arts. This program provides basic preparation leading to theatre-related careers, as well as to the teaching of theatre.

Required Courses	Credits
THE 105 Theatre Appreciation	3
THE 111 Acting I	3
THE 116 Technical Theatre	3
THE 215 Playwriting	3
THE 211 Development of Theatre I	3
THE 212 Development of Theatre II	3

RECOMMENDED: Choose one course from the following for a total of 3 credits:

THE 131 Theatre Production I	3
THE 132 Theatre Production II	3
THE 231 Theatre Production III	3
THE 232 Theatre Production IV	3
THE 240 Theatre Voice and Diction	3

or any DAN or THE course not listed above.

General Education Courses (See AA Degree Requirements on page 32)	38
Total Required Credits	60

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 116 Technical Theatre	3
THE 131 Theatre Production I (fall only)	3
THE 132 Theatre Production II (spring only)	3
THE 135 Stage Makeup I (fall only)	2
THE 231 Theatre Production III (fall only)	3
THE 260 Employment Skills for Technical Theatre (spring only)	1

In addition to these courses, one of the following two emphases is required:

Emphasis in Stage Costuming:

ART 121 Drawing I or ART 128 Figure Drawing I	3
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 Sewing Techniques (fall only)	3
THE 240 Basics of Costume Design & Construction (spring only)	3
THE 245 History of Costumes & Fashion (fall only)	3
THE 222 Costume Accessories & Millinery	3

Emphasis in Stagecraft:

THE 100 Technical Theatre Lab	2
THE 104 Basics of Costume Construction	3
THE 151 Stagecraft I	3
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 241 Stage Properties	3
General Education Requirements:	15

THE 211 Development of Theatre: Greek-Renaiss (fall only)	3
THE 212 Development of Theatre: Restor-Mod (spring only)	3

Communication (3 credits)

ENG or COM

Mathematics (3 credits)

MAT 107 and above

Natural & Physical Sciences (3 credits)

AST,BIO,CHE,ENV,GEY,PHY,SCI

or

Social and Behavioral Sciences (3 credits)

ANT,ECO,GEO,GIS,HIS,POS,PSY,SOC

Required Program Credits **45**

Total Credits **60**

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 202 Intermediate Sewing Techniques	3
THE 131 Theatre Production I	2
THE 135 Stage Makeup I	3
Total Credits For One Semester	14

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 stitchers, wardrobe assistants, costume shop assistants, working in alterations and tailoring, makeup artists, window dressers, 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 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 175	Intermediate Sewing Techniques	3
THE 135	Stage Makeup I	2
THE 136	Stage Makeup II	2
THE 222	Costume Accessories & Millinery	3
Total Credits For Two Semesters		22

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 105	Theatre Appreciation	3
THE 104	Basic Costume and Apparel Construction	3
THE 116	Technical Theatre	3
THE 131	Theatre Production I	3
THE 135	Stage Makeup I	2
Total Credits For One Semester		14

Stagecraft Certificate

This course of study is designed to train you for entry-level positions as back-stage technicians, running crews, shop assistants, crew leaders, properties 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 year course of study, divided in two semesters (fall and spring).

Required Courses		Credits
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	2
THE 151	Stagecraft I	3
THE 216	Theatre Lighting and Design	3
THE 225	Sound Operation and Design Basics	2
Total Credits For Two Semesters		23

Water Quality Management Technology

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 offered. A degree in water quality management technology will give you all the instruction necessary to work in supervisory and management positions.

Information: Mike Smith 303.914.6325

www.rrcc.edu/wqm/

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

Source Control and Water Audit

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		
CIS 118	Introduction to PC Applications	3
GIS 101	Introduction To Geographic Information Systems	3
Total Credits		64

Water Quality Certificates

Students completing this program 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 in the Water Quality Industry	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 160 Managing the Global Water Supply	3
Total Credits	6

Introduction to Wastewater Treatment Certificate

Required Courses	Credits
WQM 100 Introduction to Water Quality Management	3
WQM 123 Water Reuse Systems	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

Source Control and Water Audit Certificate

Required Courses	Credits
WQM 160 Source Water Management	3
WQM 165 Water Law	3
WQM 212 Drinking Water Regulations	4
Total Credits	10

Welding

(In cooperation with and taught at WarrenTech)

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 and Humanities

ART, FRE, GER, HUM, LIT, MUS, PHI, COM, SPA, THE

Natural & Physical Sciences

AST, BIO, CHE, GEY, PHY

Social and Behavioral Science

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

Wind Energy Technology

The Wind Energy Technology Program will prepare students for entry-level employment as wind energy equipment technicians, often referred to as Wind Smiths. A wind energy technician is a key member of a team of people responsible for the operation and maintenance of electrical energy generation equipment and control systems for wind turbine generation systems. Individuals interested in the Wind Energy Technology program must be prepared for working in confined spaces and at heights greater than 100 feet, should be capable of lifting and carrying loads of 75 pounds or more, and will be required to make a vertical climb of 300 feet with only two rest stops; often several times in a day. The work may be in extreme weather conditions at remote locations for extended periods. The Wind Energy Technology program is focused on the maintenance and repair of commercial wind turbines; gear boxes, generators, digital controllers, and other industrial maintenance skills.

Industries interested in graduates from the program include, but are not limited to Wind Energy Farm owners and operators and firms that specialize in the maintenance and overhaul of wind-powered generation equipment.

For more information, please contact:

**Chuck Beck 303.914.6063, chuck.beck@rrcc.edu or
Larry Snyder 303.914.6306, larry.snyder@rrcc.edu
www.rrcc.edu/wind**

Degree: Associate of Applied Science

Wind Energy Technology

Certificates:

- Introduction to Wind Energy Technology
- Wind Energy Safety
- Wind Energy Basic Electro-Mechanical
- Wind Energy Advanced Electrical
- Wind Energy Advanced Mechanical

Wind Energy Technology AAS Degree

Required Courses	Credits
WTG 100 Introduction to Wind Industry	3
IMA 100 Introduction to Industrial Maintenance	3
EIC 124 Electrical Safety Requirements	1
OSH 175 SpTp: Personal Safety for the Energy Industry	3
HVA 105 Electricity for HVAC/R	4
ENT 106 Print Reading for Manufacturing	3
IMA 250 Industrial Machine Lubrication	3
MIL 107 Installing Belts, Chain Drives and Bearings	4
IMA 120 Pumps, Seals and Rotating Equipment	3
ENT 238 Fluid Power & Controls	3
EIC 160 Electrical Instruments and Measurements	4
EIC 220 Industrial Electrical Controls I	4
Subtotal	38
Required General Education Courses	Credits
CIS 118 Introduction to PC Applications	3
BUS 118 Business Survival Skills	3
ENG 121 English Composition I	3
MAT 107 Career Math (or higher)	3
PHY 107 Energy Science and Technology: GT-SC1	4
SOC 101 Introduction to Sociology or PSY 101 General Psychology I	3
Electives from IMA or HVA prefixes	3
Total Credits	60

Wind Energy Certificates

Students completing this program possess the skills and knowledge for entry-level positions within the industry in the specific area of interest.

Introduction to Wind Energy Technology Certificate

Required Courses	Credits
WTG 100 Introduction to Wind Energy	3
IMA 100 Introduction to Industrial Maintenance	3
EIC 124 Electrical Safety Requirements	1
HVA 105 Electricity for HVAC/R	4
OSH 175 SpTp: Personal Safety for the Energy Industry	3
Total Credits:	14

Wind Energy Safety Certificate

Required Courses		Credits
EIC 124	Electrical Safety Requirements	1
OSH 175	SpTp: Personal Safety for the Energy Industry	3
Total Credits		4

Wind Energy Basic Electro-Mechanical Certificate

Required Courses		Credits
ENT 106	Print Reading for Manufacturing	3
IMA 250	Industrial Machine Lubrication	3
MIL 107	Installing Belts, Chain Drives and Bearings	4
IMA 120	Pumps, Seals, Rotating Equipment	3
ENT 238	Fluid Power & Controls	3
EIC 160	Electrical Instruments and Measurements	4
EIC 220	Industrial Electrical Controls I	4
Total Credits		24

Wind Energy Advanced Electrical Certificate

Required Courses		Credits
PPT 215	Power Generation	3
IMA 150	Industrial Problem Solving Methods	2
EIC 230	IND Instrument & Control II	4
EIC 225	Programmable Controllers	4
Total Credits		13

Wind Energy Advanced Mechanical Certificate

Required Courses		Credits
IMA 150	Industrial Problem Solving Methods	2
MAC 105	Introduction to Machining Technology	4
WEL 131	Introduction to Industrial Welding	4
IMA 210	Vibration Principles	3
Total Credits		13

Woodworking

See Fine Woodworking on page 83

Course Descriptions

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.

Courses numbered XXX mean that the course is pending approval by the RRCC Curriculum Committee and CCCS.

AAA – Academic Achievement Courses

AAA 050 Semester Survival 2 credits

Emphasizes basic study skills in order to bolster your chances of completing the current semester successfully.

AAA 101 The Student Experience 1 credit

Introduces you to college culture and prepares you for the challenges you will face in higher education. Through a series of interactive seminars, you will discover learning in a multicultural environment and use college and community resources to attain educational and career goals.

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: Accuplacer scores of 80 or higher for reading and 45 or higher for elementary algebra or equivalent SAT scores ACT scores or equivalent course work.

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 123 Accounting Principles I Recitation 1 credit

Offers an accompanying recitation for ACC 121, Accounting Principles I. The course exposes you to a broader accounting experience in the foundational studies of accounting. You will be introduced to additional problems, case studies, and applications of accounting in real-world business situations, using individual and team problem solving.

Corequisite: ACC 121.

ACC 124 Accounting Principles II Recitation 1 credit

Offers an accompanying recitation for ACC 122, Accounting Principles II. The course exposes you to a broader accounting experience in financial and managerial accounting. You will be introduced to additional problems, case studies, and applications of accounting in real-world business situations, using individual and team problem solving.

Corequisite: ACC 122.

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 135 Spreadsheet Applications for Accounting 3 credits

Introduces spreadsheets as an accounting tool. Using an accounting perspective, you will apply 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 you with laws pertaining to payroll and sales taxes including record keeping rules. You will prepare various federal, state, and local forms for reporting payroll taxes and sales taxes. A computerized payroll simulation is included in the course.

Corequisite or prerequisite: ACC 101, 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 275 Special Topics in Accounting

1-3 credits

Provides you with a vehicle to pursue in depth exploration of special topics of interest.

ACC 280 Internship

1-3 credits

Provides you with the opportunity to supplement coursework with practical work experience related to their educational program. You 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.

ACC 285 Independent Study

1-3 credits

Meets the individual needs of students. You will engage in intensive study or research under the direction of a qualified instructor.

Prerequisite: Permission of instructor.

ACT – Automotive Collision Technology Courses

www.rccc.edu/autotech

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, ACT 131, or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

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 you will learn skills for proper removal and storage of exterior trim and protection of adjacent panels.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

ACT 143 Spray Equipment Operation
2 credits

Covers the inspection, cleaning, and determination of the condition of spray guns and related equipment. You will learn skills for adjusting spray guns by setting-up and testing spray gun operations.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

ACT 160 Custom Painting
3 credits

This course provides instruction in basic custom paint application such as pearl paints, candy colors, metal flakes, etc.

ACT 161 Automotive Graphics and Designs
3 credits

This course provides instruction in the application of graphics and designs to an automotive finish. These designs include striping, flames, paint fades, and graphics, etc.

ACT 163 Automotive Special Effects and Refinishing
3 credits

This course 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, shaping etc.

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
1-9 credits

Designed to prepare you to perform basic tasks for a specialized area in a controlled instructional lab.

Prerequisite: Completion of all courses in ACT specialization area.

ACT 171 Automotive Collision Technology Lab Experiences II
1-9 credits

Course is a continuation of Lab experience. Designed to prepare the individual to perform basic tasks for a specialized area in a controlled instructional lab.

Prerequisite: Completion of all courses in ACT specialization area.

ACT 172 Automotive Collision Technology Lab Experiences III
1-9 credits

Course is a continuation of Lab experience. Designed to prepare the individual to perform basic tasks for a specialized area in a controlled instructional lab.

Prerequisite: Completion of all courses in ACT specialization area.

ACT 175 Special Topics
0.5-9 credits

Assists those who are interested in individual topics within the normal curriculum. You will identify and select objectives that you need 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 automotive collision industry.

Prerequisite: ACT 101, ACT 110, or Faculty Consent

ACT 180 Automotive Collision Repair Internship
1-9 credits

Designed to meet the needs of the student in 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 181 Automotive Collision Repair Level II Internship
1-9 credits

Course is a continuation of Level I Internship. Student uses the knowledge and skills acquired throughout the ACT program in a job site placement.

ACT 205 Estimating and Shop Management
3 credits

Initiates written estimates on damaged vehicles. You will learn shop management including work orders, ordering supplies, operating costs, time cards, shop liabilities, employee's safety, and insurance management issues.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

Corequisite: ACT 111, ACT 124.

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.

Prerequisite: ACT 101, ACT 110, and all other lower level Structural Repair courses or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, ACT 205, or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, and all other lower level Structural Repair courses or Faculty Consent

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.

Prerequisite: ACT 101, ACT 110, or Faculty Consent.

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.

Prerequisites: ACT 101, ACT 110, and all other lower level Refinishing courses or Faculty Consent.

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.

Prerequisite: ACT 101, ACT 110, and all other lower level Refinishing courses or Faculty Consent

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.

Prerequisite: ACT 101, ACT 110, and all other lower level Refinishing courses or Faculty Consent.

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 tapes methods with decals etc. are demonstrated.

Prerequisites: ACT 101, ACT 110, or Faculty Consent.

AEC – Architecture, Engineering and Construction Courses

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 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 275 Special Topics: Architectural Graphics

3 credits

Provides students with a vehicle to pursue in depth exploration of special topics of interest. This class uses a combination of AutoCAD, Photoshop and SketchUp for rendering presentation files.

Prerequisite: EGT 230: Arch or equivalent

ANT – Anthropology Courses

www.rccc.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 (grade C or higher) or equivalent assessment scores.

ANT 102 Cultural Anthropology LAB: GT-SS3

1 credit

Studies the art and science of ethnographic research methods, analyze classic ethnographies, conduct field research projects, write model ethnographies and ethnologies, and address ethical debates and controversies.

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.

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.

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 also includes the works of selected archaeologists and discussions of major archaeological theories.

ANT 107 is generally offered in the late spring.

Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

ANT 108 Archaeology of World Rock Art

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.

ANT 111 Physical Anthropology: GT-SS3

3 credits

Studies human biology and its effects on behavior. It includes principles of genetics and evolution, vertebrates and primates, human origins, human variation, and ecology.

Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

ANT 201 Introduction to Forensic Anthropology

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.

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 (grade C or higher) or equivalent assessment 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

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.

ARA – Arabic Courses

www.rccc.edu/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 you to fundamentals of leadership and the United States Army. It 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. The course includes lecture and laboratory. (Lab Fee).

ARM 112 Adventures in Leadership II

2 credits

Spring semester

Investigates leadership in small organizations. The course 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. The course introduces you to effective military writing styles and includes lecture and laboratory. (Lab 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. You will refine written and oral communications skills and explore the basic branches of the Army, and officer and NCO duties. You will conduct practical exercises in small unit light infantry tactics and perform as mid-level leaders in the cadet organization. The course includes lecture and laboratory. (Lab Fee).

ARM 212 Methods of Leadership and Management II

3 credits

Spring semester

Focuses on leadership and management functions in military and corporate environments. You will study 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. The course continues to refine communication skills and includes lecture and laboratory. (Lab Fee).

ART – Art Courses

www.rccc.edu/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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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. You will attain an overview of technical, artistic, commercial, and social development of photography as a form of visual communication. You are required to have a basic knowledge of computers prior to taking this class. You 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; 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. *Prerequisite or corequisite: MGD 101.*

ART 115 Stained Glass I**3 credits**

Develops a basic understanding of and approach to stained glass. You will gain an understanding of and appreciation for the properties of glass and the nature of finished stained glass construction.

ART 116 Stained Glass II**3 credits**

A continuation of Stained Glass I. You will advance to a clearer but still basic understanding and approach to stained glass. You will gain a greater understanding of and appreciation for the properties of glass and the nature of finished stained glass construction. *Prerequisite: ART 115 or permission of instructor.*

ART 121 Drawing I**3 credits**

Investigates the various approaches and media that you 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 you to black and white photography as a fine art medium and develops skills necessary for basic camera and darkroom operations. You will learn to create sharp, properly exposed photographs using black and white film. You will also gain a working knowledge of a camera's controls, use of basic filters, and processing and printing black and white photographs. A 35mm SLR film camera is required for this class.

ART 139 Digital Photography I**3 credits**

Analyzes acquisition and manipulation of digital images. You will 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. You will examine color correction, restoration, colorizing, and archiving digital images. A digital SLR camera with manual settings is required for this class. You are required to have a basic knowledge of computers prior to taking this class. You 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; 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.*

ART 142 Landscape Photography**2 credits**

Designed for the advanced photography student interested in perfecting skills in shooting landscape or scenic photographs. Emphasis is placed on careful attention to detail and lighting conditions and use of medium and large format equipment in both color and black-and-white images. Both film and/or digital SLR cameras with manual settings may be used for this class.

Corequisite: PHO 240 Field Techniques and Exploration (1 credit).

Recommended Prerequisites: ART 138 Photography I or ART 139 Digital Photography I.

ART 143 Figure Photography I**3 credits**

Introduces students to the social, artistic and photographic aspects of fine art figure studies in photography, as 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.

Prerequisite: MGD 101 and ART 138 or ART 139.

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 and also includes lighting, composition, posing, and equipment selection. Both film and/or digital SLR cameras with manual settings may be used for this class.

Recommended Prerequisites: ART 138 Photography I or ART 139 Digital Photography I.

ART 145 Digital Darkroom: Adobe Photoshop**3 credits**

This course is essentially Photoshop for Photographers and teaches computer-aided photography and darkroom techniques. The emphasis of this course is image-editing software, which is used to color correct, retouch, and composite photographic images. Other topics include image acquisition, storage, file management, special effects, hard copy, and Web-based image output. A digital SLR camera with manual settings is required for this class. You are required to have basic computer skills or

to have taken MGD 101 Intro to Computer Graphics.

Recommended Prerequisites: ART 139 Digital Photography I and MGD 111 Photoshop I or permission of instructor and basic computer skills.

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 traditional and contemporary ceramic forms and processes, including handbuilding and throwing on the potter's wheel.

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 you with 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 (grade C or higher) or equivalent assessment 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 you 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.

Prerequisite: 12 credits of any combination of ART courses.

ART 215 Stained Glass III

3 credits

Provides continued instruction in which you advance to a clearer and more advanced understanding and approach to stained glass. You will gain a greater understanding of and appreciation for the properties of glass and the nature of finished stained glass construction. This course emphasizes original, personal expression.

Prerequisite: ART 116.

ART 216 Stained Glass IV

3 credits

Continues instruction in stained glass with students advancing to a clearer understanding and approach. You will gain greater appreciation for the properties of glass and the nature of finished stained glass construction. This course focuses on original, personal expression. Student independence is emphasized with regard to use of material and tools and a wide variety of glass.

Prerequisite: ART 215.

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. You will 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 238 Film Photography II**3 credits**

Explores in depth, in film camera and lab operations with an emphasis on individual creativity. It includes the development of a comprehensive portfolio.

Recommended Prerequisite: ART 138.

ART 239 Digital Photography II**3 credits**

A continuation of the beginning digital photography class. This class looks at digital photography in terms of design and communication factors, including color, visual design, lighting, graphics, and aesthetics. A digital SLR camera with manual settings is required for this class. You are required to have basic computer skills or to have taken MGD 101 Intro to Computer Graphics.

Prerequisite: ART 139 Digital Photography I or permission of instructor and basic computer skills.

ART 243 Figure Photography II**3 credits**

Students continue to explore the social, artistic and photographic aspects of fine art figure studies in photography, as 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**

A continuation of ART 161. This course emphasizes skill, technique and form.

Prerequisite: ART 161.

ART 262 Ceramics III**3 credits**

Encourages you to develop an individual style of wheel-thrown and hand-built ceramic forms with continuing involvement in surface treatment.

Prerequisite: ART 261.

ART 263 Ceramics IV**3 credits**

Continues advanced work with emphasis on various clay bodies, unique glazes and engobes, combining different textures and shapes, and development of personal forms.

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 you 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 your occupational experience plan.

Prerequisite: Permission of instructor.

ASE – Automotive Service Technology Courses

www.rrcc.edu/autotech

ASE 101 Auto Shop Orientation **2 credits**

Provides you 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 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 123 Battery Starting and Charging **2 credits**

Covers the operation, testing, and servicing of automotive battery, starting, and charging systems. Includes voltage and amperage testing of starter and generator, load testing and maintenance of a battery, and starter and generator overhaul.

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 Emissions **2 credits**

Focuses on lecture and laboratory experiences in the diagnosis and repair of automotive emission control systems.
Prerequisite: ASE 132.

ASE 140 Suspension and Steering I **3 credits**

Focuses on theory and related experiences in the diagnosis and service of suspensions and steering systems and their components.

ASE 150 Automotive U-joint and Axle Shaft Service **2 credits**

Studies the operating principles and repair procedures relating to axle-shafts, drive shafts, and universal joints.

ASE 151 Automotive Manual Transmission/Transaxles and 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 Differentials and 4WD/AWD Service **2 credits**

Focuses on lecture and related laboratory experiences in the diagnosis and repair of automotive differentials, transfer cases, four wheel and all wheel drive units.

ASE 160 Automotive Engine Removal and Installation **1 credit**

Focuses on theory and laboratory experiences in the removal and installation procedures of the automotive engine as they relate to front-wheel and rear-wheel drive vehicles.

ASE 161 Engine, Disassembly Diagnosis and Assembly **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 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 210 Brakes II **3 credits**

Covers the operation and theory of the modern automotive braking systems. This course includes operation, diagnosis, service, and repair of anti-lock braking systems, power assist units, and machining operations of today's automobile.
Prerequisite: ASE 110.

ASE 221 Automotive Body Electrical **4 credits**

Provides a comprehensive study of the theory, operation, diagnosis, and repair of vehicle accessories.
Prerequisite: ASE 120.

ASE 231 Automotive Computers **2 credits**

Focuses on lecture and laboratory experiences in the inspection and testing of typical computerized engine control systems.
Prerequisites: ASE 120, ASE 134, ASE 220.

ASE 233 Fuel Injection and Exhaust Systems **4 credits**

Focuses on lecture and related laboratory experiences in the diagnosis and repair of electronic fuel injection systems and modern exhaust systems.
Prerequisites: ASE 120, ASE 134, ASE 231.

ASE 235 Driveability Diagnosis **1 credit**

Emphasizes lecture and related laboratory experience in diagnostic techniques and the use of diagnostic scan tools, oscilloscopes, lab scopes, multi-meters, and gas analyzers. You will diagnose live vehicle driveability problems.
Prerequisite: ASE 233.

ASE 240 Suspension and Steering II **3 credits**

Emphasizes lecture and related experiences in the diagnosis and service of electronic suspensions and steering systems and their components.
Prerequisite: ASE 140.

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.

ASE 251 Automatic Transmission/ Transaxle Diagnosis and Assemblies

5 credits

Covers diagnosis, principles of hydraulics, principles of electronic components, power flow, theory of operation, removal of transmission/transaxle, tear down, replacement of components, measurement and subsequent adjustment of components, and replacement of transmission/transaxle.
Prerequisite: ASE 250.

ASE 265 Automotive Heating and Air Conditioning

5 credits

Emphasizes lecture and related laboratory experiences in the diagnosis and service of vehicle heating and air conditioning systems and their components.

ASE 282 Internship: General (Summer)

0.5-6 credits

Emphasizes practical on-the-job, work related experience that corresponds to the area of study. In this semester, the student takes all related sponsor requirements in (STS) Service Training Standards (General Motors) or ("F.A.S.T.") Fundamental Automotive Systems Training (Chrysler) or others as required by the program track.
Prerequisite: Permission of instructor.

ASL – American Sign Language Courses

www.rrcc.edu/languages

ASL 121 American Sign Language I

5 credits

Exposes you to American Sign Language. Readiness activities are conducted focusing on visual/receptive skills and basic communication. The course uses the direct experience method. You 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. You 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: 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: ENG 090 and MAT 090 (grade C or higher) or equivalent assessment scores.

AST 102 Astronomy II: 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: ENG 090 and MAT 090 (grade C or higher) or equivalent assessment 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 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.

AUT - Auto Motorsports Technology Courses

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.

BIO – Biology Courses

www.rrcc.edu/biology

BIO 105 Science of Biology: 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: ENG 090 and MAT 090 (grade C or higher) or equivalent assessment 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: 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: ENG 090 and MAT 090 (grade C or higher) or equivalent assessment scores.

BIO 112 General College Biology II: 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.

Prerequisites: MAT 090 or equivalent, BIO 111.

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 090 or equivalent, BIO 111.

BIO 201 Human Anatomy and Physiology I: 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 integumentary, skeletal, articular, muscular, nervous, and endocrine systems.

Prerequisites: MAT 090 or equivalent, BIO 111.

BIO 202 Human Anatomy and Physiology II: GT-SC1**4 credits**

A continuation of BIO 201. BIO 202 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 090 or equivalent, BIO 201.

BIO 204 Microbiology: 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 090 or equivalent, BIO 111.

BIO 208 General College Microbiology: GT-SC1**5 credits**

Designed for biology and health science majors. Surveys microorganisms with an emphasis on their structure, development, physiology, classification, and identification. Includes microbial diversity, functional anatomy, biochemistry, genetics, ecology, and disease. Mandatory hands-on laboratory experience covers sterile technique, microscopy, culture procedures, and biochemical and genetic analysis.

BIO 220 General Zoology: 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 090 or equivalent, BIO 111.

BIO 221 Botany: 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 090 or equivalent, BIO 111.

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, 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.rccc.edu/cis

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 215 Global E-Commerce
3 credits

The World Wide Web levels the business playing field and eliminates geographic barriers. The Internet provides global business potential for even the smallest business. BUS 215 teaches how to approach and maximize this business opportunity. This course includes global e-marketing and promotion, import and export management, legal issues, and language and cultural issues.

Prerequisite: BUS 115 suggested.

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. You will develop an understanding of the role of law in social, political, and, economic change.

Prerequisite: A grade of C or higher in REA 090 and ENG 090 or appropriate SAT, ACT or Accuplacer score that indicates college reading and writing readiness, or permission of instructor.

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 appropriate SAT, ACT or Accuplacer 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 099 (Intermediate Algebra) or equivalent.

BUS 275 Special Topics
1-3 credits

Provides you 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 you to supplement coursework with practical work experience related to their educational program. You 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.

BUS 285 Independent Study
1-3 credits

Meets the individual needs of students. You will 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/egt

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 224 Revit**3 credits**

Provides you with the software application training in AutoDesk Revit necessary to produce 3D architectural models and 2D drawings using AIA standards.

Prerequisite: EGT 230 or permission of instructor.

CAD 227 Revit Advanced**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 you 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**

Teaches you to apply 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 280 Internship**1-6 credits**

Provides you with the opportunity to supplement course work with practical work experience related to your educational program. You 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.

CAD 285 Independent Study**1-6 credits**

Meets individual needs. You will engage in intensive study or research under the direction of a qualified instructor.

Prerequisite: CAD 289 or permission of instructor.

CAD 289 Capstone**1-6 credits**

A demonstrated culmination of learning within a given program of study.

Prerequisite: EGT 231 related to discipline of study.

CAR – Carpentry Courses

www.rccc.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.

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.

CAR 115 Form and Foundation Systems**4 credits**

Covers materials and methods for concrete forms and foundations. Includes various reinforcement methods such as re-bar and welded-wire fabric.

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.

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.

CAR 125 Roofing Materials & Methods**1 credit**

Covers application techniques and estimation of asphalt and wood roofing products and accessories including gutters and flashing.

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.

CAR 133 Construction Framing & Safety**4 credits**

Utilizes hands-on techniques to illustrate basic framing methods and materials. Floor/wall and roof framing will be discussed, demonstrated, and taught. There will be extensive utilization of modern and western residential framing methods. The course will also include 10 hours of OSHA approved safety instruction which will qualify you for a 10-hour safety card.

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.

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.

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.

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.

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.

CAR 153 Interior Trim: Cabinet/Countertops**1 credit**

Covers the selection/installation/terminology of factory built cabinets and countertops. Includes various types and design and examines estimation of cost.

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.

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 you develop skills through tool utilization to pass competency and safety tests for each tool. You will study standard practices for bench carpentry through the actual construction of a project.

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.

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.
Prerequisite: Permission of instructor.

CAR 166 Stair Design & Construction
4 credits

Focuses on both site and off-site stair lay-out and construction. You will have a chance to explore various techniques for building the stairs and millwork involved in the construction and installation of handrail assemblies.
Prerequisite: CAR 156 or permission of Instructor.

CAR 175 Special Topics: EPA Certified Lead Renovator/Dust Sampling
0.5 credits

Trains the workforce in proper handling and notification of local personal 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.
Prerequisite: CAR 156, or permission of instructor.

CAR 275 Special Topics
1-6 credits

Provides you with a vehicle to pursue in depth exploration of special topics of interest
Prerequisite: CAR 156 or permission of Instructor.

CAR 280 Technical Project
4-12 credits

Enables you 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 the instructor.

CAR 282 Internship
0.5-12 credits

Provides students with prior course work an opportunity to apply their course studies.
Prerequisite: Permission of the instructor.

CAR 285 Independent Study
0.5-12 credits

Provides you the opportunity to work with the instructor on a specific area with specific objectives and a predetermined project completion date.
Prerequisite: Permission of the instructor.

CHE – Chemistry Courses

www.rccc.edu/chemistry

CHE 101 Introduction to Chemistry I: 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. It includes gases, liquids, and solids. Problem solving skills are emphasized.
Prerequisite: One year of high school chemistry or CHE 101.
Prerequisite: MAT 121.

CHE 111 General College Chemistry I: 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.

CHE 112 General College Chemistry II: 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.

CHE 211 Organic Chemistry I
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
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. CHE 212 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/cis

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 E-mail 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 114 Computing For Health It

3 credits

This is an introductory course in Computer Information Systems for Healthcare professionals. The focus of the class will be on computers as applied to Healthcare needs. The class will cover data representation, data communication, data storage, networking architecture and security. Network security will be covered as it relates to Electronic Health Records and Healthcare Privacy issues. The class will provide an Introduction to computer programming and database management.

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 Windows Complete

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 are covered.

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 202 Automated Project Management: MS Project**3 credits**

Provides and in depth exploration of project management techniques that use software to automate the project management processes. The course emphasizes project management strategies, goal setting and communication with team members, management and vendors. Critical thinking, discussion, and real world projects will be used to explore the creation of a task list, resource assignment and leveling. Students will learn to use GANTT charts, milestones, Critical Path Methodology, PERT, project tracking and reporting.

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.

Prerequisite: CSC 119 equivalent experience or permission of instructor.

CIS 222 UNIX System Administration**3 credits**

Introduces the UNIX/Linux operating system and covers the skills required to install, configure and operate a UNIX/Linux system.

Prerequisites: CIS 220 or comparable knowledge

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.

CIS 244 SQL PL/SQL**3 credits**

Provides a detailed introduction to the Structured Query Language (SQL) as used in modern relational database systems. Students will develop skills in storing, retrieving and manipulating data using SQL as well as in defining database objects using the portion of SQL known as the Data Definition Language (DDL). The course will also provide a detailed introduction to the PL/SQL programming language that is integral to some widely-used relational database systems, such as Oracle. Students will learn to create and maintain blocks of PL/SQL code that are used and shared by multiple forms, reports and program libraries. Users will learn to implement database triggers and other coded structures applicable to client/server databases

CIS 251 Introduction to Structured Query Language (SQL)**3 credits**

Introduces students to ANSI SQL which is the basis for most other Structured Query Languages. Students learn to query and update data, create table and views, use indexes, secure data, develop stored procedures and triggers learn object relational concepts and develop applications with embedded SQL and ODBC.

Prerequisite: CIS 240.

CIS 252 Implement and Maintain SQL Server Database**3 credits**

Provides you with the skills necessary to install and configure SQL Server, implement database mirroring, manage database snapshots, work with XML and flat files, manage replication, back up and restore a database, monitor and troubleshoot, and create and implement database objects.

Prerequisite: CIS 251 or equivalent knowledge.

CIS 253 Programming with a MS SQL Server Database**3 credits**

Provides you with the basics of programming custom database applications with Microsoft SQL Server. It includes integration with the Microsoft .NET Framework, SQL Server Management Studio, SQL Service Broker, Notification Services, Integration Services, Reporting Services, OLAP, and Data Mining.

Prerequisite: CIS 252 or equivalent knowledge and experience.

CIS 268 Systems Analysis and Design I**3 credits****Spring Only except Online**

Introduces you 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 289 Capstone**3 credits****Spring Only**

Allows you 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/speech

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 you 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/cis

CNG 101 Intro to Networking

3 credits

Focuses on underlying concepts of data communications, telecommunications and networking. It emphasizes the terminology and technologies in current networking environments and provides a general overview of the field of networking as a basis for continued study in the field.

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 you for the core hardware service technician portion of the CompTIAA+ 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 you for the CompTIAA+ OS Technologies Exam.

Prerequisite: CNG 121.

CNG 124 Networking I: Network+ 3 credits

Provides you 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 you for the Networking II: Network + course.

Prerequisite: CNG 122 or comparable knowledge or experience.

CNG 125 Networking II: Network+ 3 credits

Continues to provide you 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 you for the Network + certification.

Prerequisite: CNG 124.

CNG 131 Network Security Fundamentals 3 credits

Delivers a comprehensive overview of network security, including general security concepts. Communication Security is studied, including remote access, e-mail, the Web, directory and file transfer, and wireless data. Common network attacks are introduced. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity. Computer forensics is introduced.

Prerequisite: Instructor Approval.

CNG 132 Principles of Information Security 3 credits

Examines the field of information security to prepare information systems students for their future roles as business decision-makers. The course presents a balance of the managerial and the technical aspects information security. The concepts covered in this course should be helpful for students working towards the Certified Information Systems Security Professional (CISSP) certification.

CNG 136 Guide to Disaster Recovery 3 credits

Presents methods to identify vulnerabilities and take appropriate countermeasures to prevent and mitigate failure risks for an organization. It will take an enterprise-wide approach to developing a disaster recovery plan.

Prerequisites: CNG 131 or comparable knowledge

CNG 209 MS Windows Server Active Directory Configuration
4 credits

Provides students with the knowledge and skills to configure Active Directory Domain Services in a distributed environment, implement Group Policies, perform backup and restore, and monitor and troubleshoot Active Directory related issues.

Prerequisite: CNG 125 or comparable knowledge or experience.

CNG 210 MS Windows Server Network Infrastructure Configuration
4 credits

Provides students with the knowledge and skills to configure Active Directory Domain Services in a distributed environment, implement Group Policies, perform backup and restore, and monitor and troubleshoot Active Directory related issues.

Prerequisite: CNG 125 or comparable knowledge or experience.

CNG 211 Windows Configuration: WIN 7
3 credits

Provides you 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 Manage MS Windows Server Environment
4 credits

Provides you 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 253 Firewalls and How They Work
3 credits

Introduces students to the design and implementation of firewalls. Covers such topics as firewalls using CISCO Routers, Microsoft server platform and UNIX platform. Focuses on how firewalls function in these environments and the basic steps to plan and implement firewalls.

Prerequisites: CNG 131 and CIS 222 or comparable knowledge

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 253

CNG 258 Computer Forensics
4 credits

Exposes the student to the field of Computer Forensics and investigation. Provides the student with methods to properly conduct a computer 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. The curriculum and objectives map to the International Association of Computer Investigative Specialists (IACIS) certification.

Prerequisites: CNG 257

CNG 259 Enterprise Security
4 credits

This course challenges students to combine the skills learned in previous coursework (or work experience) and apply them in whole to a mock business IT environment. Students will work in their own virtualized server environment, complete with servers, routers, firewalls, VPN, IDS/IPS, wireless and other current technologies to develop a security policy and framework using risk analysis and risk management techniques.

Prerequisites: CNG 258

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). You 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, you 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.rccc.edu/speech

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 and 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 and conflict resolution.

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

Enables you to improve your abilities to analyze, evaluate and impact group discussions, group processes, leadership responsibilities, group dynamics, group decision making and other elements of group communication.

COM 220 Intercultural Communication

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.

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 prevention.

COM 264 Negotiation

1 credit

Focuses on protecting your interests and those of others while preserving relationships. 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. 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. You will engage in intensive study or research under the direction of a qualified instructor.

CON – Construction Technology Courses

www.rccc.edu/construction

CON 105 Construction Technology

4 credits

Explores a variety of software applications available for the construction trade. The course introduces computer applications such as Word, Excel, PowerPoint, scheduling, estimating, and accounting programs.

CON 110 Introduction to

Construction, Part I

4 credits

Explores the expanding array of careers within the construction industry. Students will be exposed to the construction industry through job site tours, hands-on experience, and classroom activities. Math and science applications will be established through the academic integration of the job-site experience and the classroom theory.

CON 140 Introduction to Building

Codes and Enforcement

3 credits

Introduces the basic concepts of code enforcement.

CON 142 International Residential Code**4 credits**

Primarily covers the first 11 chapters of the current code book, as well as briefly discussing the information located within the other chapters of the book. This course is designed as an introduction to the IRC for contractors, building officials, architects, and others within the building industry who desire to gain knowledge of the IRC.

CON 143 International Building Code**4 credits**

Primarily covers the first 11 chapters of the current code book, as well as briefly discussing the information located within the other chapters of the book. It will also introduce other documents which relate to the IBC, such as various I-codes, addendums, and specifications. This course is designed as an introduction to the IBC for contractors, building officials, architects, and others within the building industry who desire to gain knowledge of the IBC.

CON 147 Field Engineering I**3 credits**

Provides students with an understanding of the basic skills required to perform entry level field engineering tasks in the construction industry. Course focuses on providing students with an opportunity to operate surveying equipment currently in use in the field, perform data collection and record keeping according to industry standards, and apply basic math and measuring techniques to structure and site layout tasks.

CON 228 Estimating**4 credits**

Covers the estimation process, the role of the estimator, types of estimating, CSI Divisions, bid/contract documents, change order pricing, value engineering, design build projects, and estimate compilation.

CON 230 Blueprint Reading**4 credits**

Introduces students to reading and interpreting blueprints for residential, commercial and industrial construction.

CON 232 Managing the Submittal Process (pending approval)

Provides students with the knowledge and skills required to use the construction submittal process to manage project scheduling, quality control and coordination between trades. Students will learn to build and monitor a submittal schedule; accurately review the shop drawings, product data, and samples that comprise submittal

packages; incorporate this information into project scheduling; and use approved documents to control quality during installation.

CON 240 Code Compliance II**3 credits**

Prepares students to successfully complete the building inspector exam. This course studies building codes and enforcement practices.

CON 241 Overview of International Codes**4 credits**

Provides a general overview of the 11 codes promulgated by the International Code Council for the purpose of providing regulations for the building industry.

CON 242 Residential and Non-Residential Plan Review**3 credits**

Provides a step-by-step procedure for reviewing construction documents for compliance with the nonstructural and structural requirements of the 2000 International Building Code. The course covers the procedure for reviewing residential plans and specifications based on the 2003 International Residential Code.

CON 245 Project Management**4 credits**

Covers the principles of project planning, scheduling, estimating and management. It emphasizes the basic skills required to supervise personnel. and includes case studies.

CON 261 Leadership and Motivation for Construction Supervisors**2 credits**

Introduces basic management ideas, principles and skills that will enable the student to immediately function more effectively in everyday management of a crew on a construction project. This course includes the role of the construction supervisor, motivational strategies, positive discipline, leadership styles, and team building. (Unit 1 of AGC Supervisory Training Program)

CON 262 Oral and Written Communications for Construction Supervisors**2 credits**

Presents the fundamental principles of communication, with emphasis on sorting, facilitating and managing the flow of information that construction supervisors encounter in their daily work. The course includes nonverbal communication, listening, negotiating, giving effective directions, building

consensus, writing and fundamentals of electronic communication. (Unit 2 of AGC Supervisory Training Program)

CON 263 Problem Solving and Decision Making for Construction Supervisors**2 credits**

Identifies common problems and how they occur in the construction industry. The course includes defining the role of the construction supervisor in problem identification, problem solving, and decision making to prevent problems. (Unit 3 of AGC Supervisory Training Program)

CON 264 Contract Documents and Construction Law for Construction Supervisors**2 credits**

Develops a basic understanding of contract documents and construction law as they impact the construction supervisor. Learn how to use them to solve problems, resolve issues and remedy conflicts. Understand the rights and responsibilities of the construction supervisor as defined by this information. (Unit 4 of AGC Supervisory Training Program)

CON 265 Planning and Scheduling for the Construction Supervisor**2 credits**

Teaches you to plan the sequence, duration and relationship of activities for a construction process and understand how to communicate the plan to contractual parties and to use the plan as a reference point for examining project changes. The course includes planning for safety, organization, manpower and site layout. (Unit 5 of AGC Supervisory Training Program)

CON 266 Understanding and Managing Project Costs for Construction Supervisors**2 credits**

Teaches you to become familiar with how construction project estimates are compiled, how to compare actual project costs with those estimated, methods to control the costs to meet the estimate, and how to apply lessons learned to future projects. (Unit 6 of AGC Supervisory Training Program)

CON 267 Accident Prevention and Loss Control for Construction Supervisors**2 credits**

Teaches you to understand how basic safety and health principles increase productivity, competitive position and profitability. Learn how the construction supervisor can directly impact the bottom line by understanding and applying basic principles of accident prevention and loss control. This course includes moral and

personal obligations toward safety, basics of insurance, cost considerations of safety and methods to create a safe working environment. (Unit 7 of AGC Supervisory Training Program)

CON 268 Managing the Project, the Construction Supervisor's Role
2 credits

Teaches you to develop an understanding of the supervisor's role in the application of business management functions to a construction project. Topics include preplanning, staffing, production, cost and risk control, subcontractor coordination, purchasing and project closeout. (Unit 8 of AGC Supervisory Training Program)

CON 269 Productivity Improvement for Construction Supervisors
2 credits

Teaches you to organize a construction project with productivity improvement as a goal is the focus of this course. Topics include calculating and measuring work productivity, work improvement analysis, understanding work worker ability and the impact of environmental factors, implementing and monitoring improvement programs. (Unit 9 of AGC Supervisory Training Program)

CON 280 Internship
1-6 credits

Provides you with the opportunity to supplement coursework with practical work experience related to your educational program. You 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.

CON 285 Independent Study
1-6 credits

Meets the individual needs of students. You will engage in intensive study or research under the direction of a qualified instructor.

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 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, ariforming 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. The affects these 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, 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 & Sales
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 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**

This course is the extra hours/credits required for the hairylist program, per State Board of Colorado Barber/Cosmetology Board. 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.

CRJ – Criminal Justice Courses

www.rccc.edu/criminal

Prerequisite for all CRJ courses: Students must have earned an ACT score of 18. If they do not have an 18, students must take ACCUPLACER and score 95 or higher on the Writing Skills portion of ACCUPLACER and 80 or higher on the Reading Skills portion.

CRJ 110 Introduction to Criminal Justice**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 (grade C or higher) or equivalent assessment scores.

CRJ 125 Policing Systems
3 credits

Examines the complexity and multidimensional aspects of the law enforcement role and career; law enforcement discretion; 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 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 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 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 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 245 Interview and Interrogation**3 credits**

Focuses on the study of technical and legal approaches used in gathering desired information from victims, witnesses, and suspects. It examines the fundamental characteristics of questioning and the use of psychological influences.
Prerequisite: CRJ 110.

CRJ 257 Victimology**3 credits**

Introduces you to the role the crime victim plays in the criminal justice system. The traditional response that a crime victim receives from the system will be studied and the psychological, emotional and financial impact these responses have on victimization will be analyzed.
Prerequisite: CRJ 110.

CRJ 275 Special Topics**1-6 credits**

Provides you 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. You 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.rccc.edu/cis

CSC 119 Introduction to Programming**3 credits**

A general introduction to computer programming. The course 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.

CSC 126 Game Design and Development**3 credits**

Combines problem-solving techniques with computer game design and implementation to introduce you to basic gaming and computer science concepts. You 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 160 Computer Science I: C++
4 credits**

Introduces you to the discipline of computer science. Topics covered will include algorithm development, data representation, arithmetic and logical expressions, subprograms and input/output operations using a structured programming language. Intensive computer laboratory activities are required. Object-oriented techniques will also be emphasized.

Prerequisite: MAT 121 College Algebra, 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. You 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 you 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 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 236 Introduction to 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 240 Java Programming
3 credits**

Introduces the Java programming language and covers basic graphics, threads, events/procedures, user interface, and libraries. You 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 246 Mobile App Development:
(iOS)
3 credits**

Learn how to develop mobile apps using key features and frameworks. Students will learn application design and development using a mobile development platform software development kit (SDK) and corresponding programming language. Main features include: handling UI triggered and touch events, data management, simple and complex UI views, drawing, location and application settings.

Prerequisite: CSC 261, or equivalent experience and/or permission of instructor.

**CSC 248 Java Internet
Programming
3 credits**

Covers Java programming in the Internet environment. It focuses on server-side programming and covers network programming, database connectivity, server programming, multimedia, and Java beans.

Prerequisite: CSC 240, equivalent experience, or permission of instructor.

**CSC 250 Programming with
Microsoft ADO .NET
3 credits**

Teaches you to build data-centric applications and Web services with Microsoft ADO.NET, Microsoft SQL Server, and the Microsoft .NET Framework. This course includes designing and building data-centric, distributed applications.

Prerequisite: CSC 261, or equivalent experience or permission of instructor.

**CSC 253 MS ASP.NET Web
Application Development: C#
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 Web site.

Prerequisite: CSC 251 or CSC 261.

**CSC 261 Programming in C# .NET
3 credits**

Provides you with the knowledge and skills needed to develop C# applications for the Microsoft .NET Platform. This course focuses on C# program structure, language syntax, and implementation details.

Prerequisite: CSC 236 or CSC 160, equivalent experience, or permission of instructor.

**CSC 262 VS.NET Application
Development: 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 261, 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.rccc.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, you will take a nationally recognized test from the Education Foundation of the National Restaurant Association. If passed with a score of 75% or more, you 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 recruiting and hiring process. It covers application, interview techniques, training, and hiring processes and incorporates preparation of menus for different styles of food service establishments.

CUA 121 Introduction to Food Production Principles and Practices

1 credit

Provides you 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 you 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. You 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 you 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 you to vegetable preparation and breakfast cookery in a commercial kitchen. The course focuses on the significance of 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. You 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 you 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 you to prepare and cook a variety of casseroles and grain products using a commercial kitchen for the preparation area. It allows you to apply pre-preparation skills and efficient organization of work techniques.

CUA 132 Center of the Plate: Meat

1 credit

Provides you 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 you with the fundamentals of baking terminology, principles of baking, and the characteristics and functions of the main ingredients used in bakery production. It orients you to commercial equipment, tools, and utensils used in baking.

CUA 142 Basic Yeast-Raised Products and Quick Breads

1 credit

Provides you with the fundamentals of basic yeast-raised production and quick breads. The course enables you 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 you with the fundamentals of basic cake, pie, pastry, and cookie production. The course enables you 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 you 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 you 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 you 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. You will research and locate dessert menus/recipes to be used in lab production.

CUA 156 Nutrition for the Hospitality Professional

3 credits

Provides you 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. You will may take a nationally recognized test from the Educational Foundation of the National Restaurant Association.

CUA 157 Menu Planning

3 credits

Introduces you to planning menus and integrating them into foodservice operations. It equips you 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 you with the opportunity to supplement coursework with practical work experience related to your educational program. You will 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 you with the opportunity to supplement coursework with practical work experience related to your educational program. You will 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 you in an actual work situation where you will participate in the operation of a foodservice establishment. Hours of work are arranged by the site supervisor and you, the intern. The number of hours required is determined by the number of credits the course carries.

CWB – Computer Web Courses

www.rccc.edu/cis

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*

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: CWB 110 and CIS 128 or a working knowledge of Windows.*

CWB 164 XML

3 credits

Designed to teach you 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

This course 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 web site 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 you how to work in the server-side scripting environment. You will learn the basics of application development and general principles that apply to most development environments. You will develop applications using two different

server-side application development tools: PHP Hypertext Preprocessor (PHP) and Cold Fusion. You also will learn key application standards, such as source and revision control, coding standards, code optimization, and data integrity.
Prerequisite: CSC160, CIS 251, and CWB 110, or permission of instructor.

CWB 245 Complete Web

Animation: Flash

3 credits

Explores the complete set of Web animation tools. Topics include creating an .swf file; publishing the file with interactivity and animation; creating .swf files encompassing navigation, animation, event sound, streaming sound, behavior actions; getting a movie clip, tell targets, preliminary Generator discussion, and preloaded sequences; integration of 3D objects; and producing a high-end project.

Prerequisites: CSC 119 or CSC 160; CWB 245 and CWB 162 are recommended, or permission of instructor.

CWB 246 Advanced Web

Animation: Flash

3 credits

An advanced topics study of the Flash r/6 authoring tool, Flash's scripting language Action Script, and the complex functions of the Macromedia Flash .swf file format. The main objective of the course is the exposure to advanced interactivity, design, and coding principles.

Prerequisite: CWB 245 or permission of 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. You will learn diagonal step combinations leading to hip-hop dance routines. May be repeated for a total of three credits.

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. You will learn diagonal and center step combinations leading to hip-hop dance routines. May be repeated for a total of three credits.

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. May be repeated for a total of three credits.

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.

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.

DAN 114 Modern Dance IV

2 credits

Teaches a variety of modern dance techniques and experiment with their own 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.

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.

DAN 117 Salsa I

1 credit

Introduces the beginning dancer to popular Salsa steps and dance combinations. This course includes basic partnering concepts and techniques. Dancers will explore rhythm, proper body alignment and music recognition. A partner is not required for this course.

DAN 118 Salsa II

1 credit

Continues Salsa I with an increased knowledge of Salsa dance. This course focuses on Salsa dancing in groups of couples with frequent partner exchanges. Dancers learn a more in-depth study of Salsa dance concepts and techniques. A partner is not required for this course.

DAN 119 Salsa III

1 credit

Continues Salsa II with an increased knowledge of Salsa dance. This course focuses on more advanced dance technique as well as performance qualities and creative expression. Students engage in more challenging footwork with frequent partner exchanges. A partner is not required for this course.

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 you to work at an intermediate level with a basic understanding of body alignment, balance, and musicality.

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.

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.

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 (grade C or higher) or equivalent assessment scores.

DAN 129 Introduction to Dance

1 credit

Introduces the art of dance and movement expression from a variety of viewpoints: historical, cultural, aesthetic, critical and creative. Examines the art and craft of dance as an expression of culture and community while exploring personal expression, imagery, dance techniques and performance qualities.

DAN 130 Dance Sampler

1 credit

Introduces the beginning dancer to popular dances through a social dance sampler in Salsa, Swing, and Country Western Dance technique, footwork, body posturing, rhythms, and dance floor etiquette. Examines a variety of dances such as Salsa's Mambo, Cha-Cha, and Rumba; Swing's Lindy Hop (jitterbug); and Country Western's Two Step, Cowboy Waltz, Cotton-Eyed Joe and various Country Western line dances.

DAN 131 Ballet I

1 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 and jumping steps, and basic extended positions. May be repeated for a total of three credits.

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.

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. May be repeated for a maximum of three credits.

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.

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. May be repeated for a total of three credits.

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. May be repeated for a total of three credits.

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. May be repeated for a total of three credits.

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 you to perform a belly dance and learn the history of belly dance and costuming techniques. May be repeated for a total of three credits.

DAN 152 Belly Dance II

1 credit

Continues DAN 151, with emphasis on coordination and balance and additional techniques. It includes costume design. May be repeated for a total of three credits.

DAN 154 Dance and Stage Movement

3 credits

Introduces you to the basic elements of modern dance and to the potential of dance and stage movement as a means of communication.

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.

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.

DAN 222 Dance Performance II

2 credits

Continues Dance Performance I class offering more opportunities for students to perform in different settings.

DAN 224 Dance for Musical Theatre

3 credits

Introduces you to dance within the context of musical theatre. The course enables you to practice non-verbal

communication and expressive movement techniques.

Prerequisites: DAN 154 or permission of instructor.

DAN 225 Dance For Musical Theatre II

3 credits

Continues Dance 224 with more emphasis on performance.

Prerequisites: DAN 211 or permission of instructor.

DAN 226 Pointe

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

Offers a continuation of 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 Belly Dance II (DAN 152) with emphasis on coordination, balance and additional techniques. Includes costume design, fitness, and the emphasis of learning advanced dance techniques to perform professionally. May be repeated for a total of three credits.

DAN 275 Special Topics

1-6 credits

Provides you 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

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 Denistry

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 104 Specialties in Denistry
1 credit

Includes roles and responsibilities of the dental health team; educational background for the various specialties including general practitioner, hygienist, dental assistant; history, legal implications, ethical responsibilities and the role of professional organizations.

DEA 121 Dental Science I
3 credits

Includes fundamentals of the oral structures as they apply 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
2 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
2 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 175 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

RTE 255 Multiplanar Sectional Imaging
2 credits

A multi-planar sectional anatomy course with co-relative MRI and CT images. This course is designed for both post-graduate imaging professionals and radiologic technology students who want to enhance knowledge and skills. You will be able to identify normal anatomy, anatomic variants, and selected pathologies in orthogonal trans-axial, sagittal, and coronal planes through the study of line drawings, plasticized cadavarous sections, and related MR and CT images. This course is designed to develop, in you, a working knowledge of anatomy and pathologies encountered in sectional imaging modalities such as MRI and CT.

Program prerequisite

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

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. You will 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. You 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 you with an in-depth study of the evaluation of peripheral venous disease using duplex ultrasound and plethysmographic techniques. You will learn to evaluate for venous thrombosis and insufficiency. Superficial venous mapping will be demonstrated. You will review techniques for evaluating the presence of venous disease. You will 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**

Designed to teach 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. You 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, 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. You 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. You will 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 you 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, 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. You will 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 251 Vascular Anatomy and Physiology
2 credits**

Equips you with an understanding of the anatomy and physiology of the circulatory system. You will learn the anatomy of the veins and arteries of the

human body from the great vessels to the microscopic structures at the capillary level. You will study the physiology of the circulatory system, including the effects of disease processes.

**DMS 252 Abdominal Vascular Sonography
2 credits**

Teaches you 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. You will 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, advanced cardiac imaging. ECG techniques are introduced with an emphasis on normal and abnormal rhythms encountered in echocardiography.

**DMS 261 Introduction to Vascular Testing
2 credits**

Introduces you to the field of vascular technology. You will 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. You will learn how to perform B-mode and Doppler evaluation of the upper and lower extremities. You will 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, evaluating and correlating patient symptoms with diagnostic findings. You 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 280 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 281 Ultrasound Internship I **10 credits**

Provides clinical experience for the beginning ultrasound student. You will master the foundations of instrumentation, scanning techniques and image evaluation of sectional anatomy. You 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. You 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. You will spend 30 hours per week at the clinical site under the direct supervision of a registered sonographer.

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 Courses

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.rccc.edu/ece

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: A grade of B or higher in ENG 060 or appropriate SAT, ACT or Accuplacer score.

ECE 102 Introduction to Early Childhood Lab Techniques **3 credits**

Includes a classroom component and required placement in a child care setting (ECE 188). The supervised placement provides you with the opportunity to observe children, to practice appropriate interactions, and to develop effective guidance and management techniques. This class addresses ages birth through eight.

Prerequisite or Corequisite: ECE 101 and a grade of B or higher in ENG 060 or appropriate SAT, ACT or Accuplacer score.

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: A grade of B or higher in ENG 060 or appropriate SAT, ACT or Accuplacer score.

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: A grade of B or higher in ENG 060 or appropriate SAT, ACT or Accuplacer score.

ECE 112 Introduction to Infant/Toddler Lab Techniques **3 credits**

Includes a classroom seminar and placement in an infant and/or toddler setting. The supervised placement provides you 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: A grade of B or higher in ENG 060 or appropriate SAT, ACT or Accuplacer 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 you 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 you to plan and implement a comprehensive and developmentally appropriate art program for young children. Additionally, you will 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, you will 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 you 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.

Prerequisite: ECE 101 and a grade of B or higher in ENG 060 or appropriate SAT, ACT or Accuplacer score.

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 B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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.

Prerequisite: ECE or PSY 238 or permission of instructor and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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 or PSY 238 or permission of instructor and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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 or PSY 238 or permission of instructor and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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 a grade of C or higher in REA 090 and ENG 090 or appropriate SAT, ACT or Accuplacer score 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 or PSY 238 and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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.

Prerequisite: ECE 101 and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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.

Prerequisite: ECE 101 and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score. This is the capstone course for director certification and it is recommended that you are in your 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 a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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. You will learn how to plan effective activities and programs for parent involvement in facilities serving children birth to age eight.

Prerequisite: ECE 101 and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

ECE 260 Exceptional Child

3 credits

Presents an overview of typical and atypical developmental progression. It 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. This course focuses on birth through age eight.
Prerequisite: ECE or PSY 238 or permission of instructor and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.

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 in early childhood education programs. Requires 120 hours of field-based experience. Please see ECE advisor for more information.

Prerequisite: ECE 101 and a grade of B or higher in ENG 090 or appropriate SAT, ACT or Accuplacer score.
Capstone course for AAS Degree.

ECO – Economics Courses

www.rrcc.edu/economics

Prerequisite for all ECO courses: Students must have earned an ACT score of 18. If they do not have an 18, students must take ACCUPLACER and score 95 or higher on the Writing Skills portion of ACCUPLACER and 80 or higher on the Reading Skills portion.

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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.

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 you 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. You will 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 135 Family Literacy in Adult Education

3 credits

Introduces the philosophy and theory behind family literacy, as well as giving practical advice on the development and implementation of a family literacy program. The four-component model—adult education, early childhood education, parent and child together time (PACT), and parent time—will be covered, both in theory and practical application.

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. Corerequisite: 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 you to integrate technology into your teaching curriculum. It enables you 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 Adv 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 you with the opportunity to supplement coursework with 30 hours of practical field experience related to your educational program. You will work under the immediate supervision of experienced teachers at an education facility and with the direct guidance of an RRCC faculty member. Corerequisite: EDU 221.

EGT – Engineering Graphics Technology Courses

www.rrcc.edu/egt

(See CAD on page 126 for more listings)

EGT 230 Drafting and Design I

6 credits

Develops a fundamental understanding of Single Family Residence design using 2D drawings. Project management for a complete set of Construction Drawings is emphasized, as well as pertinent design data relative to the AAS degree emphasis. Use of Model Space / Paper Space, floating viewports manipulation, external references, and interface tools is emphasized. Material is relative to the certificate or degree program.

Prerequisite: CAD 101, CAD 102, or equivalent.

EGT 231 Drafting and Design II

6 credits

Examines ideas, sketches, and layouts to create working drawings of a design relative to the certificate of degree program while working within Industry Standards. Projects require full documentation details and the presentation of working drawings. 3D applications are used and "real world" methods are taught through the course of the semester, from basic understanding to the most complex design.

Prerequisite: EGT 230 and CAD 102.

EIC – Electricity Industrial/Commercial/Residenti al 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.

**EIC 110 Electrical Installations I
4 credits**

Covers residential building wiring in conformance with the current National Electrical Code and local codes using non-metallic cable. The course emphasizes 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 raceways. 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 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. It covers chapters one through four of the National Electrical Code.

**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 you 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 instrument transformers 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**

Introduces you to common electrical repairs, electrical systems, tools, and test equipment. It includes replacing or repairing devices such as receptacles, light fixtures and ballasts, circuit breakers, fuses, and switches. The course addresses electrical safety and code applications.

**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 and calculating ratings of protective 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 190. 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. You will 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 xxx Advanced Industrial Electrical Controls

4 credits

Builds on the application of electrical and electromechanical sensing/control devices; heating, motor control; conveyor drives; and other industrial applications. It focuses on variable speed drive technology, including operation, set-up, troubleshooting, maintenance, proper selection and application for drives, and basic drive overview and comparison. You will be introduced to real world uses of pneumatic and electro-pneumatic control through hands-on learning; you will learn to read symbols, and understanding of component technologies. You will design advanced 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 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 you 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 220 or permission of instructor.

EIC 226 PLC Controllers Advanced

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 you to create, implement, and troubleshoot ladder logic programs that simulate automated machine control and processes.

Prerequisite: EIC 225 or permission of instructor.

EIC 230 Instrumentation & Controls I

4 credits

Introduces the basic concepts, principles, equipment, and components of instrumentation and control systems found in the process and energy supply industries. The fundamental process variables of pressure, temperature, level, flow and physical properties will be presented. Control loop structure and function will be introduced. The function and operation of a proportional-integral-derivative (PID) controller will be introduced. You will assemble and operate basic control loops in a laboratory setting.

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 you 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 275 Special Topics

0.5-12 credits

Provides you 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 you with the opportunity to supplement course work with practical work experience related to your educational program. You 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.

EIC 285 Independent Study

0.5-12 credits

Meets the individual needs of students. You 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.rccc.edu/emplan

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 enable you 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 241 Decision Making and Problem Solving

3 credits

Enables you to clearly identify a problem and its causes in order to determine the appropriate type of decision making style.

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 280 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/ems

EMS 115 First Responder

3 credits

Provides you 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 125 Emergency Medical Technician – Basic

9 credits

Enables you, after successful completion of this course, to take the National Registry EMT-Basic certification examinations as required by the Colorado Department of Health and Environment. Student must be at least 18 years of age. *Prerequisites: Age 18 by the first day of class, high school diploma or GED, assessment scores at the college level in reading and writing. Corequisite: 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.*

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, pharmacodynamics, 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 Emergency Medical Technician 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 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 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

Provides the student with information and skill practice to apply their assessment and treatment skills to patients in a remote setting.

Prerequisite: EMT-Basic or higher certification.

EMS 170 EMT-Basic Clinical

1 credit

Provides the EMT student with the clinical experience required.

Prerequisite: Permission of instructor.

Co requisite: EMS 125 or 126.

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 you 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 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.

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 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 030 Basic Writing Skills
2 credits

Focuses on sentence and basic paragraph structure and development. The course enables you to review and improve grammar, usage, and punctuation skills while employing critical thinking strategies and the writing process to respond to a wide variety of writing situations.

Prerequisite: Take the Accuplacer, both the Writing Skills and Reading Skills portions of the test.

ENG 060 Writing Fundamentals
3 credits

Focuses on paragraph structure and development and introduces the formal essay. The course enables you to review and improve grammar, usage, and punctuation skills while employing critical thinking strategies and the writing process to respond to a wide variety of writing situations.

Prerequisites: A grade of C or above in ENG 030 or equivalent ENG assessment scores (Accuplacer Writing Skills: 50-69) and a grade of C or above in REA 030 or equivalent Reading Skills assessment score (Accuplacer Reading Skills: 40-61).

ENG 090 Basic Composition
3 credits

Emphasizes critical thinking as you explore writing for specific purposes and audiences. The course enables you to develop skills required for college-level writing while reviewing paragraph structure and focusing on essay development.

Prerequisites: A grade of C or above in ENG 060 or equivalent ENG assessment scores (Accuplacer Writing Skills: 70-94) and a grade of C or above in REA 060 or equivalent Reading Skills assessment score (Accuplacer: 62-79).

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. You will write a minimum of five compositions that stress analytical,

evaluative, and persuasive/argumentative writing.

Prerequisites: A grade of C or above in ENG 090 or equivalent ENG assessment scores. (Accuplacer Writing Skills: 95 or above) and a grade of C or above in REA 090 or equivalent Reading Skills assessment score (Accuplacer: 80 or above). 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.

The course emphasizes critical/logical thinking and reading, problem definition, research strategies, and writing analytical, evaluative, and/or persuasive papers that incorporate research.

Prerequisite: A grade of C or above in ENG 121.

ENG 131 Technical Writing I

3 credits

Develops skills you can apply to writing a variety of technical documents. The course focuses on principles for organizing, writing, and revising clear, readable documents for industry, business, and government.

Prerequisite: A grade of C or above in ENG 090 or equivalent ENG assessment score (Accuplacer Writing Skills: 95 or above) and a grade of C or above in REA 090 or equivalent Reading Skills assessment score (Accuplacer: 80 or above). 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

Teaches techniques for creative writing. The course explores imaginative uses of language through creative genres (fiction, poetry, literary nonfiction) with emphasis on your own unique style, subject matter, and needs.

Prerequisites: A grade of C or above in ENG 090 or equivalent ENG assessment score (Accuplacer Writing Skills 95 or above) and a grade of C or above in REA 090 or equivalent Reading Skills Assessment Score (Accuplacer 80 or above).

ENG 226 Fiction Writing

3 credits

Teaches techniques for creating fiction, including the study and appreciation of the language and forms of the short story.

Prerequisite: A grade of C or above in ENG 090 or equivalent ENG assessment score (Accuplacer Writing Skills 95 or above) and a grade of C or above in REA 090 or equivalent Reading Skills Assessment Score (Accuplacer 80 or above).

ENG 227 Poetry Writing
3 credits

Teaches techniques for creating poems, including study of figurative language, forms, and sound patterns of poetry.

Prerequisite: A grade of C or above in ENG 090 or equivalent ENG assessment score and a grade of C or above in REA 090 or equivalent Reading Skills Assessment score.

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: A grade of C or above in ENG 090 or equivalent ENG assessment score (Accuplacer Writing Skills 95 or above) and a grade of C or above in REA 090 or equivalent Reading Skills Assessment Score (Accuplacer 80 or above).

ENG 230 Creative Nonfiction

3 credits

Teaches the incorporation of literary techniques into factual writing. The course enables you 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 you to write and review your own nonfiction in a supportive, constructive setting.

Prerequisite: A grade of C or above in ENG 090 or equivalent ENG assessment score (Accuplacer Writing Skills 95 or above) and a grade of C or above in REA 090 or equivalent Reading Skills Assessment Score (Accuplacer 80 or above).

ENG 231 Literary Magazine

3 credits

Teaches you 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 you to produce a literary magazine.

Prerequisite: A grade of C or above in ENG 090 or equivalent ENG assessment score (Accuplacer Writing Skills 95 or above) and a grade of C or above in REA 090 or equivalent Reading Skills Assessment Score (Accuplacer 80 or above).

ENT – Engineering Technology Courses

ENT 106 - Print Reading for Manufacturing

3 credits

Focuses on blueprint reading techniques related to manufacturing operations. The course will cover basic drafting standards, sketching, machine shop math, symbol interpretation, tolerance, and dimensioning standards.

ENT 146 Construction Materials and Methods

3 credits

Focuses on basic knowledge of construction materials, how they are manufactured, and their application in light commercial and industrial structures.

ENV – Environmental Science Courses

ENV 101 Introduction to Environmental Science: 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.

Prerequisites: ENG 090 and MAT 090 (grade C or higher) or equivalent assessment scores.

ENY – Energy Technology Courses

www.rrcc.edu/renewable

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, he/she 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

Teaches the student about solar thermal panels, 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 project.

ENY 130 Solar PV 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 Advanced PV Install

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 141 Passive Solar Systems I

3 credits

Beginning application of Passive Solar design concepts in the built environment. Learn to Calculate the Solar resource and its effects on structures, mass storage and natural energy transfer methods also examined. Assessment of building heat loss and insulation methods, energy conservation and efficiency included. Passive concepts are applied to both existing retrofit and new construction.

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 175 Special Topics: Insulation and Air Sealing

1 credit

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

ENY 176 Special Topics: Applied Information Technology for Energy

4 credits

Explores a variety of new software applications now available for the trades engaged in energy management. Introduces computer applications such as CAD, scheduling, estimating, and accounting programs. Explores technology choices and compares them. (Previously CON 105 and ENY 105).

ENY 177 Special Topics: Commercial Building Energy Audit

4 credits

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

ENY 230 PV Troubleshooting and Maintenance

3 credits

Students explore and identify the trouble areas as they might encounter while servicing a PV system. Course includes safety and maintenance procedures for off-grid battery/hybrid systems, and tracking arrays.

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, sub contracting, 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 Topics: 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 276 Special Topics: Energy Auditing Field Course

3 credits

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

ENY 277 Special Topics: 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

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.

ESL – English as a Second Language Courses

www.rrcc.edu/international

ESL 012 Intermediate Pronunciation

3 credits

Provides listening, speaking and reading activities that help you recognize and produce a variety of stress and intonation patterns in English. It helps you to produce problematic English sounds.
Prerequisite: appropriate placement score.

ESL 033 Advanced Conversation

3 credits

Provides you 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 you for academic reading assignments. It assists you 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 ACCUPLACER score.

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 assessment score.

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 four 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 assessment 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 assessment score.

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 four 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 assessment 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 assessment 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 assessment score.

ESL 275 Special Topics: Semi-Intensive ESL

6 credits

Develops and strengthens oral and written communication in English for non-native speakers at the intermediate level by focusing on the four skills: grammar, reading, writing, and listening/speaking.

Prerequisites: appropriate assessment score.

ESL 276 Special Topics: iBT TOEFL Preparation

4 credits

Provides non-native speakers of English with training for the iBT TOEFL exam. TOEFL is required for non-native speakers who wish to continue their education in four-year college and university settings. The integrated speaking, listening, reading, and writing skills required for the new iBT TOEFL are emphasized in this course.

Prerequisite: successful completion of Intensive English Program or appropriate assessment score.

EST – Esthetician Courses

www.rccc.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.rccc.edu/finewood

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.

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.

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.

FIW 106 Plane Making

4 credits

Explores the tradition of craftsmen making their own tools and offers an explanation of the ideal within the creation of hand planes. The course enables you to determine the type of construction techniques to use in building this project through researching old methods and examining current practices. The final outcome is demonstrated by using the new plane.
Prerequisite: FIW 100, FIW 101, FIW 109 or permission of instructor.

FIW 108 Toolmaking and Jigs

4 credits

Expands the capabilities, speed and accuracy of the woodworker through the use of jigs and specialty tools. The course focuses on constructing several projects (box joint jig, a router table, a mock dovetail jig or spring pole lathe) of progressing difficulty.
Prerequisite: FIW 100, FIW 101, FIW 109 or permission of instructor.

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 115 Strip Canoe Building**4 credits**

Focuses on constructing a strip canoe utilizing forms, thin wood strips, and epoxy/fiberglass techniques resulting in a beautiful and strong yet lightweight craft. It explores construction of seats, thwarts, and paddles.

FIW 116 Cabriole Leg and Queen**Anne Furniture****4 credits**

Focuses on the Queen Anne style in order to guide the furniture maker to depart from rectilinear form and create curves and bends in wood. The course examines patternmaking and building from drawings to create a chair, table, cabinet or similar piece.

Prerequisite: FIW 100, FIW 101, FIW 109 or permission of instructor.

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.

FIW 119 Intermediate Turning I**3 credits**

Expands upon 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.

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.

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.

FIW 122 Wood Carving**3 credits**

Allows the 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 you have made. 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.

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.

FIW 175 Special Topics: Advanced Instrument Finishing and Setup**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: Frame Joinery**4 credits**

Explores different types of wood connections using both hand and power tool techniques in frame and carcass joinery. Students will cut, fit, and assemble projects.

Prerequisite: FIW 100, FIW 101, FIW 109 or permission of instructor.

FIW 202 Furniture II: Carcass and**Chair Construction****4 credits**

Explores different types of wood connections, using both hand and power tool techniques in frame and carcass joinery. Students will cut, fit, and assemble projects.

FIW 203 Furniture III: Period**Furniture Reproduction****4 credits**

Create and reproduce a piece of furniture from a selected time period. Ancient and modern techniques and materials are examined while selecting the construction process for an individual piece. This class is an extension to FIW 202 - Furniture II.

FIW 205 Tablemaking**4 credits**

Involves the study and construction of flat surface using some of the wide variety of potential styles, sizes, materials and techniques available. Solid and sheet goods are examined as well as alternative construction methods and their various qualities. Fastenings, edging and movement concerns are explored.

Prerequisite: FIW 201.

FIW 206 Chairmaking**4 credits**

Utilizes chair construction to examine some of the alternatives of machine and hand-tool construction as illustrated by seat shaping through router surfacing vs. inshave use, for example. Spindle turnings, spokes have use and compound angles may be encountered in constructing a chair. Chair style often dictates resolving construction dilemmas such as jointing compound curves and jig making for tapered legs with fluting or reeding.

Prerequisite: FIW 201.

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.

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 equivalent) 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, cold lamination and steam bending. Form construction, various qualities of different wood species and adhesive selection are studied.

Prerequisites: FIW 100, FIW 101, FIW 109 or permission of instructor.

FIW 211 Shop Carpentry

4 credits

For the non-site, shop carpenter and includes jig and patternmaking; stationary power tool maintenance and adjustment; machining of woods; and techniques unique to shops, cabinetmakers and mill workers.

Prerequisite: 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.

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 215 Advanced Joinery

4 credits

Examines all types of joinery from decorative to the most complex of hand and machine cutting techniques. You will study and learn their respective qualities in regards to strength, material and adhesive selection, wood movement and the properties of different joints. A project incorporating many of these joints will be expected.

Prerequisites: FIW 201 and FIW 206.

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 you will 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 100 or FIW 109.

FIW 220 Advanced Furniture and Cabinet Construction

4 credits

Designed to assist you in organizing their woodworking abilities. By the time you take this course, you should have a stable base of skills and abilities. Your completion of this project should demonstrate your understanding of advanced woodworking techniques, the ability to create and use shop drawings, and finishing techniques.

Prerequisite: FIW 213 or FIW 209.

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.

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 Guitar Construction.

FIW 250 Period Furniture Reproduction

4 credits

Involves researching and selecting a period and style of furnituremaking from the biblical era to contemporary times and building a reproduction piece. You will examine then and now techniques and materials while selecting the construction process for their individual piece. Period reproduction becomes musical instruments, boats or other items as you become involved in their research.
Prerequisite: FIW 201.

FIW 275 Special Topics

0 – 6 credits

Provides students with a vehicle to pursue in depth exploration of special topics of interest

FIW 280 Internship

0-12 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.

Prerequisite: Permission of the instructor.

FIW 285 Independent Study 0-12 credits

Meets the individual needs of students. 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/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.

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.

FST – Fire Science Technology Courses

www.rrcc.edu/fire

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 or Corequisite: FST 102 strongly recommended before taking Fire Academy: EMS 125/170 (EMT-Basic) and FST 160 (CPAT Test Prep).
Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

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 (grade C or higher) or equivalent assessment scores.

FST 103 Firefighter Occupational Health and Safety 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 (grade C or higher) or equivalent assessment scores.

FST 104 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 assessment scores or permission of instructor.

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

FST 151 Driver-Operator 3 credits

Provides you with the basic knowledge and skills to safely operate fire apparatus according to the NFPA professional standard. The course enables you to display and demonstrate knowledge of fire apparatus, operation of apparatus,

pumps and pumping, hydraulics calculations, maintenance, and testing.
Prerequisite: ENG 090 (grade C or higher) or equivalent assessment 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 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 you 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 your 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, 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.

FST 250 Chemistry for Fire Protection
3 credits

Addresses the actions and reactions of commonly encountered products and chemicals, chemical properties, and field applied chemistry

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.

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 you 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.

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/wildland interface, strategy and tactics used in controlling wildland fires, prevention methods, and incident command practices.

FST 260 Intermediate Fire Behavior S290**2 credits**

Analyzes the effects of fuels, weather, topography, and fire behavior on the wildland fire environment and acquaints prospective fire line supervisors in wildland fire behavior for effective and safe fire management operations.

FST 261 Fire Operations in the Urban Interface**2 credits**

Examines fireline personnel skills to anticipate and predict wildland fire behavior, weather, and rates of spread. This course was developed under the Interagency Curriculum established and coordinated by the National Wildfire Coordinating Group. The course covers fire environment, fuels classification, topography and fire behavior, temperature-moisture relationship, fuel moisture, local and general winds, atmospheric stability and instability, keeping current with the weather, extreme fire behavior, fire behavior affecting fireline tactics, and fire behavior predictions.

Prerequisites: Firefighter II in the National Wildfire Coordinating Group and ability to perform wildland firefighting tasks.

FST 262 Wildland Fire Behavior**3 credits**

Gives students fireline personnel skills to anticipate and predict wildland fire behavior, weather, and rates of spread. This course was developed under the Interagency Curriculum established and coordinated by the National Wildfire Coordinating Group. The course covers fire environment, fuels classification, topography and fire behavior, temperature-moisture relationship, fuel moisture, local and general winds, atmospheric stability and instability, keeping current with the weather, extreme fire behavior, fire behavior affecting fireline tactics, and fire behavior predictions.

Prerequisites: Firefighter II in the NWCG system and ability to perform wildland firefighting tasks in the field.

FST 263 Powersaws S212**2 credits**

Teaches the wildland firefighter the skills necessary to use, repair, and maintain a chainsaw in the field and focuses on techniques to fell trees and buck material in a fireline operation.

Prerequisites: Firefighter Type II in National Wildfire Coordinating Group and ability to perform chainsaw operations.

FST 264 Helicopter Crew S217**2 credits**

Provides training for fire and nonfire personnel involved in project assignments with helicopters. It enables you to develop skills and to work with a helicopter in performing tasks common to all helicopter operations.

FST 265 Ignition Operations S234**2 credits**

Teaches the wildland firefighter techniques in conducting firing operations. It focuses on the duties and responsibilities in applying fire to the ground, the devices used, techniques and sequences, fire behavior descriptions, evaluations of the operation, and related safety concerns.

Prerequisite: FST 152 or equivalent, Intermediate Fire Behavior; qualification as a Squad Boss/Firefighter Type 1.

FST 266 Crew Boss S230**2 credits**

Meets the training needs of a crew boss on an incident. It includes preparation, mobilization, tactics and safety, off-line duties, demobilization, and postincident responsibilities.

Prerequisite: FST 260 or completion of S290 Intermediate Fire Behavior, squad boss qualification.

FST 270 Basic Air Ops S270**1 credit**

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. The course introduces you to current management practices and philosophies and real-world applications from the supervisor's point of view. It covers decision-making/problem-solving, communication skills, conflict resolution, and 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 275 Special Topics- Fire Analysis Thesis**1-4 credits**

Provides you 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. You 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.

GED – General Education Courses

www.rccc.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.rccc.edu/geography

GEO 105 World Regional Geography: GT-SS2

3 credits

Facilitates an understanding of spatial relationships between and among the geographic regions of the world. It includes demographic and cultural (political, economic, and historic) forces related to the physical environments of selected regions. The course focuses on analysis of interrelationships between developed and developing regions and the interactions between human societies and natural environments.

Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

GEO 106 Human Geography: GT-SS2

3 credits

Introduces geographic perspectives and methods with applications to the study of human activities. The course emphasizes the distribution of humans, adjustments to the natural environment, and land use practices.

Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

GEO 111 Physical Geography: Landforms: GT-SC1

4 credits

Introduces the principles of landforms as a major aspect of our natural environment. The course incorporates an integrated process of lecture, discussion, and laboratory assignments. GEO 111 may be transferred to colleges and universities as a science credit. The course is offered in the fall.

Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

GEO 112 Physical Geography: Weather & Climate: GT-SC1

4 credits

Introduces the principles of meteorology, climatology, world vegetation patterns, and world regional climate classification. The course incorporates an integrated process of lecture, discussion, and laboratory assignments. GEO 112 may be transferred to colleges and universities as a science credit. The course is offered in the spring.

Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

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.rccc.edu/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 or instructor permission.

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.

GEY – Geology Courses

www.rccc.edu/geology

Note: General Oceanography is offered as a GT-SC1 lab science course, as NRE 251.

GEY 111 Physical Geology: 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 and MAT 090 (grade C or higher) or equivalent assessment 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 119 The Great Ice Age

1 credit

Analyzes the effect of the last ice age on the development of North America and also explores theories of climatic change.

GEY 121 Historical Geology: 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 and MAT 090 (grade C or higher) or equivalent assessment scores.

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 135 Environmental Geology: 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 and MAT 090 (grade C or higher) or equivalent assessment 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 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.

GIS – Geographic Information Systems Courses

www.rccc.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

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.rccc.edu/health

The prerequisite for all HHP courses is a grade of C or higher in ENG 090 or appropriate SAT, ACT, Accuplacer score, or a college degree of AA, AS or higher, or successful completion of ESL 053 and 093.

HHP 100 Complementary Healing Methods

1 credit

Explores some of the more widely used alternative/complimentary healing methods. It expands your health horizons and enables you to converse in a knowledgeable manner with patients and practitioners.

HHP 103 Introduction to Circle of Healing

1 credit

Enables you 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 you to work with energy, confidence and enthusiasm in your life by learning specific skills that will give you control over stressful situations or people in your life. This experiential class is designed for all who are interested in a higher quality of life and want to reach their full potential. Learn how to relax quickly, improve self-image, improve concentration, and how to control your worry. You can experience freedom from old patterns that create stress, fatigue and restricting beliefs.

HHP 108 Aromatherapy

1 credit

Informs you 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 you to observe a large number of essential oil remedies and their applications.

HHP 109 Jin Shin-Self Care

1 credit

Jin Shin Jyutsu is the "Art of the Compassionate Person" and is 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

NLP 1 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 you 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 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 you 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. You 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

0.5 credits

Introduces you 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 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

NLP 2 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 differences 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 you 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 you discover, through art, things about yourself which can enhance your 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 you 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 acupuncture. Considerations for developing professional practice are also addressed.

HHP 227 Communication Skills

0.5 credits

Assists you 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), allowing you and others to become more focused.

HHP 229 Wellness Counseling

1 credit

Provides the tools to facilitate yourself and others in the movement towards wellness. It enables you 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 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 you 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, you 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. You will 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. You will learn the meaning of the three traditional Usui symbols. It incorporates in-depth discussion about application of the three symbols. You will 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 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 you to work on hand positions while addressing specific techniques for specific issues.

Prerequisite: HHP 164 or 166.

HHP 263 Creating a Holistic Practice

0.5 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.rccc.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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

HIS 111 The World:

Antiquity-1500: GT-HI1

3 credits

Enables you 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 (grade C or higher) or equivalent assessment scores.

HIS 112 The World: 1500-Present:

GT-HI1

3 credits

Enables you 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 (grade C or higher) or equivalent assessment scores.

HIS 201 U.S. History to

Reconstruction: GT-HI1

3 credits

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 (grade C or higher) or equivalent assessment scores.

HIS 202 U.S. History Since Civil

War: GT-HI1

3 credits

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

HIS 235 History of the American West

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

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.rccc.edu/health

The prerequisite for all HPR courses is a grade of C or higher in ENG 121 or appropriate SAT, ACT, or Accuplacer score 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 103 CPR for Professionals

Renewal

0.25 credits

For students that hold a current Health Professionals CPR card. 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. You 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.

Permission of the instructor needed.

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 121 Advanced Cardiac Life Support Renewal

0.5 credits

Presents the required material for ACLS renewal. The course will cover rhythm recognition, cardiac drugs, cardiac monitors, and case-based scenarios.

Prerequisite: ACLS completion with current card.

HPR 125 Outdoor Emergency Care

4 credits

Prepares you 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 extractions, 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 131 Pediatric Advanced Life Support Renewal

0.5 credits

Provides updates and skill practice to complete renewal requirements for the PALS completion card.

Prerequisite: Current PALS card.

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 you with the opportunity to supplement coursework with practical work experience related to their educational program. You will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor. Documentation of immunizations, criminal background check, 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 12 Lead EKG 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 210 Physical Assessment

2 credits

Explores how to obtain a complete health history, which is integrated with a physical exam. The assessment skills of inspection, palpation, percussion and auscultation are practiced in class. Proper use of equipment such as the otoscope, tuning fork, ophthalmoscope, and reflex hammer are included.

Prerequisite: Current RN license.

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.

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 you 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.rccc.edu/human

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.

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 you 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

HVA – Heating Ventilation and Air Conditioning Courses

www.rccc.edu/construction

HVA 100 Safety Training for the Trades

0.5 credits

Introduces the student to the basic concepts of workplace hazards and the need for continuing education with regard to safety. The reasons behind confined space training and proper safety equipment will be covered.

HVA 102 Basic Refrigeration

4 credits

Introduces the basic theory of refrigeration systems, components, charging, recycling, and evacuation of refrigeration units.

Corequisite: HVA 100 or OSH 127, or 10 Hour OSHA card, and HWE 113.

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.

Corequisite: HVA 100 or OSH 127, or 10 Hour OSHA card, and HWE 113

HVA 110 Fundamentals of Gas Heating

4 credits

Introduces you to the fundamentals of gas heating. You 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.
Corequisite: OSH 127, HVA 105, or permission of the instructor, and HWE 113.

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.

Corequisite: OSH 127, HWE 113.

HVA 112 R-410a

1 credit

Enlightens you on conditions required for proper operation with R-410a.

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 you will be prepared to take the EPA certification test. Test is offered following the class. Test fee is not included in course fee.

Corequisite: OSH 127, HVA 102, or permission of the instructor, and HWE 113.

HVA 114 Centrifugal Pumps

1.5 credits

Presents information on why and how pumps are designed. It will cover how pumps work and what causes pumps to fail. Topics covered include pump basics, pump theory, pump systems, pump design and selection, horizontal pump installation, and pump maintenance and troubleshooting.

HVA 122 Commercial Refrigeration

4 credits

Covers commercial ice makers, walk-in coolers, walk-in freezers, and self-contained refrigeration units.

HVA 131 Refrigeration and Air Conditioning Basics

1.5 credits

Covers the basics of refrigeration and air conditioning and provides a blend of theory with hands on training. The course covers the practical application of refrigeration and air conditioning in domestic, commercial, and heat pump applications. It also provides a basis of information allowing you an understanding of servicing and troubleshooting techniques. EPA

certification testing, plus HVAC Excellence Technician's Certificate testing are offered.

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: HVA 102 and HVA 105, or permission of instructor, HWE 113, OSH 127.

HVA 134 Air Conditioning Systems

4 credits

Studies the basics of air conditioning system design, operation and installation. You 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.

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.

Corequisite: HWE 113, OSH 127 or permission of instructor.

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. You will learn to layout and fabricate a furnace plenum, a transition, square and radius elbows, and other fittings as time permits.

Corequisite: HWE 113, OSH 127 or permission of instructor.

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: HVA 110 and 105, or permission of the instructor.

HVA 192 Refrigerant Retrofit Training

1.5 credits

Allows you to understand and gain knowledge to perform refrigerant retrofit. This course will provide you with a working knowledge of alternative

refrigerants plus an understanding of retrofit procedures. A quick history of CFC ozone depletion will give you an understanding of EPA mandates. You have an opportunity to become EPA certified.

HVA 200 International Residential Code – Mechanical & Fuel Gas

2 credits

Covers the mechanical and fuel gas requirements of the IRC. You 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. You will work with controls from most of the major manufacturers.

Prerequisites: HVA 102,105,132 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: HVA 102, HVA 105, HVA 113, HVA 132.

HVA 233 Advanced Refrigeration

4 credits

Builds on the skills acquired in refrigeration fundamentals. You will have an opportunity to study and to work on rooftop units, ice machines, and commercial reach-in and walk-in coolers.
Prerequisites: HVA 100 or OSH 127, HVA 102, HVA 105, HVA 113, HVA 132, HWE 113.

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: HVA 100 or OSH 127, HWE 113, HVA 110, HVA 105, HVA 162 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 convactor sizing are also discussed.

Prerequisites: HVA 105, HVA 110, HVA 111 or PLU 101, HVA 162 or permission of the instructor.

HVA 251 Building Automation I, Installer

4 credits

Provides you with an overview of building automation systems. This course helps you to understand the installation of building automation devices with regard to HVAC equipment.

Prerequisite: Basic understanding of PCs and Windows operating system, wiring skills and HVAC experience.

HVA 252 Building Automation II, Service

4 credits

Covers operating and modifying an installed building automation system. This is a highly interactive course where you will learn and exercise common applications of a building management system.

Prerequisite: HVA 251.

HVA 253 Building Automation III, Advanced Operations

4 credits

Covers complete set up and programming of a building automation system. The class includes extensive hands-on workshops.

Prerequisite: HVA 252.

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: HVA 105, 110, 162, 206, 247 or permission of the instructor.

HVA 261 A/C Systems Service and Repair

4 credits

Emphasizes the service of HVAC systems. You will 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: HVA 100 or OSH 127, HWE 113, HVA 102, HVA 105, HVA 113, HVA 132, or permission from instructor.

HVA 263 Chillers

4 credits

Introduces you to chillers and their operating parameters.

Prerequisites: HVA 100 or OSH 127, HWE 113, 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: HVA 100 or OSH 127, HVA 102, 103, 105, 113, 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, you will be able to design, install, document, maintain and trouble-shoot all conventional residential warm water, radiant panel heating systems.

Prerequisites: HVA 111 or PLU 101, HVA 110, 105, 162, 247 or permission of the instructor.

HVA 268 Advanced Hydronic Controls

4 credits

Takes the operation of hydronic heating systems and allows you to apply the knowledge of advanced hydronic controls to them. You must have a solid field background or education in hydronic heating, electricity and heating controls prior to enrollment.

Prerequisites: HVA 110, 111 or PLU 101, HVA 162, 247, 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 you with a vehicle to pursue in depth exploration of special topics of interest.

HVA 280 Internship

0.5-6 credits

Gives you an opportunity to apply your 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

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

HWE 129 Wilderness First Responder

4 credits

Provides you with those skills and emergency medical care techniques used by guides, trip leaders, and others providing primary care in backcountry setting. You 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

HWE 250 American Council on Exercise Personal Trainer Preparatory Course

2 credits

Provides you 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 (grade C or higher) or equivalent assessment scores.

IND – Interior Design Courses

www.rrcc.edu/ind

IND 110 Interior Design I

3 credits

Develop, practice and apply skills relating to the design process and design elements. Student will learn to identify the characteristics and needs of social, work, support, and private spaces as it applies to residential and commercial environments. Areas of focus will include sustainability, basic space planning, appropriate selection of finishes, materials, lighting & furniture and development of presentation techniques.

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.

IMA – Industrial Maintenance Technology Courses

www.rrcc.edu/isod

IMA 100 Introduction to Industrial Maintenance

3 credits

Provides you with an overall perspective and foundation for the industrial maintenance field. You will be taught the fundamentals of machine operations commonly used in the manufacturing industry. Topics such as general maintenance procedures, consumable supplies, fasteners, and machine operating specifications will be covered. In addition, high emphasis will be placed upon the understanding of machine blueprints which detail all the systems which are part of a functioning machine. You will also be exposed to parts and specification manuals utilized in the repair of industrial machinery. Finally, you will begin to learn the logical process utilized in the diagnosis of broken, worn, and defective.

IMA 120 Pumps, Seals, Rotating Equipment

3 credits

Explains the theory and operation of various types of pumps and compressors in common use in the process and energy supply industries. Mechanical power transmission systems including direct coupling and v-belt drives will be studied. The principles involved in the operation of centrifugal and positive displacement pumps and compressors will be discussed, along with the function of various components in pumps and compressors, disassembly and reassembly of pumps, compressors and mechanical drives, and troubleshooting pumps and compressors.

IMA 140 Industrial Pipe and Piping Systems

3 credits

Explains the use of piping standards and specifications, the identification and use of various materials, and material take-offs common to the process and energy supply industry. The installation and repair of industrial pipe systems commonly used in the conveying of gases and fluids will be covered. The course includes manually and automatically operated valves, regulators and other associated components. Students will work with steel, copper, and PVC pipe.

IMA 150 Industrial Problem Solving Methods

2 credits

Introduces you to individual and team problem solving techniques and methodologies. Techniques for handling complex, multi-faceted system failures are presented. You must demonstrate use of the techniques at both the individual and team level.

IMA 160 Basic Fluid Power

3 credits

Provides an understanding of the fundamentals of fluid power, hydraulic transmission of force and energy, operation at the suction side of the pump, petroleum based hydraulic fluids, fire resistant hydraulic fluids, flow rates and velocity, properties of hydraulic fluids, and the function and construction of basic elements of a hydraulic or fluid power system. The course will cover hydraulic symbols and prints used in industry.

IMA 210 Vibration Principles I

3 credits

Introduces the principles and basic techniques of industrial machinery vibration analysis. Successful students will be able to calculate vibration frequency from time domain data; convert vibration units of measure and signal detection; read and interpret basic FFT spectra; recognize various vibration sensors, mounting methods and instrumentation; and compare overall or single value vibration measurements against pre-established alert settings and perform basic FFT signature analysis.
Prerequisite: permission of instructor.

IMA 211 Vibration Principles II

3 credits

IMA 211 is a continuation of IMA 210 and successful students will be able to select the appropriate machinery vibration measurement technique; maintain a database of results and trends; establish and implement general overall level alarms; set up instruments for the basic resolution of amplitude, frequency and time; perform basic vibration analysis of machinery and components, such as

shafts, bearings, gears, fans, pumps and motors, using spectrum analysis. In addition you will be able to classify, interpret and evaluate the test results in accordance with applicable specifications and standards; understand basic single plane balancing concepts; be aware of some causes and effects of bad measurement data; perform basic bump tests to determine natural frequencies and recommend minor corrective actions
Prerequisite: IMA 210 or permission of instructor.

IMA 250 Industrial Machine Lubrication

3 credits

Provides an understanding of 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; and lubricant storage and handling.

ITA – Italian Courses

www.rccc.edu/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.

JOU – Journalism Courses

www.rccc.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 e-mail 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 the mass media in an historical and cultural perspective, considering the validity, integrity, and influence of the media in a democracy.
Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

JOU 106 Fundamentals of Reporting

3 credits

Introduces news writing, 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

See MGD 104.

JOU 121 Photojournalism

3 credits

Provides an introductory, hands-on course in black-and-white photography, with an emphasis on photojournalistic techniques, processing and printing. This course includes an investigation of word/pictures relationships in creating photo essays for publications.

JOU 206 Intermediate News writing 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.rccc.edu/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.

**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.

**LEA – Law Enforcement
Academy Courses**

**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 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 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 you 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. You will demonstrate skills by firing weapons on a firing range. You 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 160 Post Refresher Academy

6 credits

Allows refresher training for individuals who have held POST certificate in the past or who hold a POST certificate from a state that has a reciprocity agreement with the Colorado POST organization. This course of instruction is designed by Colorado POST. The course of instruction covers administration of justice, basic law, patrol procedures, use of force, law enforcement driving and a firearms training program.

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. You 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 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 you to fiction, poetry, and drama. The course emphasizes active and responsive reading and writing.
Prerequisites: A grade of C or above in ENG 090 or equivalent assessment scores in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**LIT 127 Study of the Novel
3 credits**

Focuses on careful reading and interpretation of selected novels representing types and periods of literature. You will examine 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: A grade of C or above in ENG 090 or equivalent assessment scores in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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.
Prerequisites: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

**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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).

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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).*

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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).*

LIT 246 Literature of Women

3 credits

Examines the techniques and themes in literature by and about women by examining women's issues from various genres. *Prerequisite: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).*

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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).*

LIT 257 Literature and Film

3 credits

Examines the relationship between literature and motion pictures, emphasizing the technique and interpretive function of filmmakers. *Prerequisite: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above) and/or permission of the instructor.*

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: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above).*

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. *Prerequisites: A grade of C or above in ENG 090 or equivalent assessment score in Accuplacer Writing Skills: 70-94 (or above) and Accuplacer Reading Skills: 62-79 (or above) and permission of the instructor.*

MAC – Machining Courses

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 you to read blueprints and interpret symbols, notes, dimensions, and tolerances.

MAC 105 Introduction to Machining Technology

4 credits

Introduces the student to the changing era of machining technology, emphasizing terminology, referencing and applications related to manufacturing environments. The fundamental use of bench tools, layout procedures, materials, precision measuring tools, machining processes, drilling and cut-off machines and other machining/manufacturing processes will be stressed. Skill competencies and standards will be identified. Use of the Machinery Handbook will be strictly required and particular competencies may require performance evaluations.

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. You 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. You 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 you 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 112 Advanced Engine Lathe

3 credits

Prepares you to form radius, single-point isometric threads, turn spherical radius, use a radius gauge, and work within .0005 inches tolerance externally.

MAC 120 Introduction to Milling Machine

3 credits

Teaches you 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 you 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 122 Advanced Milling Machine Operations

3 credits

Prepares you to indicate the head of a vertical mill, bore holes, drill holes at an angle, and work with tolerances of .0008 inches location and diameter.

MAC 123 Horizontal Mill Set Up & Operations Description

3 credits

Prepares you to identify the major parts and accessories for the horizontal mill, select cutters, mill slots, slab mill, square a workpiece, and work within a tolerance of plus or minus .002 inches.

MAC 130 Conventional Lathe Operations

4 credits

Includes calculation of speeds and feeds on various materials, identification and application of various work-holding techniques, tool forming, advanced machining practices and applications, and spindle tooling. You will learn how to calculate and turn tapers using the compound slide or taper attachment, offset work on a four-jaw chuck, turning between centers, boring, grooving, finishing, single point threading, knurling, tool grinding, drilling operations, and reaming.

MAC 141 Advanced Machining Operations

4 credits

Teaches you the use of various conventional machine tools used in a machine shop environment. You will learn the use of engine lathes, horizontal and vertical milling machines, surface grinders, drill presses, pedestal grinders, power cut-off saws, and other machine tools commonly used to produce quality machined parts in today's manufacturing environments. Machining competencies will be stressed. You will be required to produce parts manufactured by local manufacturing companies with the consideration of ISO quality standards.

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 you 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. You 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. You 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 221 Surface Grinder Setups and Operations

3 credits

Teaches you how to identify major parts and accessories of the surface grinder and grind flat, vertical, and angular surfaces to a tolerance of .0002 position and size.

MAC 223 Tool & Cutter Grinder

3 credits

Prepares you to identify the major parts and accessories of the tool and cutter to grind, sharpen two flute end mills, four flute end mills, slab mills and form cutters, and work with a plus or minus .001 tolerance.

MAC 240 CAD/CAM 2D

3 credits

Provides you with the essential concepts and techniques that are required to successfully create part geometry, generate tool path, verify tool path models, and post process the NC codes. You will be exposed to a 2-axis machining, 3-axis machining wire frame and surface modeling, lathe programming, and DNC systems. Programming projects and models will be demonstrated in the CNC manufacturing lab.

MAC 245 CAD/CAM 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. You will learn how to use common measuring instruments relating to state-of-the-art manufacturing environments. You 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.

MAC 258 Interpreting Engineering Drawings

3 credits

Teaches you to interpret machine shop drawings starting with the simple and progressing to the more complex. All types of dimensioning, symbols, notes, and tolerances are interpreted.

MAN – Management Courses

www.rccc.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 you with the conceptual knowledge and tools to make better use of your time in the management function.

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 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. You 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 225 Managerial Finance**3 credits**

Examines the concepts and techniques used to analyze financial accounting information for managerial planning, decision-making, and control. The focus of the course is on decision making relating to the areas of budgets, forecasts, cost volume production, ROI, and financial statements.

Prerequisites: BUS 115, ACC 121, ACC 122.

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 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 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 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 you with the opportunity to supplement course work with practical work experience related to your educational program and occupational objectives. You will be placed at approved workstations which are related to your program of study. You 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.rccc.edu/business

MAR 111 Principles of Sales**3 credits**

Enables you 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 117 Principles of Retailing**3 credits**

Emphasizes the study of the basic principles and techniques of merchandising, operations, layout, store organization, site location, and customer service with an emphasis on retailing operations.

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 businesses 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 you 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 you with the opportunity to supplement course work with practical work experience related to your educational program. You 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. You will engage in intensive study or research under the direction of a qualified instructor.

Prerequisite: Permission of instructor.

MAT – Mathematics Courses

www.rrcc.edu/math

MAT 030 Fundamentals of Mathematics

2 credits

Includes the vocabulary, operations, and applications of whole numbers, decimals and basic fractions and mixed numbers.

Prerequisite: appropriate math assessment score.

MAT 060 Pre-Algebra

3 credits

Further the study of fractions and mixed numbers. Also included are vocabulary, operations, and applications of ratio, proportion, percent, area, perimeter, US and metric measures, integers, an introduction to algebraic expressions, and the solution of basic first-degree equations.

Prerequisite: MAT 030 (grade C or higher) or appropriate math assessment score.

MAT 090 Introductory Algebra

4 credits

Includes first-degree equations, inequalities, formulas, polynomials, algebraic fractions, factoring polynomials, solving quadratic equations by factoring, and applications. Coordinate geometry, graphing linear equations and inequalities, and systems of linear equations may be included.

Prerequisite: MAT 060 (grade C or higher) or appropriate math assessment score.

MAT 099 Intermediate Algebra

4 credits

Emphasizes problem-solving with further study of equations, slope, inequalities, systems of equations, polynomials, quadratic equations, rational expressions, rational exponents, radical expressions, graphing, and applications.

Prerequisite: MAT 090 (grade C or higher) or appropriate math assessment 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 060 (grade C or higher) or appropriate math assessment score.

MAT 108 Technical Math

4 credits

Covers material designed for career technical or general studies students who need to study particular mathematical topics. Topics may include measurement, algebra, geometry, trigonometry, graphs,

and/or finance. These are presented on an introductory level and the emphasis is on applications. A scientific calculator is required for this course.

Prerequisite: MAT 090 (grade C or higher) or appropriate math assessment score.

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 090 (grade A or B) or MAT 099 (grade C or higher) or appropriate math assessment score.

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. You cannot receive credit for both MAT 166 and MAT 121. Contact the math department chair with questions about these credits.

Prerequisite: MAT 099 (grade C or higher) or appropriate math assessment score.

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. You 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).

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 099 (grade C or higher) or appropriate math assessment score.

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).

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. You cannot receive credit for both MAT 135 and BUS 226.

Prerequisite: MAT 099 (grade C or higher) or appropriate math assessment score.

MAT 155 Integrated Math I: GT-MA1

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 099 (grade C or higher) or appropriate math assessment score.

MAT 156 Integrated Math II: GT-MA1

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 099 (grade C or higher).

MAT 166 Pre-Calculus

5 credits

A fast paced review of college algebra and college trigonometry intended for those planning to take calculus. Topics include algebraic manipulations, properties of algebraic and trigonometric functions and their graphs, trig identities and equations, conic sections, polar coordinates and parametric equations. A graphing calculator is required for this course. You 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 you 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).

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).

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).

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).

MAT 275 Special Topics

1-4 credits

Provides you 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: 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 and MAT 090 (grade C or higher) or equivalent assessment scores.

MGD – Multimedia Graphic Design Courses

www.rccc.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 e-mail 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. You 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. You 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. You 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 to 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. You 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 you with the industry standard vector drawing program. You 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 you 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.

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. You 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 119 Autodesk Maya I

3 credits

Introduces Autodesk Maya, a high-end 3D modeling and character animation tool. Emphasis is on constructing 3D models of various types. You will learn scene development and animation for render in movie format.

Recommended Prerequisites: 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 you 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 you.

Recommended Prerequisites: MGD 101 or MGD 111 and basic computer skills.

MGD 141 Web Design I: Adobe Dreamweaver

3 credits

Introduces web site planning, design and creation using industry-standards-based web site development tools.

Screen-based color theory, web aesthetics, use of graphics editors and intuitive interface design are explored.

Recommended Prerequisites: MGD 111 and/or MGD 112 and Basic computer skills.

MGD 143 Motion Graphic Design I: Adobe Flash

3 credits

Uses the industry standard software for the creation of 2D animation and dynamic interactive media for Web and multimedia applications. You will create objects and symbols and assemble motion and animation tweens.

Recommended Prerequisites: MGD 111 and MGD 112 and basic computer skills.

MGD 150 Legal Issues for Creative Professionals

3 credits

Educates the student about the unique business legal concerns that media producers face. These include media contracts, labor issues, libel, and privacy rights. We will pay special attention to the use and protection of copyrights and trademarks; both of other people and of the students' own works.

MGD 163 Sound Design I: Apple Logic Pro

3 credits

Explores the use of sound in multimedia production and audio storytelling. You will examine principles of recording and how sound enhances interactive productions and improves computer presentations. You 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. You 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 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 219 Autodesk Maya II

3 credits

Create advanced models with Autodesk Maya. Students will explore the use of NURBS primitives, advanced animation techniques, advanced controls, lighting and rendering effects.

Recommended Prerequisite: MGD 119 or permission of instructor.

MGD 220 Advanced Character

Rigging: Autodesk Maya

3 credits

Explores advanced character rigging features of a specific 3D modeling and animation software in depth. Students will understand working with joints, forward kinematic (FK) and inverse kinematic (IK) blending and adding controls. Students create spines using nested constraints and expressions to subdivide vertebra poses (Isner Spines). Students create spine inverse kinematic curves, rig body movements and characteristics, blending specific joints or movement of bone using FK, IK or Isner Spines, pivots, switching and bonesets. Students create facial control systems based on phonemes (visual unit of sound in spoken language), morphing, and creation of eye movements. Students create muscle systems, bind and paint skin, and test a final animated character.

MGD 241 Web Design II: Adobe

Dreamweaver

3 credits

Expands on previously learned fundamentals of HTML introducing cascading style sheets, DHTML, JavaScripts and CGI forms. Color usage and interface design principles are emphasized in this course. In this course we'll examine Web sites that employ more complex structures, optimal site architecture and navigation necessary for larger and more complex sites.

Recommended Prerequisites: MGD 111, MGD 112, and MGD 141 or permission of instructor.

MGD 243 Motion Graphic

Design II: Adobe Flash

3 credits

Stresses the complex creation of 2D animated motion graphics concentrating on prior skills learned in MGD 143 and the use of Action Scripting and behaviors. You will create motion graphics and apply motion graphics to Web sites and other multimedia projects.

Recommended Prerequisites: MGD 111, MGD 112, and MGD 143 or permission of instructor.

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. You 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. You 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. You 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.

MGD xxx Digital Storytelling

6 credits

Introduces students to creative methods for communicating complex story ideas using photography, video, audio, and other graphic arts.

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.rccc.edu/health/medasst.html

MOT 110 Medical Office

Administration

4 credits

Introduces the administrative duties specifically used in medical offices.
Prerequisite: A grade of C or higher in ENG 121 or appropriate SAT, ACT, or Accuplacer score.
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.

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-9 codes), thus establishing the medical necessity required for third party reimbursement.

Pre or co-requisite: HPR 178

MOT 131 Adv Insurance Billing/Coding**3 credits**

Prepares the student to code 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.

Prerequisites: MOT 130 or permission of Instructor.

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 and measurement of vital signs.

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. Prerequisites: HPR 178.

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.

Prerequisites: BIO 106 or BIO 201 and BIO 202, HPR 178, MAT 060 or higher, MOT 136.

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 060 or higher.

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 M.O. program requirements with a C or higher in all core classes. Student must have completed the background check and 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, 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 M.A. program requirements with a grade of C or higher in all core classes. Students must have a completed background check, 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 and permission of program coordinator to begin internship.*

MUS – Music Courses

www.rccc.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.

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 110 Music Theory I

3 credits

Presents music fundamentals, diatonic four-part harmony, analysis, ear training, and keyboard harmony. This course is appropriate for music majors transferring to a 4-year program.

Prerequisite: MUS 100 or permission of the instructor.

Corequisite: MUS 112 Ear Training/Sight-Singing I Lab.

MUS 111 Music Theory II

3 credits

Presents chromatic four-part harmony, analysis, ear training, and keyboard harmony. This course is appropriate for music majors transferring to a 4-year program.

Prerequisite: MUS 110 or permission of the instructor.

Corequisite: MUS 113 Ear Training/Sight-Singing II Lab.

MUS 112 Ear Training / Sight-singing I Lab

1 credit

Presents exercises in sight-singing with melodic and rhythmic dictation.

Prerequisite: Follow sequence of MUS 100 or MUS 101, or equivalent proficiency.

Corequisite: MUS 110 - Theory I.

MUS 113 Ear Training / Sight-Singing II Lab

1 credit

Presents exercises in sight-singing with melodic and rhythmic dictation.

Prerequisite: MUS 112, or equivalent proficiency.

Corequisite: MUS 111 - Theory II.

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) or equivalent assessment scores.

MUS 121 Music History Medieval thru 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.

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) or equivalent assessment 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) or equivalent assessment scores.

MUS 124 American Music Survey

3 credits

Surveys American music as a panorama of distinct yet parallel streams of popular, folk, sacred, and classical music that reflect the uniquely diverse character of the United States. It emphasizes the development of tools for intelligent listening and appreciation. Major topics will include comparing and contrasting American musical styles across regions and time, and examining the characteristics of music that has arisen from the history and musical traditions of the many immigrants to America's shores.

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) or equivalent assessment 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 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.

Prerequisite: Permission (not audition) of the department. 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. Permission (not audition) of the department. 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. Permission (not audition) of the department. 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: Permission of instructor.

MUS 153 Ensemble III

1 credit

Rehearses and performs various types of musical literature. First year, third term.

Prerequisite: Permission of instructor.

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.

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 you with the opportunity to supplement course work with practical work experience related to your educational program. You 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 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. Permission (not audition) of the department. 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. Permission (not audition) of the department. 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. Permission (not audition) of the department. 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. Second year, third term.

Prerequisite: MUS 242 or MUS 243 in same instrument. Permission (not audition) of the department. 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: Permission of instructor.

MUS 252 Ensemble II

1 credit

Rehearses and performs various types of musical literature. Second year, second term.

Prerequisite: Permission of instructor.

MUS 253 Ensemble III

1 credit

Rehearses and performs various types of musical literature. Second year, third term.

Prerequisite: Permission of instructor.

MUS 261 Advanced Music 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 with music in a live and studio setting. This includes a working knowledge of microphones, audio mixing boards-analog and digital, recorders, analog and digital, mixing, sound, equalization and the fundamentals of acoustics in studio design.

MUS 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 you with the opportunity to supplement course work with practical work experience related to your educational program. You 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.rccc.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.

NAT 275 Special Topics: Disinfection, Sanitation/Safety I

3 credits

Provides beginning training on sterilization, sanitation and safety is incorporated in a supervised (clinical) setting. Advanced techniques will ready the student for employment. Students will prepare for the State Board Licensing, Examination on theory and practical procedures for sterilization, sanitation and safety.

NAT 275 Special Topics: Disinfection, Sanitation/Safety II

1 credit

Provides advanced training on sterilization, sanitation and safety is incorporated in a supervised (clinical) setting. Advanced techniques will ready the student for employment. Students will prepare for the State Board Licensing, Examination on theory and practical procedures for sterilization, sanitation and safety.

NRE – Natural Resources Courses

NRE 251 General Oceanography: 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 and MAT 090 (grade C or higher) or equivalent assessment scores.

NUA – Nurse Aide Courses

www.rccc.edu/health

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, restorative services, personal care skills, safety and emergency care issues are covered. Includes knowledge and/or principles of asepsis, OSHA and HIPAA regulations. Ethical behaviors, cultural sensitivity and principles of mental health will be addressed, as well as patient/resident rights.

Prerequisite: HPR 102, A grade of C or higher in ENG 121, or appropriate SAT, ACT, or ACCUPLACER score. Corequisite: NUA 170 Nurse Aide Clinical 1 credit.

NUA 170 Nurse Assistant Clinical Experience

1 credit

Applies the knowledge gained from NUA 101 to patient care.

*Prerequisite: HPR 102.
Corequisite: NUA 101 Certified Nurse Aide Health Care Skills.*

NUR – Nursing Courses

www.rccc.edu/health

NUR 290 Registered Nurse Refresher

10 credits

Presents material that is designed for all RNs, who have been out less than 15 years, 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 home health, long-term, rehabilitation, and hospice.

Prerequisite: HPR 102 and ENG 090 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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.

OSH 175 Special Topics: Personal Safety for the Energy Industry

3 credits

PAP – Physician Assistant Program Courses

www.rccc.edu/pa

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
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 205.

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 musculoskeletal 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
2 credits

Enables the student to apply 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. This course is a continuation of PAP 224.

PAP 226 Pharmacology III
2 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 the medications used for the diseases covered in the physician assistant program curriculum during the third didactic semester. This course is a continuation of PAP 225.

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
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.

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 240 Family Medicine Clerkship I
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of the Family Medicine practice. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 241 Family Medicine Clerkship II
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of the Family Medicine practice. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long. This is a continuation of PAP 240.

PAP 242 Internal Medicine Clerkship I
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of Internal Medicine. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 243 Internal Medicine Clerkship II
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of Internal Medicine. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long. This is a continuation of PAP 242.

PAP 244 Women's Health Clerkship
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of Women's Health. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 245 Emergency Medicine Clerkship
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of Emergency Medicine. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 246 Surgery Clerkship
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of Surgery. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 247 Pediatrics Clerkship
3 credits

Prepares the physician assistant student to assess and manage patients in a pediatric setting. The student provides

care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 248 Psychiatry Clerkship
3 credits

Prepares the physician assistant student to assess and manage patients within the setting the in-patient or out-patient behavioral health practice.. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 249 Geriatrics Clerkship
3 credits

Prepares the physician assistant student to assess and manage geriatrics patients. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 250 Elective Clerkship I
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of their choice. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 251 Elective Clerkship II
3 credits

Prepares the physician assistant student to assess and manage patients within the setting of their choice. The student provides care to patients under the direct supervision of a practicing clinician (preceptor). Clerkships are one month long.

PAP 275 Special Topics
Variable credits

Provides students with a vehicle to pursue In depth exploration of special topics of interest.

PED – Physical Education Courses

www.rrcc.edu/outdoor

PED 100 Beginning Golf
1 credit

Introduces a basic course in golf designed for those who have had little or no formal instruction or for those with some experience who are interested in improving some aspect of their game. Includes driving range, putting green, and on-course play.

PED 102 Volleyball
1 credit

Designed to introduce and improve student skill level in volleyball. The

primary emphasis is on teaching you the elements of volleyball: rules, offensive and defensive play, passing, serving, setting, attacking, team play, and game strategies.

PED 106 Tennis
1 credit

Designed to introduce and improve the skill level in tennis. The primary emphasis is teaching you the elements of tennis: rules of the game, ground strokes, serving, the various shots, and singles and doubles play and strategies.

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 112 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 113 Fitness Concepts
1 credit

Focuses on providing information and guidelines for moving toward a healthier lifestyle. Includes classroom instruction, an individual fitness evaluation, computerized analysis of results, and a prescribed exercise program utilizing the equipment and exercise options available at a fitness center.

PED 115 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 116 Weight Training
1 credit

Offers basic instruction and practice in weight training. You will use weight training equipment in accordance with your abilities and goals. Emphasis is placed upon weight training equipment orientation, correct lifting techniques, and basic program design for men and women.

PED 123 Bicycle Touring
1 credit

Introduces bicycle touring over a variety of terrains and distances. Selection and maintenance of equipment, pre-tour conditioning, safety, and dietary factors will be covered.

PED 124 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. You will develop skills and techniques for all riding situations and review bicycle anatomy and basic maintenance and repairs.

PED 127 Introduction to Flyfishing
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.

PED 128 Basic Sailing
1 credit

Designed for the beginning sailor taught by American Sailing Association certified instructors and meets the safety requirements of the U.S. Coast Guard. The class is divided into two parts: theory classes and sailing sessions. Classes will cover terminology, safety regulations, knots, sailing theory, and navigation. Sailing sessions will cover rigging, getting underway, safety rules, tacking, gibing, bearing away, boat handling in different weather conditions, overboard rescue, returning to the dock, and

anchoring. Course costs include all boating equipment, textbooks, handouts, class materials, and the use of a 21` day sailer.

PED 129 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 you need for safe scuba diving. This course prepares you for open-water (PADI) certification.

PED 131 Nordic Skiing

1 credit

Provides you with the fundamental skills of Nordic skiing. The emphasis is on skiing technique, conditioning, safety, and equipment. The course has classroom and activity sessions. Conditioning in the fitness center and trips to local ski areas are part of this course.

PED 132 Snowshoeing

1 credit

Emphasizes the basic skills, equipment, clothing and techniques of snowshoeing. The course includes the objective dangers involved with winter recreation.

PED 136 Advanced Weight Training

2 credits

Offers guided instruction and independent practice in weight training for men and women. You 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.

PED 138 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.

PED 143 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 144 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.

PED 145 Pilates Matwork I

1 credit

Focuses on Pilates matwork to increase core strength, overall muscle tone, and flexibility with focused and precise floor work techniques. This is a physical education class built upon the philosophies and exercises of Josef Pilates.

PED 146 Martial Arts

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 147 Yoga I

1 credit

Offers guided instruction in yoga. You will practice yoga according to your 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 148 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 147 or permission of instructor.

PED 150 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.

PED 151 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: PED 150 or permission of instructor.

PED 153 Hiking

1 credit

Provides skills related to hiking and wilderness travel. This course emphasizes hiking skills, proper conditioning, route finding, equipment, and hiking hazards and ethics. The course involves conditioning in the fitness center and during weekend hikes.

PED 154 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.

PED 155 Outdoor Expedition

3 credits

A group expedition covering seven to ten days combining hiking, backpacking, climbing, or paddling in remote North American regions. The course includes the rationale for organizing and conducting wilderness trips.

PED 157 Basic Mountaineering

3 credits

Provides you 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.

PED 159 Colorado Fourteeners

2 credits

Presents an historical look into the naming and climbing of Colorado's 14,000-foot peaks. The course includes information on the current routes to ascend the peaks.

PED 162 Map and Compass for the Outdoors Person

3 credits

Covers the reading of highway, forest service, and topographical maps which include symbols, legends, border

information, and contour lines. The course includes the use of magnetic compasses in an outdoor environment and functions that plot a course on maps. Supplemental navigation skills are included.

PED 163 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.

PED 165 Wilderness Survival Skills

3 credits

Emphasizes the physiological, psychological, and practical principles of survival. Survival equipment, wilderness improvising techniques, and wilderness dangers are included.

PED 166 Winter Wilderness Survival Skills

2 credits

Emphasizes winter survival techniques in the nival 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.

PED 167 Basic Search and Rescue

3 credits

Covers the fundamentals required for search and rescue in a wilderness environment. The course includes tracking techniques and field trips.

PED 202 Fencing

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 203 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.

PED 207 Intermediate Canoeing

1 credit

Emphasizes intermediate paddling technique and river reading skills for both tandem and solo boating. You will learn safety procedures and equipment hazard

evaluation and how to minimize your impact on river and lake environments.

PED 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. You 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.

PED 280 Internship

1-6 credits

Gives you 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 you participate in relevant field work and that you perform to the standards expected of employees of the organizations in which the internship occurs.

PED 213 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 233 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 285 Independent Study

1 credit

Meets the individual needs of students. You will engage in intensive study or research under the direction of a qualified instructor.

PER 113 Introduction to Physical Education and Sport

2 credits

Enables you to study the field of physical education and sports, including trends, precedents, and their effects in the health and total wellness of those involved.

PER 128 Introduction to Recreation

2 credits

Studies the history, principles, philosophy, contemporary problems, and trends of recreation and their influence upon today's American society.

PER 150 Water Safety Instructor

3 credits

Prepares you to become certified by the American Red Cross as a Water Safety Instructor (WSI). It enables you to develop skills for teaching infant and preschool aquatics, Levels 1- 7, in the Learn to Swim Program and as a Community Water Safety and Water Safety Instructor Aide. The course focuses on teaching people with special needs and planning and conducting safe and effective swim lessons.

PER 151 Lifeguard Training

2 credits

Provides you with the necessary minimum knowledge and skills training to qualify as a non-surf lifeguard. It prepares lifeguard candidates to recognize emergencies, respond quickly and effectively to emergencies, and to prevent drowning and other incidents. The course also teaches other skills needed to be a professional lifeguard.

PER 152 Avalanche Safety

1 credit

Emphasizes the latest information available about the study of avalanches, snow science, rescue equipment, and rescue techniques. The course provides you 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.

PER 153 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.

PER – Physical Education and Recreation Courses

www.rccc.edu/outdoor

PER 160 Wilderness Ethics

3 credits

Emphasizes the motivation, aesthetics, and ethics of wilderness. Viewpoints to be examined include Native American, Western, historic, and those of modern environmental writers.

PER 161 Backcountry Cooking

1 credit

Covers menu planning, nutritional requirements for wilderness camping, and meal preparations. This course includes cooking a backcountry meal.

PER 168 Outdoor Equipment and Facilities

2 credits

Acquaints you with wilderness equipment, programs and facilities. The course includes field trips to local outdoor industry facilities.

PER 175 Special Topics

1-6 credits

Provides you with a vehicle to pursue in depth exploration of special topics of interest.

PER 252 Principles of Outdoor Recreation

3 credits

Includes lectures and practical outdoor experiences relating to problems and trends in outdoor recreation.

PER 253 Outdoor Leadership

2 credits

An introduction to the development, acquisition, and application of outdoor leadership skills and knowledge. You are exposed 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. Emphasis is on minimal impact camping, wilderness ecology, judgment and decision-making, group dynamics and trip logistics. These skills will enhance your effectiveness as an outdoor leader.

PER 275 Special Topics

1-12 credits

Provides you with a vehicle to pursue in-depth exploration of special topics of interest.

PHI – Philosophy Courses

www.rccc.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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

PHI 114 Comparative Religions: GT-AH3

3 credits

Introduces you to the similarities and differences among concepts predominant in the major world religions, comparing sociological, philosophical, and phenomenological similarities between major world faiths. It is designed to transfer to any four-year college philosophy, religious studies or humanities department.

Prerequisite: ENG 090 (grade C or higher) or equivalent assessment scores.

PHI 115 World Religions—West

3 credits

Introduces you to the common and different concepts predominant in the major world religions. It includes sociological, political, psychological, and philosophical aspects of a variety of belief systems. It focuses on the concept of religion as a cultural system, and a way that people make sense of a complex world. Particular emphasis is placed on how myths, legends, and folk tales reveal religious concerns.

PHI 116 World Religions—East

3 credits

Emphasizes the diversity and richness of Eastern Religions within a cross-cultural context. Concepts such as fate, reincarnation, enlightenment and morality are analyzed.

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 you 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 of 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 you 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 you 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

PHI 275 Special Topics in Philosophy

3 credits

Provides you with a vehicle to pursue in depth exploration of special topics of interest.

PHO – Photography Courses

www.rccc.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 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 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 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 138 or 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 or ART 138

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 138 and 139 or ART 139 and 239 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 138 and 139 or ART 139 and 239 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. You will 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 138 or 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 138 or 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.

PHO xxx Finish and Display/Framing

1 credit

Presents the proper execution and presentation of fine art images through the use of dry mounting, matting, and framing. Topics include measuring, matting, mounting, costing, supplies, professional techniques, simple framing, and basic archival processes.

PHO xxx Mastering Black-and-White Outdoor Photography

1 credit

Explores advanced techniques used by Master Photographers in exposing and printing professional B&W outdoor photos. Types of film, cameras, exposure methods, film processing, and printing techniques are covered. Exposure methods include the Zone System, use of filters, and advanced techniques to achieve the best possible negative to maximize print quality. You must use a 35mm SLR film camera with manual settings for this class.

Prerequisites: ART 138 or ART 139 or permission of instructor.

PHO xxx Darkroom Alternative Processes

3 credits

Designed for intermediate-to advanced-level students. You will explore specialized photo techniques, such as infrared photography, solarization, multiple exposures, time exposures,

direct positive black and white, multiple and montage printing techniques, abstracts, and high contrast, as well as film reticulation. Topics include special filters, motion techniques, and "breaking all the rules." The primary emphasis is on personal creativity and the aesthetic value in using special effects in visual communication. A 35mm SLR film camera with manual settings is required for this class.

Prerequisite: ART 138 or ART 139.

PHO xxx Outdoor Portrait Workshop

1 credit

Designed to provide the serious photography student with hands-on tools and techniques to explore the art of outdoor portraits. You will learn to control natural lighting, use backdrops to enhance the subject, and use format and lens selection to best fit the desired outcome. Both film and/or digital SLR cameras with manual settings may be used for this class.

Recommended Prerequisite: ART 138 or ART 139.

PHO xxx Close-up and Macro Photography

3 credits

Explores the techniques, aesthetics, and equipment necessary to produce close-up and macro photographs. You will photograph both inanimate and natural objects indoors and outdoors using different approaches to these subjects. Both film and/or digital SLR cameras with manual settings may be used for this class.

Recommended Prerequisite: ART 138 or ART 139 or permission of instructor.

PHY – Physics Courses

www.rccc.edu/physics

PHY 105 Conceptual Physics: 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 and MAT 090 (grade C or higher) or equivalent assessment scores.

PHY 107 Energy Science and Technology: 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 and MAT 090 (grade C or higher) or equivalent assessment 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.
Prerequisites: ENG 090 and MAT 121 (grade C or higher) or equivalent assessment 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.

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 (grade C or higher) or equivalent assessment 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.

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 unconventional), 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.rccc.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.
Corequisite: OSH 127, HWE 113.

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.
Corequisite: OSH 127, HWE 113.

PLU 104 Plumbing Service 4 credits

Allows you 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.

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.

PLU 108 Soldering and Brazing Skills 0.5 credits

Allows you 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.

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.
Prerequisites: PLU 100, PLU 101, OSH 127 or permission of the instructor.

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 205 Backflow Prevention Certification Training

3 credits

Prepares students with information and procedures for the development, implementation, maintenance and enforcement of back-flow prevention practices pursuant to federal and state regulation pertaining to cross connection control. The information in this course also prepares students to take the back-flow, ASSE cross-connection test.

PLU 206 Uniform Plumbing Code

4 credits

Assists students in passing the plumbing licensing examinations for the State of Colorado. This course reviews and interprets the Uniform Plumbing Code and the Colorado State Plumbing code. The course also reviews the need for enforcement of the Uniform Plumbing 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 215 Backflow Prevention Re-Certification

1 credit

Designed for those technicians who have a current Colorado Cross Connection Control Certification and need to renew the certification. The course will review current state and federal regulations applicable to technician recertification and prepare for the current ASSE certification.

Prerequisite: Students must have a current Colorado Cross Connection Control Technician Certification.

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 you 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 convactor sizing are also discussed.

Prerequisites: OSH 127, HWE 113, 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: OSH 127, HWE 113, 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 you an opportunity to apply your 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.rccc.edu/political

Prerequisite for all POS courses except POS 280: Students must have earned an ACT score of 18. If they do not have an 18, students must take ACCUPLACER and score 95 or higher on the Writing Skills

portion of ACCUPLACER and 80 or higher on the Reading Skills portion.

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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.

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 (grade C or higher) or equivalent assessment scores.

POS 280 Internship

1-6 credits

Provides you with the opportunity to supplement course work with practical work experience related to your educational program. You will work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

PPT – Power Plant Technology Courses

PPT 215 Power Generation

3 credits

Introduces the basic elements of electrical generator design, protection, and operation. Students are introduced to the theoretical aspects of reactive power in power systems by analyzing the inductive and capacitive components of the system, with an emphasis on megavar loading as it is affected by the excitation system. The generator's auxiliary systems and controls are introduced and the function and types of exciters commonly found in power plants are examined.

PRA – Park Ranger Courses

www.rrcc.edu/park

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 you 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

An introduction to the development, acquisition, and application of outdoor leadership skills and knowledge. You will be exposed to the latest information, philosophy, and techniques necessary to safely conduct outdoor programs and expeditions as an outdoor leader. Skills will be applied under actual field conditions. Emphasis will be on minimum impact camping, wilderness ecology, judgment, decision-making, group dynamics, and trip logistics. These skills will enhance your effectiveness as a professional outdoor leader.

PRA 230 Park Ranger Law Enforcement Training

3 credits

An intensive academy for non-armed park rangers who work in local government parks and open space districts. The focus is on ranger safety,

regulation enforcement, incident command, limitations of authority, visitor contact, communications, and situational control techniques. Topics will vary depending upon the class needs.

Prerequisite: PRA 102 or recent seasonal park employment/permission of the instructor.

PRA 255 Advanced Resource Interpretation

3 credits

An advanced course in natural and cultural/historic resource interpretation. The course provides you 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 you 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 you participate in relevant field work and perform to the standards expected of employees of the agencies in which the internship occurs.

Prerequisite: PRA 102.

PRO – Process Technology Courses

www.rrcc.edu/isod

PRO 100 Introduction to Process Technology

4 credits

Provides an overview or introduction into the field of Process Operations within the process industry. The course will introduce the roles and responsibilities of process technicians, the environment in which they work, and the equipment and systems in which they operate.

PRO 110 Safety, Health and Environment

3 credits

Provides an introduction to the field of safety, health, & environmental concerns

within the process industry. Within this course, you will be introduced to various types of plant hazards, safety and environmental systems and equipment, and the regulations under which processing plants are governed.

PRO 120 Process Technology I: Equipment
4 credits

Provides an overview or introduction into the field of equipment within the process industry. This course will introduce many process industry-related equipment concepts including purpose, components, operation, and the Process Technician's role for operating and troubleshooting the equipment.

Prerequisite: PRO 100 and PRO 110 or permission of instructor.

PRO 125 Industrial Equipment
4 credits

Familiarizes the student with nomenclature, maintenance, safety and operations in relation to the stationary equipment utilized in the oil and gas and other process industries. This course provides an overview or introduction into the field of equipment and maintenance within the process industry. The course also provides an overview or introduction into the field of stationary equipment utilized in many of the process industries. This course will introduce many process industry-related equipment concepts including purpose, components, operation, and the Process Technician's role for operating and troubleshooting the equipment.

PRO 130 Instrumentation
3 credits

Provides an introduction to the field of Instrumentation and covers process variables and the various instruments used to sense, measure, transmit and control these variables. This course also introduces control loops and the elements that are found in different types of loops, such as controllers, regulators and final control elements. The course concludes with a study of instrumentation drawings and diagrams and a unit on troubleshooting instrumentation.

Prerequisite: PRO 100 and PRO 110 or permission of instructor.

PRO 131 Instrumentation II
3 credits

Introduces the student to switches, relays and annunciator systems and moves on to discuss signal conversion and transmission. Controllers, control schemes and advanced control schemes are covered at a level appropriate for the process technician. The student then moves on to learn about digital control, programmable logic control and distributed control systems before ending the course with a discussion of instrumentation power supplies,

emergency shutdown systems and instrumentation malfunctions.

PRO 175 Special Topics
0.5 – 6 credits

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

Prerequisite: Permission of instructor.

PRO 185 Independent Study
0.5 – 6 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.

PRO 210 Process Technology II: Systems
4 credits

Studies the interrelationship of process equipment and process systems: arranging process equipment into basic systems; describing the purpose and function of specific process systems; explaining how factors affecting process systems are controlled under normal conditions; and recognizing abnormal process conditions. In addition, it introduces the concept of system and plant economics.

Prerequisite: PRO 120 and PRO 130 or permission of instructor.

PRO 220 Process Technology III: Operations
4 credits

Provides an introduction to the field of operations within the process industry. Students will use existing knowledge of equipment, systems, and instrumentation to understand the operation of an entire unit. Students study concepts related to commissioning, normal startup, normal operations, normal shutdown, turnarounds, and abnormal situations, as well as the Process Technician's role in performing the tasks associated with these concepts within an operating unit.

Prerequisite: PRO 120 and PRO 130 or permission of instructor.

PRO 230 Quality in Process Technology
3 credits

Provides an introduction to the field of Quality within the Process Industry. This course will introduce many process industry-related quality concepts including operating consistency, continuous improvement, plant economics, team skills and statistical process control (SPC).

Prerequisite: PRO 100 and PRO 110 or permission of instructor.

PRO 240 Industrial Troubleshooting
4 credits

Provides instruction in the different types of troubleshooting techniques,

procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause-effect relationships, and reasoning.

Prerequisite: PRO 220 or permission of instructor.

PRO 275 Special Topics
0.5 – 6 credits

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

Prerequisite: Permission of instructor.

PRO 280 Internship
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.

Prerequisite: Permission of instructor.

PRO 285 Independent Study
0.5 – 6 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.

PSY – Psychology Courses

www.rccc.edu/psychology

Prerequisite for all PSY courses: Students must have earned an ACT score of 18. If they do not have an 18, students must take ACCUPLACER and score 95 or higher on the Writing Skills portion of ACCUPLACER and 80 or higher on the Reading Skills portion.

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

PSY 110 Career Development
3 credits

Assists you 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 you with a vehicle to pursue in-depth exploration of special topics of interest.

PSY 180 Internship
1-3 credits

Provides you with the opportunity to supplement course work with practical work experience related to your educational programs. You 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 you 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 (grade C or higher) or equivalent assessment scores.

PSY 206 Psychology of Women
3 credits

Discusses how women have traditionally been excluded from defining theory or contributing to the development of appropriate methodology in the area of psychology and women. This course also investigates differences and similarities between men and women and the impact of womanhood on social situations, particularly in the areas of employment, courtship, family life and sexuality. It also helps students appreciate the influence of women on human experience. Finally, the course facilitates the development of critical thinking skills through discussion, research projects, and exercises on current controversial topics related to women's issues that are designed to promote these skills.

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 112 Psychology of Adjustment
3 credits

Emphasizes personal growth and the development of interpersonal skills. Focus is on the practical application of psychological principles in achieving understanding of the self and identity, interpersonal communication, and close relationships.

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

PSY 229 Introduction to Addictive Behavior
2 credits

Focuses on addictive behavior and its effect on individuals, families, and society.

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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

PSY 239 Adolescent & Adult Psychology
3 credits

Examines growth and development of the individual from adolescence to death, emphasizing physical, cognitive, emotional and psychosocial factors.

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.

PSY 245 Educational Psychology

3 credits

Focuses on the relationships between theory, research, and practice in the areas of learning, child development, motivation, and educational assessment.

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 (grade C or higher) or equivalent assessment scores.

PSY 250 Dynamics of Racism and Prejudice

3 credits

Focuses on early race relations in the United States, the development of prejudicial attitudes, and the social impact and strategies for positive change.

PSY 258 Introduction to Neuropsychology

3 credits

Focuses on introduction to basic neuropsychological terms and concepts with emphasis on application of thinking and behavior in humans.

PSY 265 Psychology of Personality

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 you to gain an appreciation of the value of alternative theoretical approaches to this study of psychology.

REA – Reading Courses

REA 030 Basic Reading Skills

2 credits

Focuses on strategies for word attack, vocabulary development, stages of reading, and basic reading comprehension.

Prerequisite: Take the Accuplacer assessment test and achieve a Reading Skills score of 0-39.

REA 060 Foundations of Reading

3 credits

Focuses on strategies for vocabulary development, improved reading comprehension, and enrichment.

Prerequisite: A grade of C or above in REA 030 or take the Accuplacer assessment test and achieve a Reading Skills score of 40-61.

REA 090 College Preparatory

Reading

3 credits

Enables you to apply strategies for improving comprehension, developing vocabulary, and increasing rate for reading college textbooks.

Prerequisite: A grade of C or above in REA 060 or take the Accuplacer assessment test and achieve a Reading Skills score of 62-79.

REE – Real Estate Courses

www.rrcc.edu/business

REE 119 15-Hour National USPAP Course

1 credit

Satisfies the 16-hour continuing education requirement (standard) for licensed real estate appraisers including one hour of state appraisal rules and regulations.

Corequisites: REE 120 and REE 121.

REE 120 Basic Appraisal Principles

2 credits

Provides a basic understanding of the principles and concepts for the trainee level of appraisal also known as the registered appraiser. The course provides a basic understanding of real estate concepts and characteristics, legal considerations, the economic principles of value, and types of value. It includes an overview of Real Estate markets and analysis and the application of ethics in appraisal practice.

Corequisites: REE 119 and REE 121.

REE 121 Basic Appraisal

Procedures

2 credits

Offers the second half of the Real Estate Appraisal Course. It provides basic valuation procedures and concepts for the trainee level of appraisal also known

as the registered appraiser. The course provides a basic understanding of real estate property characteristics and description, and the appraisal process including the application and reconciliation of the approaches to value.
Corequisites: REE 119 and REE 120.

REE 201 Real Estate Brokers I

6 credits

Enables you, 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: A grade of C or higher in Reading 090 or appropriate SAT, ACT or Accuplacer score that indicates college reading ability, or permission of instructor.

REE 202 Real Estate Brokers II

6 credits

Enables you, 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: A grade of C or higher in Reading 090 or appropriate SAT, ACT or Accuplacer score that indicates college reading ability, or permission of instructor.

REE 275 Special Topics

1-3 credits

Provides you with a vehicle to explore special topics of interest in depth.

REE 280 Internship

1-3 credits

Provides you with the opportunity to supplement course work with practical work experience related to your educational program and occupational objectives. You will be placed at approved workstations related to your program of study. You 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/radiology

You 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/radiology, 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.

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 bony 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 effect radiographic film quality and assurance.

RTE 181 Radiographic Internship I 5 credits

Introduces the clinical education experience at the clinical education center. You will apply knowledge learned in the classroom to the actual practice of radiography.

RTE 182 Radiographic Internship II 5 credits

Introduces additional concepts and more complex radiographic procedures than those learned in Radiographic Internship I.

RTE 183 Radiographic Internship III 7 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 8 credits

Introduces you 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 8 credits

Introduces you 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.rccc.edu/languages

RUS 101 Conversational Russian I 3 Credits

Introduces you 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 275 Special Topics 0.5-6 credits

Provides you with a vehicle to pursue in depth exploration of special topics of interest.

SBM – Small Business Management Courses

www.rccc.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. You 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. You will write a business plan from the material you have developed in the other courses.
Prerequisites: SBM 101, 103, 106, 108, 110 and 112 or permission of instructor.

SBM 175 Special Topics 1-3 credits

Provides you 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. You will engage in intensive study or research under the direction of a qualified instructor.
Prerequisite: Permission of instructor.

SCI – Science Courses

www.rccc.edu/science

SCI 155 Integrated Science I: 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 and MAT 099 (grade C or higher) or equivalent assessment scores.

SCI 156 Integrated Science II: 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 and MAT 099 (grade C or higher) or equivalent assessment scores.

SOC – Sociology Courses

www.rrcc.edu/sociology

Prerequisite for all SOC courses: Students must have earned an ACT score of 18. If they do not have an 18, students must take ACCUPLACER and score 95 or higher on the Writing Skills portion of ACCUPLACER and 80 or higher on the Reading Skills portion.

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 (grade C or higher) or equivalent assessment scores.

SOC 102 Introduction to Sociology II: GT-SS3

3 credits

A continuation of introduction to Sociology 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 (grade C or higher) or equivalent assessment 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 Segregation 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 you 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 socioemotional 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment scores.

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 you the theoretical and factual background necessary to understand the phenomenon of gender stratification in American and other cultures. You 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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 (grade C or higher) or equivalent assessment 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, its 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 (grade C or higher) or equivalent assessment scores.

SOC 237 Death and Dying: GT-SS3

3 credits

Provides an opportunity to familiarize you 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 (grade C or higher) or equivalent assessment scores.*

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 you 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. You 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.rccc.edu/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 you 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.

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 you 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. You will engage in intensive study or research under the direction of a qualified instructor.

Prerequisite: Permission of Instructor.

SVT – Sport Vehicle Technology Courses

SVT 101 SVT Orientation and Safety

1 credits

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 (SVT160, SVT180 & SVT299) 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.

TEC – Technical Courses

TEC 205 Geometric Dimensioning and Tolerancing

3 credits

Enables you to interpret geometric dimensioning and tolerancing (GDT) in machining or drafting. The course covers math formulas, tolerancing systems, modifiers, symbols, datums, and tolerances of form, profile, orientation, runout, and location. You will learn that the generation of a working drawing is a team effort among design, drafting, manufacturing, and quality control.

THE – Theatre Arts Courses

www.rccc.edu/theatre

**THE 100 Technical Theatre Lab
1-3 credits**

Provides you 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 you 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 (grade C or higher) or equivalent assessment scores.

**THE 109 Basics of Pattern Drafting
3 credits**

Provides you 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. You 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. You can improve your personality habits through acting exercises to become more effective in your daily relationships and communication skills and also in presenting yourself 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 you 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 060, REA 090, THE 111, THE 112, or permission of instructor.

THE 132 Theatre Production II

3 credits

Allows you 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: ENG 060, REA 090, THE 111, THE 112, or permission of instructor.

THE 135 Stage Makeup I

2 credits

Covers makeup design and application techniques. Techniques include basic corrective, character, old age, and fantasy application.

THE 136 Stage Makeup II

2 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 you to develop skills in nine dialects and accents.

THE 141 Improvisation I

1 credit

Helps you 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 you 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. You will explore acting skills through advanced material, including avant garde and classical.

Prerequisite: THE 143, THE 111, or permission of instructor.

THE 151 Stagecraft I**3 credits**

Focuses upon fundamental theories and construction of flats, platforms, stair units, soft scenery, and other aspects of stagecraft.

Prerequisite: THE 116 or permission of the 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 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 I**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 II**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**3 credits**

Gives you 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**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. You will construct 3-D models and a theatrical stage set.

Prerequisite: THE 116 or permission of instructor.

THE 225 Sound Operation and Design**2 credits**

Designed for you to understand and apply 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. You 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 you 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 you 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 237 History of Costumes and Fashion**3 credits**

Provides an examination of the clothing and accessories used by humans around the world from Prehistoric to Modern times.

THE 240 Theater Voice and Diction**3 credits**

Provides you 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 241 Stage Properties**3 credits**

Offers the fundamentals of set dressing/stage properties theory and practice, including plot design, period style, set props, hand props, production paperwork, and scene changes.

Prerequisite: THE 116 or permission of the instructor.

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. You 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 260 Employment Skills for Technical Theatre

1 credit

Provides you the opportunity to assemble a technical theatre portfolio and résumé for classroom presentation and job applications.

THE 275 Special Topics: Theatre

1-6 credits

Explores current topics, issues, and activities related to one or more aspects of the named discipline.

THE 276 SpTp: Intermediate Sewing Techniques

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 you with the opportunity to supplement course work with practical work experience related to your educational program. You 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

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/wqm

All courses are approved for OCPO training units (TU's).

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 you 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. You 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, biochemical oxygen demand, 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 you 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 you 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 you 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 in the Water Quality Industry

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 a 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 140 Management and District Leadership

3 credits

This is an elevated comprehensive management course that is relevant for all supervisors. Employee management, site management and district planning and direction are the core basics of the course. The course topics include, contracts, State Statutes, billing, revenue management, District/Company rules and regulations, working with other districts, budgeting, employee and employment issues, office management and Board Room etiquette, safety policies, management obligations and responsibilities and well a project and capital planning development are all discussed in detail with this thorough applied district management course.

WQM 150 Troubleshooting

3 credits

Provides you with troubleshooting practices and procedures for chemical adjustments, equipment failures; electrical, mechanical, pneumatic and hydraulic, source contamination, system control procedures and redundancies.

WQM 160 Managing the Global Water Supply

3 credits

Provides the student with the opportunity to study water resources in the industry. This course is designed to aid with future planning strategies with source water management practices including both ground water and surface water sources. Topics include, demand forecasting, water rights, alternative sources, storage, injection and hydraulic modeling, watershed management and integrated resource planning.

WQM 165 Water Law

3 credits

Introduces the student to legal requirements within the water and wastewater industries. Topics include groundwater water rights, non tributary water supplies, geothermal resources, water decrees and rights, water court operations, building and maintaining water utilities, absolute and conditional water rights and water ownership resumes. The student also is introduced to augmentation systems water right exchange processes.

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, venturi 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

4 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 you 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, 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.

WTG Wind Turbine Generation Courses

WTG 100 Introduction to Wind Industry

3 credits

Introduces students to the wind power generation industry. Topics covered will include physics of wind energy, various sizes and types of wind turbines, reading wind maps for finding the best wind locations. Students will also engage in discussions of the impact of the wind industry on social, environmental, economic, and political issues.

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.

AH1: Arts and Humanities**AH2: Literature and Humanities****AH3: Ways of Thinking****AH4: Foreign Languages (must be Intermediate/200 level)****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 Accuplacer 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.

CO1: Introductory Writing Course**CO2: Intermediate Writing Course****CO3: Advanced Writing Course****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/cof and click on Sign up for COF and then Apply for a Stipend. 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 - Payment Options - Authorize COF.

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 oftentimes 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 Arts
- Associate of Science
- Associate of General Studies – Specialist
- Associate of General Studies – Generalist
- Associate of Applied 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/finaid, 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. RRCC offers a free practice test for the GED at the Lakewood and Arvada campuses.

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/auditrequest/form.html
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/admis/gradap.html. Meet with an academic or faculty advisor so that he/she can assist you with the graduation application process.

GT: Statewide Guaranteed Transfer course.**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.

HI1: History**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.

MA1: Mathematics**Office of Disability Services (ODS):**

This office coordinates services for RRCC students with documented disabilities so that they have an equal opportunity to pursue their educational goals. Call 303.914.6733 or 303.914.6737 (TTY).

Open-Entry Community College:

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 national student honors organization 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.

SC1: A science with a required laboratory**SC2: A science without a required laboratory****SS1: Economic or Political Systems****SS2: Geography****SS3: Human Behavior, Culture, or Social Frameworks****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 and humanities, social and 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.

XXX:

A course numbered XXX means that the course is pending approval by the RRCC Curriculum Committee and CCCS.

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