General Catalog
2001-2002

Red Rocks Community College

2001-2002 General Catalog

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RED ROCKS COMMUNITY COLLEGE

Where Learning Is For Life

13300 West Sixth Avenue, Lakewood, Colorado 80228-1255

303.914.6600

www.rrcc.cccoes.edu

AccreditedBy:

The Commission on Institutions of Higher Education of the
North Central Association of Colleges and Schools
30 North LaSalle Street, Suite 2400
Chicago, IL 60602-2504
1.800.621.7440

ProgramsApprovedBy:

State Board for Community Colleges and Occupational Education &
Community Colleges of Colorado
1391 North Speer Boulevard, Suite 600
Denver, CO 80204
303.620.4000

ATTENTION: This catalog is effective beginning Fall Semester 2001. Course numbers and descriptions are subject to changes.

member of COMMUNITY COLLEGES OF COLORADO

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Editor: Scott N. Johns

Welcome to Red Rocks

"John is a terrific teacher. He advises every one of his students, secures jobs for them, and is selfless of his time for the good of his students."

Dear Student:

I share these kind words about one of our award-winning instructors because comments like this are not unusual or rare. Virtually every day I hear words of praise about our faculty and staff's caring, helpful and student-focused attitudes.

Why am I telling you this? It is because we pride ourselves on many important factors when it comes to your education. Receiving awards is always gratifying, but being recognized by our students is what we're all about.

And so it is that I welcome you to Red Rocks Community College.

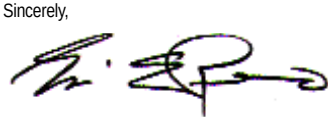
To get the most out of your Red Rocks experience, take advantage of the full spectrum of our educational and student life opportunities. I can guarantee you it is worth your time to become involved in organizations such as our community college honor society, our student leadership organization or our non-traditional student club.

We offer flexible course options, not only in the classroom, but also through distance learning and self-paced courses. We have many technical programs that support workforce development. Transferring to a Colorado four-year university? All of our core courses will transfer with you. And we have a unique partnership with the Colorado School of Mines that offers our students the opportunity to complete their first two years here, with the possibility of receiving a scholarship after they transfer to the world-famous School of Mines. We offer many great options, so look into what is best for you and we will help you meet your goals.

Our most important resource is our caring and dedicated faculty and staff. Their superb educational backgrounds, complemented by their practical experience, create an exceptional learning environment. They are here for you, so take advantage of what they have to offer. Remember, your success is their most important objective.

Don't hesitate to stop me in the hall or come to my office if you have a question, concern or recommendation on how we can make your education that much better. All the best and again, welcome to your Red Rocks Community College!

Sincerely,



Eric E. Reno,
President Ed.D.

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General Information

visit us online at:
www.rrcc.cccoes.edu

In the event of inclement weather and/or class cancellations, please call
303.914.6555

Vision
RRCC is a leader in learning and a valued partner in transforming lives and building communities.

Mission
RRCC develops and supports lifelong learners so that they may live fuller lives and add value to the communities in which they live and work.

Values
RRCC values diversity, integrity, honesty, innovation, communication and teamwork.

Purpose
The purpose of Red Rocks Community College is to give students opportunities for lifelong learning as a foundation for full participation in the global community.To do this, we provide:

- The first two years of baccalaureate education for transfer to four-year colleges and universities.
- Occupational and business education designed to meet individual, local and regional employer needs.
- Customized training and consulting for the public and private sector.
- Basic skills education to give under-prepared students access to post-secondary education, entry-level employment, or job upgrades.
- Student support services ranging from financial aid to child care that assist students with diverse backgrounds, needs and educational objectives.
- Community services including cultural programs, non-credit offerings, and forums designed to encourage diversity of thought about public issues.

Lakewood Campus
Red Rocks Community College was established in 1969 as the new west campus of the Community College of Denver. The college moved from its temporary site on West Quail Street in Lakewood to the present 140-acre main campus in phases from 1971-1975. On July 1, 1983, the Red Rocks Campus became Red Rocks Community College—its own entity within the Colorado State system. In 1990, campuses were established in Arvada and Conifer to meet growing demands for Red Rocks' services.

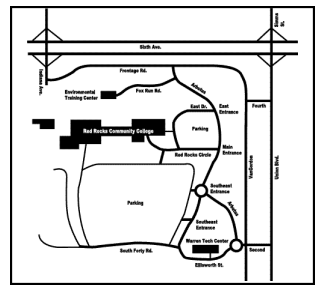
Today, the college serves more than 14,000 students annually from throughout Colorado, the U.S. and around the world. The typical student is 29 years old, working and attending school part-time. More than 800 courses and programs and complete scheduling flexibility meet a variety of educational goals, including professional certification, transferrable two-year degrees, occupational degrees and certificates, and updated job skills.

Arvada Campus
Established in 1990 the Arvada Campus is known for its innovative schedule options, friendly, helpful atmosphere and now, for a beautiful new building with stunning views of the mountains and downtown Denver. The Arvada Campus lies just northwest of the intersection of I-70 and Kipling, conveniently serving the communities of Arvada, Wheat Ridge and northwestern Jefferson County. Our 20,000 square foot building houses "smart" state-of-the-art classrooms offering courses in computer technology, general education CORE courses, and basic skills courses in math and English. The LARC (Learning and Resource Center) is the centerpiece of the building, housing the Computer Commons, Assessment and Basic Skills, Self-Paced Labs, Telecourse and On-Line support, Library Services, Tutorial Services in Math and English, Career Resources, Study Areas and access to the Internet. In addition to classes held at the Arvada Campus, classes are held at other community locations such as Arvada High School. Students can also receive advising, register and pay for classes, receive financial aid information and buy textbooks (limited).

Health Careers Center
The Health Careers Center was established in 1997, and is located just northeast of the intersection of I-70 and Kipling. The center houses the Health Careers programs, which includes Medical Transcription, Medical Office, Medical Assisting, RN Refresher, Continuing Education for Nurses, Radiologic Technology and Certified Nursing Assistant.

Mountain Center
The Mountain Center, established in 1990, serves the mountain communities of Western Jefferson, Gilpin, Clear Creek, and Park counties. The Mountain Center is located at Conifer High School and offers classes in a variety of formats, including on-site, Internet, ITV, self-paced and telecourses. Student services available are registration, advising, ASSET/COMPASS testing and financial aid information.

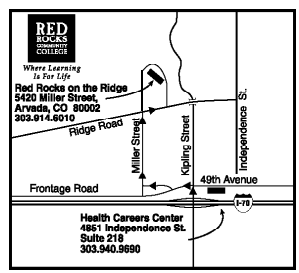
Lakewood Campus
13300 West Sixth Avenue
Lakewood, CO 80228-1255
Phone: 303.914.6600
FAX: 303.914.6666



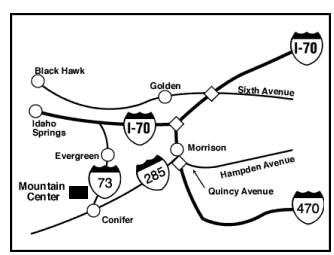
Arvada Campus
5420 Miller St.
Arvada, CO 80002
Phone: 303.914.6010
FAX: 303.420.9572

&

Health Careers Center
4851 Independence, Suite 218
Wheat Ridge, CO 80033
Phone: 303.940.9690
FAX: 303.940.9967



Mountain Center
10441 County Hwy 73
Conifer, CO 80433
Phone: 303.982.5233
FAX: 303.982.5232



Admissions and Advising Information

Admissions

Red Rocks Community College welcomes anyone who can benefit from our instructional programs and courses, including high school graduates, non-graduates 18 years old or older and students 16 years old or older who are currently enrolled in high school. Admission does not assure acceptance into a particular course or program. Some programs have limited space and special admissions procedures; applicants for these programs must contact the appropriate division. Although you may enroll in any course in which you have a reasonable expectation for completion, if you have a learning deficiency, you may be required to enroll in courses designed to correct it.

The college may review your enrollment if you do not appear to be profiting from instruction or if your enrollment poses a hazard to yourself or others. The Director of Enrollment Services reviews questions of admissibility. Admission based on false statements or documents may be reversed and credits completed under these circumstances may be revoked.

Admissions Procedures

First-time students entering degree programs within the Colorado state system of community colleges will be assessed in reading, writing and mathematics. Students who are assessed and who do not meet basic skills standards are responsible for completing appropriate basic skills instructions. Students who initially enroll in a course or courses and later elect to enroll in approved certificate or degree program must participate in assessment at the time they enroll in the program.

1. Submit an "Application for Admission" form, including the declaration of program, major or area of study. Applications are available in the back of the current class schedule and online at www.rrcc.cccoes.edu/admfrmset.html

2. Take the COMPASS basic skills assessment before registration to assist in making appropriate educational plans. Please note this is not an entrance exam. Assessment times are listed in the current schedule under "Assessment." No appointment is required. Information: **303.914.6720**

Students whose assessment scores are below college level are responsible for enrolling in basic skills courses during their first thirty (30) credit hours of attendance at the college.

3. See an academic advisor and complete the registration process.

Former Students. If you are returning to Red Rocks after an absence of more than one year, you must apply for readmission. If you have earned credit at another college in the interim and plan to use that credit to fulfill requirements for a Red Rocks degree or certificate, you must submit a transcript to the Records Office prior to the semester in which you plan to graduate.

High School Students Participating in the Postsecondary Enrollment Options Program (PSEO). High school students wishing to participate in the PSEO Program must receive approval from their school counselor prior to enrolling. Upon approval, students need to:

1. Apply for admission to Red Rocks Community College.
2. Complete the Red Rocks Community College assessment process*.
3. Have their course schedule approved by an academic advisor.
4. Register for classes.
5. Pay for tuition, student fees, books, and supplies.

Upon successful completion of the course, the school district will reimburse tuition costs.
For more information, please call **303.914.6350.**

High School Students Not Participating in the Postsecondary Enrollment Options Program.

High school students wishing to register for classes must schedule an interview with an academic advisor in the RRCC High School Relations Office prior to enrolling. Upon formal approval, students need to:

1. Apply for admission to Red Rocks Community College .
2. Complete the Secondary Student Admission Permit.
3. Complete the Red Rocks Community College assessment process*.
4. Have their course schedule approved by an academic advisor.
5. Register for classes.
6. Pay for tuition, student fees, books, and supplies.

Information:**303.914.6350.**

*Students must exhibit, through assessment results at RRCC, the ability to benefit from college level instruction.

Assessment Center

Beginning with students admitted for the Fall 2001 semester, Red Rocks Community College will assess the basic skills proficiency of all new students who plan to enroll in courses leading to college degrees or certificates. Students who have previously been co-enrolled at the college while still attending secondary school are new students for purpose of this plan.

Students may satisfy assessment requirements by visiting the Assessment Center and submitting ACT or SATscore reports, or by providing evidence of a college degree (two-year or four-year), or by arranging to take the COMPASS Computerized Assessment. The COMPASS Computerized Assessment takes approximately two hours and is available free-of-charge on a walk-in, first-come, first-served basis. Test times are listed in the current class schedule.

Students must meet one of the assessment requirements described above to determine his/her need for basic skills remedial coursework and/or to determine appropriate course placement. Information: **303.914.6720**

Advising

After completing the assessment process, you are encouraged to visit the Advising Center. Academic advisors can help with selecting and scheduling courses; identifying course prerequisites; obtaining faculty assistance for specific program information; providing graduation requirement evaluations and evaluating assessment results. Advisors can also help with specific program planning if you intend to transfer to a four-year college or university. Information: **303.914.6255**

Career Planning and Workplace Experience

If you are planning for your first career, a mid-course career change, or want to enhance your existing job skills, Red Rocks Career Development specialists can help. Using career and personal interest inventories and computerized information, they can assist you in selecting what you need from among hundreds of options. They can also help you take advantage of Red Rocks' Career Development Seminar and the Colorado Career Information System *(COCIS)*. Finally, Career Development specialists can help with referrals through consultation with faculty and community resources as well as other colleges and universities. Information: **303.914.6255** or **303.914.6258**

Inter-Institutional Registration

Admissions can assist you with concurrent registration at the University of Colorado at Denver or Metropolitan State College of Denver. International students must meet thehost institution's English language proficiencyrequirements. Information: **303.914-6356**

Readmission of Former Students

If you are returning to Red Rocks after an absence of more than one year, you must apply for readmission. If you have earned credit at another college in the interim and ***are pursuing a degree or certificate***,you must also submit a transcript prior to your last semester. Subsequent registration is contingent upon receipt of all required documents, which become property of the college.

Transcripts

If you need your Red Rocks transcript to be forwarded to a third party, a "Transcript Request" form is available in Admissions. Students may request five free transcripts per semester. Extra transcripts can be purchased for $5.00 per copy. Transcripts will not be provided for students who have not fulfilled all financial obligations to the College.

Information:**303.914.6352**.

Transfer of Credits

The Community Colleges of Colorado launched a common course numbering and common competency project to improve student transfer and to ensure curriculum quality across our system. The project is scheduled to be fully implemented in fall 2001. The project will not jeopardize student credit and transfer. The system will provide an electronic addendum at www.rightchoice.com and www.cterc.cccoes.edu/cccns as course numbers and course competencies are completed.

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.

If you are a veteran using V.A. benefits, you must submit transcripts of all previous post-secondary education and training within 30 days after the beginning of your first class. **Attention: Course numbers and descriptions are subject to changes.**

For more information please call: **303.914.6355**

1. Initial transcript evaluation is done in Student Records. Transcripts must be sent from a previous college to RedRocks Community College.
2. Grade point average *(GPA)* from transfer institutions is not calculated into the Red Rocks Community College GPA.
3. The college reserves the right to validate and examine all credits to determine obsolescence of content. In the event that course work is found to be obsolete,you may be required to update the credit.
4. The college will accept transfer credit only from post-secondary institutions accredited by one of the six regional accrediting associations. Credits earnedby a student enrolled in a Colorado community college which are applicableto a specific AAS degree or occupational certificate will be accepted as meeting degree or certificate requirements in an equivalent program.

Transferring to Four-Year Colleges and Universities

Red Rocks has established transfer agreements with the following institutions:

Adams State College
Colorado School of Mines
Colorado State University
Fort Lewis College
Franklin University
Mesa State College
Metropolitan State College of Denver
Regis University
St. Francis University
University of Colorado at Boulder
University of Colorado at Colorado Springs
University of Colorado at Denver
- •College of Business and Administration
- •College of Engineering & Applied Science
- •College of Liberal Arts and Sciences

University of Colorado Health Sciences Ctr.
University of Denver
University of Northern Colorado
University of Southern Colorado
Western State College

Priority Dates

To Receive Aid For:	*Apply By:*
Fall 2001	May 1, 2001
Spring 2002	October 1, 2001
Summer 2002	March 1, 2002

Resident

Credits	Estimated Tuition*	Registration Fee	Student Fees**	Total
1	$60.05	$9.60	$7.55	$77.20
2	120.10	9.60	15.101	44.80
3	180.15	9.60	22.65	212.40
4	240.20	9.60	30.20	280.00
5	300.25	9.60	37.75	347.60
6	360.30	9.60	45.30	415.20
7	420.35	9.60	52.85	482.80
8	480.40	9.60	60.40	550.40
9	540.45	9.60	67.95	618.00
10	600.50	9.60	75.50	685.60
11	660.55	9.60	83.05	753.20
12	720.60	9.60	90.60	820.80

Tuition charge of $60.05 per credit hour over 12 credits.

Charges for partial credits:

0.5	30.03	9.60	3.78	43.40
1.33	79.87	9.60	10.04	99.51
2.67	160.33	9.60	20.16	190.09

Non-Resident

Credits	Estimated Tuition*	Registration Fee	Student Fees**	Total
1	$ 288.55	$9.60	$7.55	$305.70
2	577.10	9.60	15.10	601.80
3	865.64	9.60	22.65	897.89
4	1,154.19	9.60	30.20	1,193.99
5	1,442.74	9.60	37.75	1,490.09
6	1,731.29	9.60	45.30	1,786.19
7	2,019.84	9.60	52.85	2,082.29
8	2,308.38	9.60	60.40	2,378.38
9	2,596.93	9.60	67.95	2,674.48
10	2,885.48	9.60	75.50	2,970.58
11	3,174.03	9.60	83.05	3,266.68
12	3,462.58	9.60	90.60	3,562.78

Tuition charge of $288.55 per credit hour over 12 credits.

Charges for partial credits:

0.5	144.27	9.60	3.78	157.65
1.33	383.77	9.60	10.04	403.41
2.67	770.42	9.60	20.16	800.18

*****Tuition rates are set annually by the State Board for Community Colleges and Occupational Education. ***At press time the State Board had not determined what tuition rates will be for the summer 2001 semester. The amounts presented here are estimates. **Student Fees of $7.55 per credit hour include: Student Activity Fee—$4.20, Student Center Bond—$2.50, Parking Fee—$0.85, Total=$7.55.*** **CCCOnline: $122.25 per credit hour both resident and non-resident. Physician Assistant Program: Resident-$245.20 per credit hour; Non-resident- $330.50 per credit hour.**

These agreements specify how Red Rocks courses transfer and identify their equivalents at these institutions. They are on our website at **www.rrcc.cccoes.edu** under "Information For Students". which provides written guarantees of transferability of credit when a prescribed curriculum is satisfactorily completed.
Information: **303.914.6255**

Tuition and Financial Aid

Tuition and Fees

Tuition rates are set annually by the State Board for Community Colleges and Occupational Education. In addition to tuition, there is a nonrefundable registrationfee, a parking/student fee, a Student Center fee and fees for some courses. For current deadlines and methods of payment, consult the latest ***Class Schedule.***

Non-Resident Students

For tuition purposes, Colorado law determines whether a student is classified as in-state *(resident)* or out-of-state *(non-resident)*. Your initial classification is basedon information supplied on the "Applicationfor Admission."

To change from non-resident to resident status, obtain a petition form for in-state status from Admissions. Acopy of the regulations governing residency classification is a part of the petition. Deadlines for submissionof the petition are published each session. Petitions received after the deadline will not be considered until the following session.

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.

Senior Citizens Tuition

In-state students over the age of 60 may be eligible for a one-half-tuition grant for credit-bearing courses. Complete the "Senior Citizens Grant Program" form every semester available in the Financial Aid Office. All fees will be assessed. The financial aid office must be notified when a class is added or dropped.

Financial Obligations of Students

Payments for tuition, fees and materials aredue on the specified date published in the ***Class Schedule*** or at the time the obligations are incurred. You are not consideredofficially registered until tuition and fees are paid. If you are in any way financially obligated to the college or have failed to account for college property in your possession, you may be denied a transcript and registrationfor subsequent sessions until you have made a satisfactory arrangement with the college.

Financial Aid

About one-third of Red Rocks students benefit from some type of financial aid each year. Four types are available. Scholarshipsare generally based on academic performance, accomplishments and need. Grantsare federal and state programs based on need. Neither scholarships nor grants require repayment. Loans provide funds while you are attending school. Work-study agreements allow you to work for the college while you are enrolled. The Financial Aid Office **303.914.6256** can provide details for the following:

•***Scholarships:*** Colorado Scholars, Red Rocks Foundation

•***Grants:*** Federal Pell Grants, Colorado State Grant, Colorado State Incentive Grant, Federal Supplemental Educational Opportunity Grant, Governor's Opportunity Scholarship, Supplemental Leveraging Educational Assistance Partnership(SLEAP)

•***Loans:*** Federal Stafford Student Loans, Federal Parent Loan *(PLUS)*

•***Self-Help:*** Federal and Colorado Work Study Program

Once the application for financial aid has been completed and submitted, your request takes approximately 8 to 10 weeks to process. Although the application for financial aid may be submitted throughout the year, ***"priority dates"*** have been established to assure the availability of funding. Financial aid applications must be complete and correct by priority date. For complete Financial Aid information see Financial Aid Handbook or contactt the Financial Aid office.

Red Rocks Community College Foundation

Scholarships in varying amounts for the fall, spring and summer sessions are available through the Red Rocks Community College Foundation.
Information: **303.914.6425**.

Learning and Resource Center *(LARC)*

Combining one-on-one instruction with the latest in state-of-the-art technology, the LARC offers myriad services in one convenient place. Take advantage of the LARC's many self-paced courses in math, English and social sciences. Access a variety of learning tools in the friendly, comfortable environment that the LARC offers you. These tools include CD-ROMs and online computer tutorials; the library and its extensive resources; tutoring in a variety of subjects, including writing; assessment and placement testing to see what classes are right for you; services for people with disabilities; weekly learning seminars; and much more.
Information: **303.914.6700**

Computer Access Center

The Computer Access Center (CAC) is a unit within the Office of Special Services. Adaptive computers and individualized and modified instructions are available to students with specific disabilities using word processing and spreadsheet applications. Available computer adaptations include screen reading and screen enlargement software for students who are blind or with low vision or specific learning disabilities such as dyslexia. Alternative keyboards and software help students who have difficulty using a standard keyboard, and voice recognition software allows a student to access the computer by voice.
Information: **303.914.6735**

Assessment

Credit for Prior Learning

If you are currently enrolled, you may receive academic credit for education you have attained through earlier schooling, work, experiential learning or other non-traditional means, as long as it is comparable to courses offered at Red Rocks and related to your current program methods available for CPL are:

•**CLEP** (College Level Examination Program)

•**Challenge Exams**
•**Portfolio** (Documentation of past learning)

CPL handbook and forms are available online at:
www.rrcc.cccoes.edu/stdfrmset.html

Other Tests Available:
- **ACT** (College Entrance Exam)
- **ASSET** (Red Rocks Assessment Test)
- **COMPASS** (Red Rocks Assessment Test.) Test times are listed in the current schedule of courses. **No appointment required**.

COMPASS sample tests are available online:
www.rrcc.cccoes.edu/stdfrmset.html

- **Authorized Prometric Testing Center** Computerized certification and license testing for software publishers, state and federal governments and educational entrance exams.
- **HOBET** (Health Occupations Basic Entrance Test)
- **Colorado Vocational Educator Test**

Information: **303 914.6720**

Learning Development

Learning Development offers English, math, reading and learning success courses to strengthen students' basic skills in preparation for success in college and vocational classes. Preparation courses for GED, ACT, SAT,and GRE tests are also available. We offer both self-paced and classroom courses. Self-paced courses are open-entry, so students may begin at any time and learn based on their individual needs. Students have a choice of textbook or computer-based instruction with personalized help from friendly, supportive tutors. Our FREE practice test for the GED allows students to determine if they're ready for the official GED test.
GED information line: **303.914.6718** General Info: **303.914.6717** (Lakewood Campus) or **303.914.6020** (Arvada Campus)

Library

The library offers extensive print, audiovisual and electronic information services. CARL,the library's online catalog, offers access tothe Red Rocks catalog, to the catalogs of other libraries and to thousands of full-text articles from on or off campus. The library's video collection provides an alternative means of learning about subjects taught in Red Rocks classes and the50,000-volume book collection supportstraditional research. Library Internet accessopens the World Wide Web to the Red Rocks community, while Interlibrary Loan lets you borrow materials from virtuallyany library in the world.
Information:**303.914.6740**

Math Lab

The mission of the math lab is to help students to succeed in their math studies here at Red Rocks Community College. We provide alternative learning options in math. Students can take courses in a self-directed format by attending an orientation and then working with faculty on an individual basis to complete their courses. The Math Lab provides tutoring to students at Lakewood, Arvada and our Conifer High School site. We offer math seminars that supplement classroom instruction. You do not have to be a student at RedRocks Community College to attend seminars; they are open to the community.
Information: **303.914.6715**
or e-mail monica.bennett@rrcc.cccoes.edu

Office of Special Services

The college's efforts to provide equal opportunities for individuals with documented disabilities to pursue their educational goals is coordinated through the Office of Special Services (OSS). The OSS staff make determinations and provisions regarding access, reasonable accomodations, and provide advocacy services for students, staff, and visitors with disabilities. The office also serves as a resource for the college community on disability related issues. Services offered through the office include sign language interpreters, books-on-tape, note takers, readers, individual tutor support for students in danger of failing, test accomodations, reader, and adaptive computer training. The office can also make arrangements for campus orientations for new and potential students with disabilities.
Information: **303.914.6733**(V) or **303.914.6732** (V/TTY)

Social Science Center

The social science center offers self-paced courses in humanities and social science. Students who need a flexible schedule can take an orientation with a faculty member, work in a combination of text and online environments and in the social science center, and complete the course in fifteen weeks, or ten weeks during the summer. For more information call **303.914.6711** or e-mail
nancy.stein@rrcc.cccoes.edu

Writing Center

The mission of the Writing Center is to help students learn to write better. English instructors 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, term papers and essay exams. Instructors will help students generate ideas, organize and develop topics, revise and edit with confidence, and observe conventions of format and documentation.

Online Writing Center (OWC)

The OWC enables students to get help with their writing at
www.rrcc online.com/~writing. The site has links to information about writing and grammar, and students may submit papers and questions and receive responses from tutors.

Free Learning Seminars

Free weekly seminars feature topics such as learning styles, study skills for math, grammar, test-taking tips, and internet searches. Seminars are offered both days and evenings, and are open to the public. Pick up a schedule in the LARC.

Distance Learning Opportunities

Red Rocks recognizes that today's students lead busy lives that require juggling home, work, family and community responsibilities as well as the need to meet educational goals. The college offers a variety of learning innovations that make our offerings available to you 24 hours a day, 365 days per year. Check out the Distance Learning home page on the Red Rocks Community College website at **www.rrcc.cccoes.edu** for more information.

Community Colleges of Colorado Online

(CCCOnline)

Red Rocks Community College and theother institutions in the Community Colleges of Colorado System offer a fully-accredited Associate of Applied Science degree in Business Administration over the Internet.* Courses taken through CCCOnlineare transferred to the college of your choice within the system. Choose Red Rocks as your "home college."

Courses are taken by anyone, anytime, anywhere at your convenience. Courses begin at various times throughout the year. CCCOnline offers regular communication with faculty and fellow students who may be anywhere in the world. At the same time, learn to use the Internet, chat rooms, and threaded discussions to enhance your learning experience.

If you have access to a 200MhZ pentium computer or faster with Windows 95 or newer, or a Macintosh with MacOS 7.5.5 or later 16MB of RAM, a 28.8 Kbps modem, sound card and speakers, an e-mail account and access to an online Internet Service Provider, you never have to come to a campus. You register, pay, order books, attend class and use library services online. If you do not have access to a computer, you may come to the Learning and Resource Center (LARC) on the Red Rocks main campus for computer services or to the Arvada Campus Learning Resource Center.

This degree is designed for students who want a business degree and do ***not*** plan to transfer to a four-year college or university, although many of the courses in fact transfer.Please see an advisor or business department faculty member for specific details. Check out **www.ccconline.org**

CCCOnline has established transfer agreements with Northwest Missouri University.

*An AAS in Information Technology, a complete AAdegree and an AAS and certificate in Emergency Management and Planning are offered. Please see current course schedule for a list of available courses.
Information: **303.914.6705**

**Most course descriptions are included in the Red Rocks Catalog under "Course Descriptions."*

College Success

Want to be a better student, but just don't know how? AAA 109 Advanced Academic Achievement gives both first time and returning students the opportunity to learn and adopt proven methods to be successful in college. You'll be introduced to a variety of skills critical to success: education and career planning; effective communication; personal management; critical and creative thinking; development of community and awareness of diversity; leadership; and techniques for successful academic performance.

Cooperative Education/ Internships

As an extension and application of classroom learning, many opportunities are available for work experience under the supervision of professional business and industry personnel. A qualified faculty member coordinates and supervises the program, working with you and the employer during site visits,and through student and supervisor reports.

A "Training Agreement" signed by you, the college and the employer defines the responsibilities of all parties. In addition, you identify job-oriented learning objectives for approval by the work supervisor and faculty coordinator. Weekly time sheets, appropriate individual assignmentsand a final report are also required to comply with specific program requirements. Evaluation of the work experience is similar to that used in other courses, with additional emphasis on the employer'srating which constitutes part of the final evaluation process.

Aminimum of 45 clock hours of cooperative work experience is required to earn each hour of college Co-op credit. Most program areas offer work experience opportunities, and some require them for graduation. The total number of credit hours which may apply toward a degree in a specific area is identified in the *"Instructional Program"* section of this catalog. For programs not requiring work experience, Co-op is considered an approved substitute or an elective upon permission of the faculty advisor.

Transferability of Cooperative Education/Internship college credit is contingent on approval of the receiving institutions. General Education internship credit has been formally articulated for transfer to University of Colorado - Denver and Colorado State University. Transfer to other four-year institutions in the metro area is forthcoming.

All Cooperative Education/Internship courses carry a course/program prefix andare numbered 297. Permission of the facultycoordinator and cooperative education employer supervisor are required to enroll.Course COE 296 is required unless waived by the appropriate Instructional Vice President or Dean.
Information: **303.914.6258**

Independent Study

Most areas of study at Red Rocks offer opportunities to engage in intensive study and/or research on a topic under the direction of a qualified faculty member. Independent study course content, credit and contact hours are determined jointly by the student and the instructor. Permission of instructor is required prior to registering. Independent Study may be taken an unlimited number of times, but no more than six semester credits may be applied to any Associate Degree program.

Interactive Television *(ITV)*

Distance education technology brings two-way, interactive classes from Red Rocks' Lakewood Campus to local sites in Bailey, Idaho Springs, Black Hawk and Golden.See, hear and talk with the instructor and studentsin other locations, using the latest information-agetools.

Information: **303.914.6705**

Rocky Mountain Education Center(RMEC)

The Rocky Mountain Education Center is located on the main campus of RedRocks Community College and is comprised of the OSHATraining Institute, the Red Rocks Training Institute, the Colorado Environmental Training Center and the Mine Safety and Health Training Center.

The OSHATraining Institute

The OSHATraining Institute was established in 1992. The U.S. Department of Labor selected Red Rocks in cooperation with Trinidad State Junior College as one of its first four satellite training centers. The OSHATraining Institute-RMEC has trained students from all 50 states, as well as Puerto Rico, Canada, Europe and Saudi Arabia.
Information: **303.914.6420**

The Red Rocks Training Institute

The Red Rocks Training Institute(RRTI) is a division of Red Rocks Community College that specializes in training and consulting to businesses and organizations in the public and private sector. Training and consulting is customized and individualized to meet the needs of each client.

In addition to customized training, the following RRTI offers open enrollment courses in areas that include: Beginning and Intermediate Business Spanish, International Finance, E-Marketing/E-Commerce, Gaming Courses, Motorcycle Education and Computer Skills.
Information: **303.914.6767**

Red Rocks Small Business Development Center

The Red Rocks Small Business Development center (SBDC) provides counseling, training, and information on research assistance to small businesses in all stages of development. The SBDC is sponsored jointly by the college and U.S. Small Business Administration.
Information: **303.277.1840**

The Colorado Environmental Training Center

The Colorado Environmental Training Center had been in existence for more than ten years, and prior to joining the RMEC, has trained over 6,000 students. The Colorado Environmental Center offers a diverse selection of courses including entry level, certification upgrades and renewels for supervisors and managers.
Information: **303.914.6420**

Mine Safety Training Center

The latest addition to RMEC is the Mine Safety Training Center. RMEC received approval from the Mine Safety and Health Administration (MSHA) in January 1997 to offer both underground and surface minig courses.
Information: **303.914.6420**

Self-Paced Study

Self-paced courses are available on the Lakewood, Arvada and Conifer campuses. The objectives and content of self-paced courses are the same as those of classroomcourses and are accredited and transferable.Attend an orientation at one of the three campuses; then complete the course workat your own pace, on your own time, using textbooks, study guides and other resources. Take exams at your local site. Self-paced courses are open entry (*except for ENG and MAT courses*); you may register at any time and have 15 weeks to complete the course work, 10 weeks in summer.
Information: **303.914.6700**

Telecourses

Telecourses are based on a series of professionally produced television programs. Videos are viewed or taped at home from KRMA-TV Channel 6, Denver, or checked out from the library at the Lakewood Campus, Arvada Campus or Conifer High School. Students workwith coordinated print materials (textbooks, study guides, supplementary readings, and online components) Faculty provide orientation, optional discussion sessions, and individual attention on the Lakewood Campus or by phone. Exams are taken at your local site. Telecourses are open entry – you may begin a telecourse any time you wish. Information: call **303.914.6702** or visit our website **www.rrcc.cccoes.edu** click on **"Distance Learning"** and then **"Telecourses"**

Warren Tech

Students at Red Rocks and Warren Tech-Jefferson County Schools' technical center for high school students, may take selected classes at either institution. The following programs, described more fully in the Warren Tech Program catalog, are available to RedRocks students:

Auto Collision Repair
Auto Technology
Business Services & Technology I, II, III & IV
ConstructionI, II, III & IV
Cosmetology I, II
Culinary Arts I, II, III
Computer Technology I & II
Dental Assisting I & II
Drafting I, II, III & IV
Early Childhood Professions I & II
Graphic Communications I, II, III, IV
Graphic Design/Computer Art I, II, III, IV
Horticulture I, II, III & IV
Hospitality, Travel &Tourism I, II
Industrial & Design Technology
Masonry Arts I, II, III & IV
Multimedia I, II, III, IV
Nail Technology I
Network Technology I, II
Small Engine & Motorcycle Tech I, II, III & IV
Welding I, II, III & IV

Warren Tech students and other high school students wishing to enroll in a technical program should call **303.982.8603** or **303.914.6356** for registration information.

Weekend College

The focus of Weekend College is to provide classes that allow you to work andgo to school at the same time. The completeAssociate of Arts Degree and the Associate of Arts with an Emphasis in Business degree are available. Either degree may be completed within two and a half yearsby attending class just on the weekend.

Weekend classes meet for the same number of contact hours as traditional classes meet. Class formats differ according to discipline. In general, classes run for three, six, or nine-week blocks. You may choose to get your degree by taking weekend classes only, or by combining weekend classes and other classes. The Weekend College operates year round, January through December. There is a winter break in December and a summer break in August. Classes begin every three weeks. Information: **303.914.6535**

International Education

International Eudcation

Admission Information for International Students

"International students" are those students admitted into the U.S. on a non-immigrant visa. Students in an F-1 student status must attend full-time; students in other statuses may attend part-time.

If you are an international student, you must submit the following documents:

1. College Application for Admission.
2. Astatement of financial resources sufficient for tuition and living expenses while in the U.S. *(Currently $14,350/year—based on tuition of $3,400/full-time for one semester. Subject to change without notice.)*
3. Acertified English translation of an official high school, college or equivalent transcript.
4. Evidence of English language ability *(unless arriving to study English as a Second Language)*. Submit ***one*** of the following:
   - TOEFL score of 475;
   - Michigan English Language Test score of 75;
   - Graduation record from the top level of an approved intensive English program;
   - Transcript showing successful completion of the equivalent of ENG 121 from an approved college;
   - U.S. high school diploma with two years of attendance.

Provisional admission may be available for one semester without one of the above documents in category 4; students'eligibility for enrollment is determined by the College's assessment tests.

5. If transferring from a previous U.S. school, you must submit a copy of your most recent Form I-20 or IAP66, a valid passport, and Form I-94.
6. Proof of health insurance coverage from home country is required. If not covered, you will automatically be billed for health insurance through the College by the fifth day of classes.

After the admissions materials have been reviewed, we will issue the U.S. Immigration Form I-20. Applicants outside the U.S. must then present the I-20 and original copies of financial support to the nearest U.S. consulate or embassy to obtain the F-1 visa.

Guaranteed Transfer to Universities

Students who follow the College's placement advice will be guaranteed transfer of their credits to nearly all of the universities and colleges in Colorado, such as the University of Colorado and Metropolitan State College of Denver. Most transfer students successfully enter the university of their choice anywhere in the U.S. with junior class standing after completing sixty credits at Red Rocks.

Application Deadlines

Though applications are considered at any time prior to the beginning of a term, students should observe the following deadlines to ensure the College enough time to assess and process all necessary documents. New admissions are not accepted after classes begin.

Summer	*April 15*
Fall	*July 15*
Spring	*December 1*

Assessment

Prior to registering for classes, students must take the basic skills assessment test *(COMPASS)* and follow its placement recommendations.

Foreign Credential Transfer

College/university course credits earned at foreign schools can be evaluated for transfer to Red Rocks. It is strongly recommended that you first have your foreign credits assessed by a U.S. credential evaluation service. Red Rocks provides a list of such services on request.

Housing/Family Homestay Assistance

American family homestay opportunities are often available to you in addition to a variety of local housing arrangements. You should request housing information when applying for admission.

International Intensive English Program

If you wish to study only English or continue with college-level courses after ESLstudies, you may enter our Intensive English Program. The program offers full-time English instruction (20-25 hours per week) at five levels of beginning, intermediate, and advanced skills.

International Student Orientation

All new international students at Red Rocks must attend the International Student Orientation. This program is normally scheduled the Friday before regular classes begin and helps you become familiar with our campus, academic assessment, student support services, registration, the U.S. education system and the local community. We will also provide practical information about housing, shopping, transportation, banking, social customs and other topics useful for life in the U.S.

More Information

For further information or to receive an application, contact the Office of International Education at:

13300 West Sixth Avenue
Lakewood, Colorado 80228-1225
Phone: **303.914.6416**, **303.914.6536**
or **303.914.6538**
E--Mail: **international@rrcc.cccoes.edu**
Internet: **www.rrcc.cccoes.edu**
FAX: **303.980.9952**

Student Resources

Student Resources

Bookstore

The Red Rocks Bookstore supplies new and used textbooks, recommended titles, software, reference books and supplies for art and drafting. College specialty items and clothing are also available.

Information:
303.914.6232 *(Lakewood Campus)* or
303.838.5588 (*Mountain Center)*

Cafeteria

The Red Rocks Cafe on the Lakewood campus serves hot and cold food selections during peak meal hours.

Information: **303.914.6374**

Child Care

The Children's Center at Red Rocks was recently evaluated as outstanding. The training site for teachers in ECE offers full-service, full-day care for children 18 months to kindergarten entry. Children need not be toilet trained. The center models a unique form of delivery where a child is assigned to their own primary caregiver on entry and remains with that teacher/caregiver for at least two years. The center serves families of students, staff and faculty and the community. Low income families of students at RRCC can access child care subsidies through the center to help pay tuition. The center does not provide drop-in care.

Information: **303.914.6328**

Fitness Education Center

To participate in a program that includes individual analysis and prescribed training for total fitness, register for PHE 100. The Fitness Center offers circuit training, a variety of aerobic equipment and a ricochet court. Those participating in this course must go through a mandatory three-hour orientation. Upon completion of the orientation, arrange your own hours of participation to meet the course requirements. Please see the "*Physical Education*" course description section of this catalog for further details.

Information: **303.914.6375**

Student Employment Internships

Awide range of full-time, part-time and temporary jobs are available to current and former students through the Lakewood campus Student Employment Office. While the college cannot guarantee employment, every effort is made to maintain ongoing contact with business and industry to generate appropriate employment opportunities. In addition, on-campus recruiting visits from business and industry are coordinated; job announcements and outlook surveys maintained; and resume preparation, counseling, interviewing workshops and other job search skills are provided. Details regarding the college's work-study program on campus are also available. Practical job experience can extend and help you apply what you learn in the classroom. Through Red Rocks'Internship Programs, you can work, learn and get college credit while you're working for some of the area's best-known employers.

Information: **303.914.6258**

Safety

The Red Rocks Campus Police provide emergency, vehicular and victim assistance, as well as escorts to vehicles, and lost and found services.

In case of an emergency on the Lakewood campus during business hours, please call **303.914.6394** or **411** from a campus phone to reach a Campus Police officer.

For an emergency after hours please call **303.851.1282** or **411** to be connected to a Campus Police cellular phone.

Armed Forces Recruiting

ROTC is offered in conjunction with Colorado School of Mines. For Armed Forces recruiting information and ROTC information, please call the Veteran Affairs Officer at **303.914.6353**, or come to Room 1200.

Student Center/Services

The Lakewood Campus Student Center offers various activities including:

- community events and lectures
- computer game and locker rentals
- entertainment
- FAX and copy services
- leadership programs
- publications
- recreation
- resume typesetting services
- student clubs and student ID cards
- bus passes

Students who are taking courses at other Red Rocks locations are encouraged to visit the main campus and take full advantage of the student services and resources available. The Student Center includes a big screen TV room, pool tables, video games, vending machines, a Ricochet Court, the Mountainside Espresso Bar, The Den, The Mart and the Student Project Center.

Information: **303.914.6370** or **303.914.6248**

The Student Voice

The Student Voice is the representative leadership group of the student body association. These students represent your interest within the college's governance structure and decision-making processes as well as planning various activities. It is an excellent opportunity to develop your leadership, conflict resolution and critical thinking skills that will assist you in your educational and professional future endeavors. To join, you must pay fees and maintain a 2.5 GPA.

Information: **303.914.6372**

Academic Standards

Academic Standards

Academic Integrity

At Red Rocks, academic integrity is the ethical foundation upon which the academic community pursues professional, administrative and scholarly endeavors. Everyone associated with the college's academic community has a responsibility for establishing, maintaining, and fostering understanding and respect for academic integrity. Following are some principles associated with academic integrity to which we expect students to adhere:

- Assume responsibility and take credit only for the words, and/or ideas in an academic exercise that are expressly one's own.
- Use information, computer programs, disks, another student'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.

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: failing the assignment and/or course, and/or being expelled from the college.

Attendance

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

Course Load

For most students, a typical academic course requires two hours of outside preparation for each hour spent in class. For example: A15 semester credit load represents a commitment of 45 hours per week—consisting of 15 hours in class and 30 hours of outside preparation.
The average full-time course load is 15 semester credits for each fall and spring session. During the summer session, the average full-time course load is 12 semester credits. Students registering for fewer than 12 credits are classified as part-time. You need written permission from your advisor to enroll for more than 20 semester credits during any academic session.

Evaluation and Grading

The evaluation of your achievement or mastery is based upon learning objectives. Achievement means successfully reachinga specified level of knowledge or understanding. Mastery means successfully reaching a level of competency in a skill.

Your final course grades are assigned at the end of each session for classes taken during that session. If you need an earlier grade report, contact the instructor before the end of the course and request an "early release of a grade" letter. This letter is unofficial. The official grade report will be mailed from Records approximatelytwo weeks after the last day of a session.

★ S.T.A.R. for Grades

If you wish to obtain your grades, call **303.572-S.T.A.R. (303.572.7827)**. Press 2 for grades. Enter your Social Security Number and personal access code *(which is your birth month and birthday)*.

Grading Symbols:

Grade	Description
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)*
F	Failed to achieve or master the learning objectives of the course (A grade of "F" does not apply toward certificates or degrees.)

Additional Grading Symbols:

AU Audit. If you want to take a course without earning semester credit, you can register to audit that course. You must pay tuition and feesfor the course and declare your intention to audit no later than the course's tuition refunddate. Once you have registered to audit a course, you cannot change your registration from auditing to earning semester credit for thecourse. The college will not award semester 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.

CR Credit. You have achieved the learning objectives for the course with a grade of C *(or better)*. The instructor for that course evaluates your achievement on a credit/no-creditbasis. The CR symbol is limited to specific courses designated by certain disciplines.

NC No-Credit. You have not achieved the learning objectives for the course with a minimum grade of C. The instructor for that course evaluates your achievement on a credit/no-credit basis. The symbol is limited to specific courses designated by certain disciplines.

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 can assign an Incomplete grade at his or her discretion. Before you can be eligible to receive an I, you must have completed a minimum of two-thirds of the course work with a grade of C *(or better)* by the withdrawal date *(see W)*. Before the end of the course, you are responsible for making arrangements with the instructor for the preparation of an IncompleteGrade Contract. If you do not complete the course work by the agreed upon deadline date, the instructor will change the I into the letter grade stipulated in the contract.

SP **Satisfactory Progress**. Under the college's continuous enrollment policy, certain courses have been designated open-entry. You are eligible to receive an SPonly if you are enrolled in an open-entry course. By the end of the academic session, you must have completed course work *(prorated by your registration date)* with a grade of C *(or better)* before you can be eligible for an SP. Also, you can requestan SPbased on verifiable extenuating circumstances. Before the end of the academicsession, you are responsible for making arrangements with the instructor for the preparation of an SPGrade Contract. If you do not complete the course work by the agreed upon deadline date, the instructor will change the SP into an F.

Z Agrade of Z will be issued when no grade has been received from the instructor. The official grade will replace the Z when it is received from the instructor.

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:

AHRS *(attempted credit hours)* Once you register for a course, you are attempting the semester credit hours assigned to that course. Attempted hours are not used to calculate your GPA.

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

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

QPTS *(quality points)*

GPA Calculation Example:

Prefix	Grade/Points		AHRS	EHRS	QHRS	QPTS
ART 131	B	3	3	3	3	9 (3X3)
BIO 227	W	—	3	0	0	0
MAT 201	A	4	5	5	5	20 (4X5)
MAT Lab	CR	—	1	1	0	0
PHI 111	C	2	3	3	3	6 (2X3)
PSY 116	F	0	1	0	1	0 (0X1)
	Totals		16	12	12	35
GPA =	*Total QPTS* / *Total QHRS* =		35 / 12 = **2.917**			

The main grading symbols, Athrough F, are given points: A=4, B=3, C=2, D=1, andF=0. The points assigned to the letter grade multiplied by the quality credit hours received for the course gives a numerical value called quality points. These points are used to compute your cumulative grade point average *(GPA)*. Grading symbols: W, I, CR,NC, SP, and AU do not have points and are not used when computing your GPA.

GPA *(grade point average)*
Your grade point average is the numerical value found by dividing the total number of quality points *(QPTS)* by the total numberof quality semester credit hours *(QHRS)*. The GPA's highest possible numerical value is 4.000.

Academic Progress

If you receive a semester grade point average of less than 2.0 for 12 or more credits, you must meet with an academic advisor.

Information: **303.914.6255**.

Academic Second Chance

All course work taken at Red Rocks is reflected on your permanent transcript; however, you can initiate a petition to remove from your cumulative grade point average *(GPA)* up to 15 semester credits of substandard grades you earned in course work no longer appropriateto your present educational goals. Before submitting the required written request, you must wait at least two years after the course work was completed and must take a minimum of 15semester credits of new course work at Red Rocks with a cumulative GPA of 2.000 or higher. You can petition only once to remove from your cumulative GPAthe substandard grades. Once Student Records has removed these grades from your cumulative GPA, they cannot be reinstated. The substandard grades, however, will still appear on your permanent academic transcript. For further information contact Student Records at **(303) 914-6352.**

Petitioning for Waivers/ Program Substitutions

If due to extenuating circumstances 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. Students should complete the request, have it approved by their advisor and the Instructional AVP or Dean and submit it to Student Records where it will be kept on file.

Repeating Courses

You can submit a written request to Student Records to repeat a course for which you have earned a substandard grade at RRCC. If the request is approved, you will be allowed to repeat the course at RRCC only once. Both grades will appear on your permanent academic transcript. The most recent grade of the repeated course is used to calculate your cumulative gradepoint average.

Information: **303.914.6352**

Honors Recognition

President's List

4.0 GPAor higher for 12 or more credits each semester.

Vice President's List

3.5 GPAor higher for 12 or more credits each semester.

Honors List

The Honors List is designed to recognize those who have achieved an outstandinglevel of academic success at Red Rocks.The Honors List designation is recorded on your official academic transcript, and you receive recognitionduring the College'sannual graduation ceremony. To receive this academic honor, you must be graduating and have:

- Earned, for all semester credits, a cumulative GPAof 3.85 *(or higher)*;

- Taken at least 15 semester credits of course work through Red Rocks; and
- 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 semester credits.

Phi Theta Kappa

Red Rocks sponsors a chapter of Phi Theta Kappa, the national student honorary organization. Club members offer tutoring programs, raise money for charity and conduct educational forums. To be eligiblefor membership, you must have completed at least 12 semester credits of study, have a minimum GPAof 3.5 and a faculty recommendation.

Information: **303.914.6308**

Recognition of Achievement

The college offers many courses, conferences, workshops and seminars for upgrading job skills as well as for personal enrichment. Successful completion of courses of this type may result in the granting of a "Recognition of Achievement" which may be requested from the Instructional Vice President or dean.

Honors Program

Starting Fall 2001, Red Rocks Community College will offer an honors program. Students and faculty will participate in a community of learners that will nurture their intellectual and personal growth. We strive to develop leadership skills, to recognize excellence, to provide community service, and to challenge participants in our honors program through experiential learning, interdisciplinary course work, scholarly research, educational partnerships and intellectually challenging peers.

Information: **303.914.6535**.

Veterans Progress

Veterans are certified only for courses that apply to their degree programs. If you are eligible to receive VAbenefits, you are required to maintain a cumulative 2.0 grade point average *(GPA)* for all course workattempted. If your cumulative GPA is below 2.0, you will be placed on academic probation for the following term. If your GPAis not increased to 2.0 during the probationary term, you will be suspendedfrom certification to the Veteran Administration for one academic term. Reinstatement willonly occur after approved counseling has been received.

Because credit is not given for audited courses, these courses 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.

Copies of the veteranregulations are avail-able for review in theVeteran Services office on campus.

Information: **303.914.6353**

Associate of Arts Transfer Degree, University Parallel

The Associate of Arts degree *(60 semester 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. It provides a basis of study in business, communications, foreign languages, the arts and humanities, and social and behavioral sciences. To earn the Associate of Arts degree, students must complete the core curriculum requirements for a total of 34 semester credits. Students are encouraged to consult with their faculty advisors before beginning any program of study. Emphases are available in the following areas:

- Art
- Business
- Economics
- English & Literature
- Foreign Languages:
  - French
  - German
  - Spanish
- History
- Humanities
- Philosophy
- Political Science
- Psychology
- Sociology
- Speech Communication
- Theatre Arts

Associate of Science Transfer Degree, University Parallel

The Associate of Science degree *(60 semester credits)* is for the student who intends to transfer to a four-year college or universityand wants an education with a science-related emphasis. It provides a basis of study in computer science, preparatory engineering and nursing, mathematics, and the organic and physical sciences. To earn the Associate of Science degree, students must first complete the core curriculum requirements for a total of 33 semester credits. Students are encouraged to meet with their faculty advisors before beginning any program of study. Emphases are available in the following areas:

- Biology
- Biotechnology
- Chemistry
- Computer Science
- Pre-engineering
- Geology
- Mathematics
- Pre-nursing
- Physics

Graduation Requirements

Graduation Requirements

Catalog Requirements

You will graduate under the catalog requirements listed for the year that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding summer term) or more, and then return, the catalog of the readmission semester is the governing document. You may choose to use the catalog that is in effect the semester you graduate. You should be sure to obtain and keep a copy of your governing catalog. No diplomas will be issued until all financial obligations to the college have been met. This includes tuition and fees, police tickets and library fines.

Associate of General Studies—Specialist Articulated Transfer Degree

The Associate of General Studies-Specialist degree *(60 semester credits)* is for the student who wants to complete the Associate of Arts core general education transfer course requirements and have an emphasis in a career-oriented program of study. Students are encouraged to meet with their faculty advisors before beginning any program of study. Transfer agreements exist between RRCC and certain four-year colleges for the following career areas:

Criminal Justice *

Early Childhood Professions * (formerly ECE)

Emergency Medical Services *

Film/Video Technology*

Multimedia Technology*

- Graphics and Animation Technology *
- Production and Design Technology *

***Certificate is also available.**

Associate of General Studies—Generalist Career-Oriented Degree

The Associate of General Studies-Generalist degree *(60 semester credits)* is for the student who wants to complete college-level general education courses and have an emphasis in a career-orientedprogram of study. Various courses within the AGS-Generalist degreemay be accepted into a baccalaureate-degree-granting institution; however, courses taken are considered for transfer on an individual basis by the receiving four-year college or university. Students are encouraged to meet with their faculty advisors or career counselorsbefore beginning any program of study.

Associate of Applied Science Degree

The Associate of Applied Science degree *(60-75 semester 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.** Various courses within this degree may be transferable; however, courses taken are considered for transfer on an individual basis by the receiving four-year collegeor university.

1. Aminimum of 60 semester 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. *(Please see your advisor.)*
2. You must earn a cumulative grade point average of 2.0 *(C average)*. Some programs may require you to earn at least a C in specific coursework.
3. If you are planning to transfer to a four-year college or university, you should meet with an advisor for assistance in planning your program of study. *(Advisors can be seen in the Advising/Counseling office at Red Rocks.)*
4. If you are planning to transfer to a four-year college or university, you should consult the Transfer Guide for GPArequirements of the receiving institution *(Advising/Counseling office)*.
5. You must complete a minimum of 15 semester credits in your program area at Red Rocks.
6. 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. *(Apply in Admissions or the Records office.)* You must apply to graduate within one year after completing requirements.
7. No more than six semester credits of independent study course work may be applied toward an Associate degree program.
8. There is no limit on special-topics courses allowed to count toward a degree. In individual cases, the limit will be determinted by the program area. If you are taking special-topics courses, you should consult with your advisor regarding how these credits will apply toward a degree.
9. The college reserves the right to substitute or delete course work based on the current curriculum. You are assured that if the curriculum changes, the college will make every effort to determine an equitable solution.
10. If you are applying for an additional degree at Red Rocks, you must complete an additional 15 credits at Red Rocks and the requirements for the degree.
11. With the approval of a faculty advisor, up to 3 credits of Cooperative Education may count toward a degree. *(Some A.A.S. degrees will require Cooperative Education credits.)*
12. Students are encouraged to meet with their **faculty advisors** before beginning any program of study.

Associate of Applied Science Programs

Emphases are available in thefollowing career areas:

- Auto Collision Technology *
  - (*In cooperation with and at Warren Tech)*
- Automotive Technology *
  - (*In cooperation with and at Warren Tech)*
- Business Programs:
  - Accounting * with emphases in:
    - Accounting Paraprofessional
    - Accounting Technician
  - Business(offered through CCConline)
  - Business Administration with emphases in:
    - Management and Supervision *
    - Real Estate *
    - Interdisciplinary
    - E-business
- Business Technology with emphasis in:
  - Administrative Assistant
- Computer Information Systems * with emphases in:
  - Internet/Web Developer*
  - Internet Programming Specialist*
  - PC Applications Specialist*
  - Multimedia Software Developer *
  - Network Associate – Cisco*
  - Network Engineering – NACSE*
  - Network Systems Engineering – MCSE*
  - Programming *
  - Internet Programming Specialist
- Construction Technology with emphases in:
  - Air Conditioning, Heating & Refrigeration *
    - Refrigeration *
    - Residential Air Conditioning *
    - Residential Heating, Ventilation, Air Conditioning
  - Building Code Enforcement
  - Building Maintenance Technician
  - Carpentry *
  - Construction Management*
  - Construction Technology Technician *
  - Electrical
    - Construction Electrician*(offered through CCConline)
    - Electro Mechanical Industrial Maintenance Tech
    - IEBW/NECAConstruction Technician
    - Maintenance Electrician *
    - Power Technology(offered through CCConline)
    - Data Communication Technician
    - Data Communication Designer
  - Fine Woodworking *
  - Plumbing
    - United Association of Plumbing & Pipefitting
  - Solar Construction
    - Active
    - Passive
  - Apprentice-Related Technology with emphases in:
    - *(In partnership with the CITC))*
    - Carpentry *
    - Drywall Applicator *
    - Electrical *
    - Ironworker *
    - Masonry *
    - Painting*
    - Plumbing *
    - Sheetmetal
- *Criminal Justice with emphases in:
  - Corrections
  - Law Enforcement
  - Victim Assistance Direct Service *
- Emergency Management and Planning *
- (offered through CCConline)
- Engineering Graphics Technology with emphases in:
  - Architectural *
  - Mechanical *
- Fire Science Technology with emphases in:
  - Code/Ordinance *
  - Emergency Medical Service/Paramedic *
  - Fire Investigations *
  - Hazardous Materials Technician *
  - Officer Development *
  - Wildland Management *
  - Manufacturing Technology
- Medical Assisting *
- Medical Office*
- Multimedia Technology with emphases in:
  - Film/Video Technology*
  - Graphics/Animation Technology *
  - Motion Graphics Animation
  - Production/Design Technology *
- Occupational Safety Technology *
  - *(In cooperation with Trinidad State Junior College)*
- Public Administration(offered through CCConline)
- Paramedicine
  - Physical Education
  - Outdoor Education
- Radiologic Technology
- Water Quality Management Technology
- Welding Fabrication Technology *
  - *(At the Manufacturing Academy,HEATCenter, Lowry)*

**** Certificate is also available.***

Certificates

In addition to the asterisked areas of emphasis above, the following lead to a certificate:

- Basic Law Enforcement Training Academy
- Business:
  - Accounting Clerk
  - Bookkeeping Clerk
  - Clerical Assistant
  - E-Business
  - Management and Supervision
  - Office Assistant
  - Small Business Management
  - Real Estate
- Computer Information Systems:
  - Internet/Web Specialist
  - Internet Programming Specialist*
  - PC Applications Specialist
  - Multimedia Software Specialist
  - Network Specialist – NACSE/NANS
  - Network Associate – NACSE/NSNS
  - Network Systems Engineering – MCSE*
  - Network Associate – Cisco
  - Programming Specialist
- Construction Technology:
  - Basic Plumbing and Heating Maintenance
  - Building Code
  - Building Code Enforcement
  - Building Maintenance Technician
  - Carpentry
  - Colorado Plumbing Code Test Preparation
  - Colorado Test Prep
  - Commercial Refrigeration Apprentice
  - Comprehensive Residential Heating
  - Construction
  - Construction Electrician
  - Construction Fundamentals
  - Construction Management
  - Construction Technology Technician
  - Electrical Installation
  - Facility Maintenance I
  - Fine Woodworking
  - HVAC Apprenticeship
  - Journey Level Plumbing
  - Level I Refrigeration
  - Master Craftsman
  - Master Craftsman- Woodworking
  - Maintenance
  - Maintenance Electrician
  - Maintenance Technology
  - National Electrical Code
  - Residential Plumbing Codes
  - Journey Level Plumbing
  - Refrigeration
  - Residential Air Conditioning
  - Residential Construction Electrician
  - Residential Forced Air Heating
  - Residential HVAC
  - Residential Hydronic Heating
  - Residential Plumbing
  - Residential Plumbing and Heating
  - Solar Construction Technology
  - Apprentice-Related:
    - Carpentry (ARC)
    - Drywall Applicator (ARD)
    - Electical (ARE)
    - Ironworker (ARI)
    - Masonry (ARM)
    - Painting (ARB)
    - Plumbing (ARP)
    - Sheetmetal Worker (ARS)
    - Skilled Laborer (ARL)
  - Post-Degree Specializations:
    - Advanced Construction Electrician
    - Advanced Maintenance Electrician
    - Master Craftsman in Fine Woodworking
- Criminal Justice:
  - Basic Law Enforcement Training Academy
  - Investigations
  - Victim Assistance Administration
  - Victim Assistance Direct Service
- Early Childhood Professions
  - Certificate of Early Childhood Professions
  - Infant/Toddler Group Leader
  - Preschool Group Leader
- Emergency Management and Planning
- Emergency Medical Services
  - Emergency Medical Technician Certificate I
  - Emergency Medical Technician Certificate II
- Engineering Graphics
  - Architectural
  - Mechanical
  - Industry Up-Grade
- Film/Video Technology:
  - Videography/Cinematography
  - Video Post-Production
  - Writing & Directing for Film and Video
  - Writing & Producing
- Fire Science
  - Code and Ordinance
  - Emergency Medical Services/Paramedic
  - Fire Investigations
  - Hazardous Materials Technology
  - Wildland Management
  - Officer Development
- Health Careers:
  - Holistic Health/Holistic Nursing
  - Medical Assisting
  - Medical Office
  - MedicalTranscription
  - Nurse Aide
  - Refresher Nursing
  - Physician Assistant
- Multimedia Technology
  - Graphics and Animation Technology
  - Production & Design
  - Motion Graphics Animation
  - Web Page Design
- Park Ranger Technology:
  - Law Enforcement
  - Outdoor Recreation
  - Public Safety
  - Resource Interpretation Concentration
- Physical Education/Outdoor Education
  - Ski Area Safety
  - Colorado River Guide
- Public Safety Communications

Not all programs are available each session.

Courses numbered below 100 will not count toward any degree.

Associate of Arts (AA) Degree

2001-2002 Student Evaluation Worksheet

Student _____ **Emphasis in** _____

Social Security No. _____ **Advisor** _____ **Date** _____

Evaluator _____ **Vice President** _____

Core Curriculum Requirements (34 - 40 Semester Credits)

Communication (9 Credit Hours)

Complete all three courses.

ENG	121	English Composition I—(3)	❑
ENG	122	English Composition II—(3)	❑
SPE	115	Principles of Speech Communication—(3)	❑

Arts and Humanities (9-13 Credit Hours)

Select three courses from two or three disciplines.

ART	110	Art Appreciation—(3)	❑
ART	211	Art History I—(3)	❑
ART	212	Art History II—(3)	❑
XXX	111+	Foreign Language I—(5)	❑
XXX	112+	Foreign Language II—(5)	❑
XXX	211+	Foreign Language III—(3)	❑
XXX	212+	Foreign Language IV—(3)	❑
HUM	121	Survey of Humanities I—(3)	❑
HUM	122	Survey of Humanities II—(3)	❑
HUM	123	Survey of Humanities III—(3)	❑
LIT	115	Introduction to Literature—(3)	❑
LIT	201	Masterpieces of Literature I—(3)	❑
LIT	202	Masterpieces of Literature II—(3)	❑
MUS	120	Music Appreciation—(3)	❑
MUS	221	Introduction to Music History I—(3)	❑
MUS	222	Introduction to Music History II—(3)	❑
PHI	111	Introduction to Philosophy—(3)	❑
PHI	112	Ethics—(3)	❑
PHI	113	Logic—(3)	❑
THE	105	Introduction to Theatre Arts I—(3)	❑
THE	211	Development of Theatre I—(3)	❑
THE	212	Development of Theatre II—(3)	❑

+ All foreign languages (FRE, GER, SPA) are considered a single discipline.

Mathematics (3-5 Credit Hours)

Select one course.

MAT	160	College Algebra—(4)	❑
MAT	171	Survey of Calculus—(4)	❑
MAT	175	Introduction to Statistics—(3)	❑
MAT	201	Calculus I—(5)	❑
MAT	202	Calculus II—(5)	❑

Social and Behavioral Sciences (9 Credit Hours)

Select three courses from two or three disciplines.

ANT	101	Cultural Anthropology—(3)	❑
ANT	111	Physical Anthropology—(3)	❑
ECO	201	Principles of Macroeconomics—(3)	❑
ECO	202	Principles of Microeconomics—(3)	❑
GEO	105	World Regional Geography—(3)	❑
HIS	101	Western Civilization I—(3)	❑
HIS	102	Western Civilization II—(3)	❑
HIS	201	U.S. History I—(3)	❑
HIS	202	U.S. History II—(3)	❑
POS	105	Introduction to Political Science—(3)	❑
POS	115	American Government—(3)	❑
PSY	101	General Psychology I—(3)	❑
PSY	102	General Psychology II—(3)	❑
SOC	101	Introduction to Sociology I—(3)	❑
SOC	102	Introduction to Sociology II—(3)	❑

Science (4-5 Credit Hours)

Select one course.

AST	101	Astronomy I—(4)	❑
AST	102	Astronomy II—(4)	❑
BIO	105	Science of Biology—(4)	❑
BIO	111	General Biology I—(5)	❑
BIO	112	General Biology II—(5)	❑
CHE	101	Introduction to Chemistry I—(5)	❑
CHE	102	Introduction to Chemistry II—(5)	❑
CHE	111	General Chemistry I—(5)	❑
CHE	112	General Chemistry II—(5)	❑
GEY	111	Physical Geology—(4)	❑
GEY	121	Historical Geology—(4)	❑
PHY	105	Conceptual Physics—(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)	❑

Approved Electives (26 Semester Credits—See Next Page)

Course Prefix & Course Number		Course Prefix & Course Number	
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑

Total Credits (60 Credits Required) _____

Additional Catalog Requirements

You will graduate under the catalog requirements listed for the year that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding Summer term) or more, and then return, the catalog of the readmission semester is the governing document. You may choose to use the catalog that is in effect the semester you graduate. You should be sure to obtain and keep a copy of your governing catalog.

Approved Elective Credit Course List for the Associate of Arts Degree

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

Accounting ACC	121 & 122	
Anthropology	ANT	All courses
Art	ART	All courses
Astronomy AST	All courses	
Biology	BIO	All courses
Business	BUS	115, 216, 217 & 226 (See AA degree, emphasis in Business)
Chemistry	CHE	All courses
Computer Info. Systems	CIS	115, 116, 118, 240, 270
Computer Science	CSC	160, 161, 165, 225, 230, 231, 255
Early Childhood Profession	ECP	101, 214, 215 & 227 (formerly ECE)
Economics ECO	All courses	
English	ENG	121, 122, 131, 221& 222
Environmental Science	ENV	101
Foreign Language	FRE, GER, SPA, FOL- All courses except 101, 102	
Geography GEO	All courses	
Geology	GEY	All courses
History	HIS	All courses
Humanities HUM	All courses	
Literature	LIT	All courses
Management	MAN	226 (See AA Degree, Emphasis in Business)
Marketing	MAR	216 (See AA Degree, Emphasis in Business)
Mathematics	MAT	All courses 160 and above
Music	MUS	All courses
Nutrition	NUT	100
Philosophy PHI	All courses	
Physical Education	PHE	All courses (Maximum of 3 credits applies toward degree)
Physics	PHY	All courses
Political Science	POS	All courses
Psychology PSY	101, 102, 205, 215, 217, 226 227, 235, 238, 239 & 249	
Sociology	SOC	101, 102, 205, 215, 218, 226, 237 & 255
Speech	SPE	All courses
Theatre	THE	All courses

Other (AA) Degree Requirements

1. Aminimum of 60 semester credits is required for the Associate of Arts degree. These must include 34 credits in Core transfer courses and 26 credits in the areas specified above in approved electives.
2. You must complete 26 semester elective credits. These must be college-level transfer courses and may include no more than 3 credits in Physical Education (PHE)—see approved electives above. Please see an advisor in your area of emphasis for specific course suggestions. Credits earned above the minimum to satisfy a requirement may be applied to a different area. For example, if you take introduction to Chemistry I (CHE 101 - 5 credits) to satisfy the science requirement in the Core curriculum, 4 of those 5 credits can be applied toward the Core requirement. Fewer electives would be required since the remaining 1 credit can be applied as an elective credit.
3. You must earn a cumulative grade point average of 2.0 (C average) in order to graduate. To receive a core stamp all core courseworkmust have a grade C or higher.
4. 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. (Advisors can be seen in the Advising/Counseling office at Red Rocks.)
5. If you are planning to transfer to a four-year college or university, you should consult the Transfer Guide for GPArequirements of the receiving institution.
6. You must complete a minimum of 15 semester credits in your program area at Red Rocks.
7. 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. (Apply in Admissions or the Records office.) You must apply to graduate within one year of completing requirements
8. No more than 6 semester credits of independent study course work may be applied toward an Associate Degree program.
9. There is no limit on special-topics course 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, you should consult with your advisor regarding how these credits will apply toward a degree.
10. The college reserves the right to substitute or delete course work based on the current curriculum. You are assured that if the curriculum changes, the college will make every effort to determine an equitable solution.
11. If you are applying for an additional degree at Red Rocks, you must complete an additional 15 credits at Red Rocks and the requirements for the degree.
12. Transferability of Cooperative Education/Internship college credit is contingent on approval of the receiving institutions. General Education internship credit has been formally articulated for transfer to University of Colorado - Denver and Colorado State University. Transfer to other four-year institutions in the metro area is forthcoming.

Associate of Science (AS) Degree

2001-2002 Student Evaluation Worksheet

Student _____ **Emphasis in** _____

Social Security No. _____ **Advisor** _____ **Date** _____

Evaluator _____ **Vice President** _____

Core Curriculum Requirements (33 - 40 Semester Credits)

Communication (9 Credit Hours)

Complete all three courses.

ENG	121	English Composition I—(3)	❑
ENG	122	English Composition II—(3)	❑
SPE	115	Principles of Speech Communication—(3)	❑

Arts and Humanities (6-10 Credit Hours)

Select two courses from one or two disciplines.

ART	110	Art Appreciation—(3)	❑
ART	211	Art History I—(3)	❑
ART	212	Art History II—(3)	❑
XXX	111+	Foreign Language I—(5)	❑
XXX	112+	Foreign Language II—(5)	❑
XXX	211+	Foreign Language III—(3)	❑
XXX	212+	Foreign Language IV—(3)	❑
HUM	121	Survey of Humanities I—(3)	❑
HUM	122	Survey of Humanities II—(3)	❑
HUM	123	Survey of Humanities III—(3)	❑
LIT	115	Introduction to Literature—(3)	❑
LIT	201	Masterpieces of Literature I—(3)	❑
LIT	202	Masterpieces of Literature II—(3)	❑
MUS	120	Music Appreciation—(3)	❑
MUS	221	Introduction to Music History I—(3)	❑
MUS	222	Introduction to Music History II—(3)	❑
PHI	111	Introduction to Philosophy—(3)	❑
PHI	112	Ethics—(3)	❑
PHI	113	Logic—(3)	❑
THE	211	Development of Theatre I—(3)	❑
THE	212	Development of Theatre II—(3)	❑

+ All foreign languages (FRE, GER, SPA) are considered a single discipline.

Mathematics (4-5 Credit Hours)

Select one course.

MAT	160	College Algebra—(4)	❑
MAT	171	Survey of Calculus—(4)	❑
MAT	201	Calculus I—(5)	❑
MAT	202	Calculus II—(5)	❑

Social and Behavioral Sciences (6 Credit Hours)

Select two courses from one or two disciplines.

ANT	101	Cultural Anthropology—(3)	❑
ANT	111	Physical Anthropology—(3)	❑
ECO	201	Principles of Macroeconomics—(3)	❑
ECO	202	Principles of Microeconomics—(3)	❑
GEO	105	World Regional Geography—(3)	❑
HIS	101	Western Civilization I—(3)	❑
HIS	102	Western Civilization II—(3)	❑
HIS	201	U.S. History I—(3)	❑
HIS	202	U.S. History II—(3)	❑
POS	105	Introduction to Political Science—(3)	❑
POS	115	American Government—(3)	❑
PSY	101	General Psychology I—(3)	❑
PSY	102	General Psychology II—(3)	❑
SOC	101	Introduction to Sociology I—(3)	❑
SOC	102	Introduction to Sociology II—(3)	❑

Science (8-10 Credit Hours)

Select two courses.

AST	101	Astronomy I—(4)	❑
AST	102	Astronomy II—(4)	❑
BIO	111	General Biology I—(5)	❑
BIO	112	General Biology II—(5)	❑
CHE	111	General Chemistry I—(5)	❑
CHE	112	General Chemistry II—(5)	❑
GEY	111	Physical Geology—(4)	❑
GEY	121	Historical Geology—(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)	❑

Approved Electives (18 Semester Credits—See Next Page)

Only asterisk(*) electives (AST, BIO, CHE, CSC, ENV, GEY, MAT, and PHY) apply toward the AS approved elective

Course Prefix & Course Number		Course Prefix & Course Number	
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑

Electives (9 Semester Credits—See Next Page)

Course Prefix & Course Number		Course Prefix & Course Number	
_____	❑	_____	❑
_____	❑	_____	❑

Total Credits (60 Credits Required) _____

Additional Catalog Requirements

You will graduate under the catalog requirements listed for the year that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding Summer term) or more, and then return, the catalog of the readmission semester is the governing document. You may choose to use the catalog that is in effect the semester you graduate. You should be sure to obtain and keep a copy of your governing catalog.

Approved Elective Credit Course List for the Associate of Science Degree

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

Accounting	ACC	121 & 122
Anthropology	ANT	All courses
Art	ART	All courses
Astronomy*	AST	All courses
Biology*	BIO	All courses
Business	BUS	115, 216, 217 & 226 (See AA degree, emphasis in Business)
Chemistry*	CHE	All courses
Computer Info. Sys. (generally transferable)	CIS	115, 116, 118, 240, 270
Computer Science* (generally transferable)	CSC	160, 161,165, 225, 230, 231, 255
Early Childhood Profession (formerly ECE)	ECP	101, 214, 215 & 227
Economics	ECO	All courses
English	ENG	121, 122, 131, 221, & 222
Environmental Science*	ENV	101
Foreign Language	FRE, GER, SPA, FOL-	All courses except 101 & 102
Geography	GEO	All courses
Geology*	GEY	All courses
History	HIS	All courses
Humanities	HUM	All courses
Literature	LIT	All courses
Management	MAN	226 (See AA Degree, Emphasis in Business)
Marketing	MAR	216 (See AA Degree, Emphasis in Business)
Mathematics*	MAT	All courses 160 and above except MAT 175
Music	MUS	All courses
Nutrition	NUT	100
Philosophy	PHI	All courses
Physical Education	PHE	All courses (Maximum of 3 credits applies toward degree)
Physics*	PHY	All courses
Political Science	POS	All courses
Psychology	PSY	101, 102, 205, 215, 217, 226 227, 235, 238, 239 &249
Sociology	SOC	101, 102, 205, 215, 218, 226, 237& 255
Speech	SPE	All courses
Theatre	THE	All courses

Other (AS) Degree Requirements

1. Aminimum of 60 semester credits is required for the Associate of Science degree. These must include 34 credits in Core transfer courses, 18 approved elective credits in the asterisked (*) areas specified above and 9 elective credits from those listed above.
2. You must complete an additional 18 semester credits in any of the Science or asterisked (*) disciplines listed above. Please see an advisor in your area of emphasis for specific course suggestions. Credits earned above the minimum to satisfy a requirement may be applied to a different area. For example, if you take German I and II [(GER 111 & 112) 5 credits each], to satisfy the Humanities requirement in the Core Curriculum, 6 of those 10 credits can be applied toward the Core requirement. Fewer electives would be required since the remaining 4 credits can be applied as elective credits.
3. You must earn a cumulative grade point average of 2.0 (C average) in order to graduate. To receive a core stamp all core coursework must have a grade C or higher.
4. 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. (Advisors can be seen in the Advising/Counseling office at Red Rocks.)
5. If you are planning to transfer to a four-year college or university, you should consult the Transfer Guide for GPArequirements of the receiving institution (Advising/Counseling office).
6. You must complete a minimum of 15 semester credits in your program area at Red Rocks.
7. 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. (Apply in Admissions or the Records office.) You must apply to graduate within one year of completing requirements
8. No more than 6 semester credits of independent study course work may be applied toward an Associate Degree program.
9. There is no limit on special-topics course 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, you should consult with your advisor regarding how these credits will apply toward a degree.
10. The college reserves the right to substitute or delete course work based on the current curriculum. You are assured that if the curriculum changes, the college will make every effort to determine an equitable solution.
11. If you are applying for an additional degree at Red Rocks, you must complete an additional 15 credits at Red Rocks and the requirements for the degree.
12. Transferability of Cooperative Education/Internship college credit is contingent on approval of the receiving institutions. **General Education** internship credit has been formally articulated for transfer to University of Colorado - Denver and Colorado State University. Transfer to other four-year institutions in the metro area is forthcoming.

Associate of General Studies -*Generalist*- Degree

2001-2002 Student Evaluation Worksheet

Student _____ **Emphasis in** _____

Social Security No. _____ **Advisor** _____ **Date** _____

Evaluator _____ **Vice President** _____

General Education Requirements (18 Semester Credits)

Communication (6 Credit Hours)

Complete 2 of the 3 courses

			Credits	
ENG	121	English Composition I	(3)	❑
ENG	122	English Composition II	(3)	❑
		or		
SPE	115	Principles of Speech Communication	(3)	❑

Arts and Humanities (3 Credit Hours)

Select 1 course

ART	___		(3)	❑
XXX	___	Foreign Language III or higher	(5)	❑
HUM	___		(3)	❑
LIT	___		(3)	❑
MUS	___		(3)	❑
PHI	___		(3)	❑
THE	___		(3)	❑

Mathematics (3 Credit Hours) **Credits**

Select one course MAT160 or above

MAT ___ (3-4) ❑

Social and Behavioral Sciences (3 Credit Hours)

Select 1 course. **Credits**

ANT	( )	❑
ECO	( )	❑
GEO	( )	❑
HIS	( )	❑
POS	( )	❑
PSY	( )	❑
SOC	( )	❑

Science (3 Credit Hours)

Select 1 course.

AST	( )	❑
BIO	( )	❑
CHE	( )	❑
GEY	( )	❑

College Level Electives—(10 Semester Credits)

Select from any of the above courses.

Course Prefix & Number	Course Prefix & Number	Course Prefix & Number

Professional Electives—(9 Semester Credits)

Selected from professional area courses generally recognized as transferable.

Course Prefix & Number	Course Prefix & Number	Course Prefix & Number

General Electives—(23 Semester Credits)

Selected from occupationally prefixed courses (applied arts and sciences) and/or general electives. Electives must be courses numbered 121 and above in ENG, 160 and above in MAT, and 100 and above in all other areas. PHE is limited to 3 credits as is Cooperative Education numbered 297.

Course Prefix & Number	Course Prefix & Number	Course Prefix & Number

Total Credits (60 Credits Required) _____

over please

Additional Catalog Requirements

You will graduate under the catalog requirements listed for the year that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding Summer term) or more, and then return, the catalog of the readmission semester is the governing document. You may choose to use the catalog that is in effect the semester you graduate. You should be sure to obtain and keep a copy of your governing catalog.

Courses numbered below 100 will not count toward any degree.

Other (AGS-Generalist) Degree Requirements

The Associate of General Studies—Generalist degree is available for those who want to complete a broad program of both career and transfer courses. Various courses within this degree may be accepted in a four-year baccalaureate program; however, each course is considered on an individual basis. Information concerning transfer to Colorado universities or colleges is available in the Advising/Counseling office.

1. Aminimum of 60 semester credits is required for the Associate of General Studies degree. Courses needed to satisfy objectives are to be developed in consultation with your counselor and faculty advisor.
2. You must earn a cumulative grade point average of 2.0 (C average) in order to graduate.
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. (Advisors can be seen in the Advising/Counseling office at Red Rocks.)
4. If you are planning to transfer to a four-year college or university, you should consult the Transfer Guide for GPArequirements of the receiving institution (Advising/Counseling office) .
5. You must complete a minimum of 15 semester credits in your program area at Red Rocks.
6. 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. (Apply in Admissions or the Records office.) You must apply to graduate within one year of completing requirements
7. No more than 6 semester credits of independent study course work may be applied toward an Associate Degree program.
8. There is no limit on special-topics course 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, you should consult with your advisor regarding how these credits will apply toward a degree.
9. The college reserves the right to substitute or delete course work based on the current curriculum. You are assured that if the curriculum changes, the college will make every effort to determine an equitable solution.
10. If you are applying for an additional degree at Red Rocks, you must complete an additional 15 credits at Red Rocks and the requirements for the degree.
11. With the approval of a faculty advisor and an Instructional Vice President, up to 3 credits of Cooperative Education may count toward a degree.

Approved Elective Credit Course List for the Associate of General Studies Degree

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

Accounting ACC	121 & 122	
Anthropology	ANT	All courses
Art	ART	All courses
Astronomy AST	All courses	
Biology	BIO	All courses
Business	BUS	115, 216, 217 & 226 (See AA degree, emphasis in Business)
Chemistry	CHE	All courses
Computer Info. Sys. (generally transferable)	CIS 261, 276	115, 116, 118, 240, 270
Computer Science* (generally transferable)	CSC	160, 161, 165, 225, 230, 231, 255
Early Childhood Profession	ECP	101, 214, 215 & 227 (formerly ECE)
Economics ECO	All courses	
English	ENG	121, 122, 131, 221 & 222
Environmental Sci.	ENV	101
Foreign Language	FRE, GER, SPA, FOL- All courses except 101 & 102	
Geography GEO	All courses	
Geology	GEY	All courses
History	HIS	All courses
Humanities HUM	All courses	
Literature	LIT	All courses
Management	MAN	226
Marketing	MAR	216
Mathematics	MAT	All courses 160 and above
Music	MUS	All courses
Nutrition	NUT	100
Philosophy PHI	All courses	
Physical Education	PHE	All courses (Maximum of 3 credits applies toward degree)
Physics	PHY	All courses
Political Science	POS	All courses
Psychology PSY	101, 102, 205, 215, 217, 226 227, 235, 238, 239, 249 & 250	
Sociology	SOC	101, 102, 205, 215, 218, 226, 237& 255
Speech	SPE	All courses
Theatre	THE	All courses

Associate of General Studies (AGS-Specialist) Degree

2001-2002 Student Evaluation Worksheet

Student _____ **Emphasis in** _____

Social Security No. _____ **Advisor** _____ **Date** _____

Evaluator _____ **Vice President** _____

Core Curriculum Requirements (34 - 40 Semester Credits)

Communication (9 Credit Hours)

Complete all three courses.

ENG	121	English Composition I—(3)	❑
ENG	122	English Composition II—(3)	❑
SPE	115	Principles of Speech Communication—(3)	❑

Arts and Humanities (9-13 Credit Hours)

Select three courses from two or three disciplines.

ART	110	Art Appreciation—(3)	❑
ART	211	Art History I—(3)	❑
ART	212	Art History II—(3)	❑
XXX	111+	Foreign Language I—(5)	❑
XXX	112+	Foreign Language II—(5)	❑
XXX	211+	Foreign Language III—(3)	❑
XXX	212+	Foreign Language IV—(3)	❑
HUM	121	Survey of Humanities I—(3)	❑
HUM	122	Survey of Humanities II—(3)	❑
HUM	123	Survey of Humanities III—(3)	❑
LIT	115	Introduction to Literature—(3)	❑
LIT	201	Masterpieces of Literature I—(3)	❑
LIT	202	Masterpieces of Literature II—(3)	❑
MUS	120	Music Appreciation—(3)	❑
MUS	221	Introduction to Music History I—(3)	❑
MUS	222	Introduction to Music History II—(3)	❑
PHI	111	Introduction to Philosophy—(3)	❑
PHI	112	Ethics—(3)	❑
PHI	113	Logic—(3)	❑
THE	105	Introduction to Theatre Arts I—(3)	❑
THE	211	Development of Theatre I—(3)	❑
THE	212	Development of Theatre II—(3)	❑

+ All foreign languages (FRE, GER, SPA) are considered a single discipline.

Mathematics (3-5 Credit Hours)

Select one course.

MAT	160	College Algebra—(4)	❑
MAT	171	Survey of Calculus—(4)	❑
MAT	175	Introduction to Statistics—(3)	❑
MAT	201	Calculus I—(5)	❑
MAT	202	Calculus II—(5)	❑

Social and Behavioral Sciences (9 Credit Hours)

Select three courses from two or three disciplines.

ANT	101	Cultural Anthropology—(3)	❑
ANT	111	Physical Anthropology—(3)	❑
ECO	201	Principles of Macroeconomics—(3)	❑
ECO	202	Principles of Microeconomics—(3)	❑
GEO	105	World Regional Geography—(3)	❑
HIS	101	Western Civilization I—(3)	❑
HIS	102	Western Civilization II—(3)	❑
HIS	201	U.S. History I—(3)	❑
HIS	202	U.S. History II—(3)	❑
POS	105	Introduction to Political Science—(3)	❑
POS	115	American Government—(3)	❑
PSY	101	General Psychology I—(3)	❑
PSY	102	General Psychology II—(3)	❑
SOC	101	Introduction to Sociology I—(3)	❑
SOC	102	Introduction to Sociology II—(3)	❑

Science (4-5 Credit Hours)

Select one course.

AST	101	Astronomy I—(4)	❑
AST	102	Astronomy II—(4)	❑
BIO	105	Science of Biology—(4)	❑
BIO	111	General Biology I—(5)	❑
BIO	112	General Biology II—(5)	❑
CHE	101	Introduction to Chemistry I—(5)	❑
CHE	102	Introduction to Chemistry II—(5)	❑
CHE	111	General Chemistry I—(5)	❑
CHE	112	General Chemistry II—(5)	❑
GEY	111	Physical Geology—(4)	❑
GEY	121	Historical Geology—(4)	❑
PHY	105	Conceptual Physics—(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)	❑

Electives - Transfer and/or career courses (26 Semester Credits)

See next page for transfer courses. See an advisor for career course information.

Course Prefix & Course Number		Course Prefix & Course Number	
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑
_____	❑	_____	❑

Total Credits (60 Credits Required) _____

The AGS degree is available if you would like to complete a broad program of both transfer and/or career courses without the constraints of specialization. The AGS Core course requirements transfer to and fully meet the lower division general education requirements of 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.

Additional Catalog Requirements

You will graduate under the catalog requirements listed for the year that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding Summer term) or more, and then return, the catalog of the readmission semester is the governing document. You may choose to use the catalog that is in effect the semester you graduate. You should be sure to obtain and keep a copy of your governing catalog.

Other (AGS-Specialist) Degree Requirements

1. Aminimum of 60 semester credits is required for the Associate of General Studies degree. These must include 34 credits in Core transfer courses and 26 credits in the areas specified below in approved electives or career courses (Please see your advisor).
2. You must complete 26 semester elective credits.These must be college-level transfer courses and may include no more than 3 credits of Physical Education (PHE)—see approved electives below. Please see an advisor in your area of emphasis for specific course suggestions. Credits earned above the minimum to satisfy a requirement may be applied to a different area. For example, if you take introduction to Chemistry I (CHE 101 - 5 credits) to satisfy the science requirement in the Core curriculum, 4 of those 5 credits can be applied toward the Core requirement. Fewer electives would be required since the remaining 1 credit can be applied as an elective credit.
3. You must earn a cumulative grade point average of 2.0 (C average) in order to graduate. To receive a core stamp all core coursework must have a grade C or better.
4. 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. (Advisors can be seen in the Advising/Counseling office at Red Rocks.)
5. If you are planning to transfer to a four-year college or university, you should consult the Transfer Guide for GPArequirements of the receiving institution (Advising/Counseling office) .
6. You must complete a minimum of 15 semester credits in your program area at Red Rocks.
7. 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. (Apply in Admissions or the Records office.) You must apply to graduate within one year of completing requirements
8. No more than 6 semester credits of independent study course work may be applied toward an Associate Degree program.
9. There is no limit on special-topics course 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, you should consult with your advisor regarding how these credits will apply toward a degree.
10. The college reserves the right to substitute or delete course work based on the current curriculum. You are assured that if the curriculum changes, the college will make every effort to determine an equitable solution.
11. If you are applying for an additional degree at Red Rocks, you must complete an additional 15 credits at Red Rocks and the requirements for the degree.
12. With the approval of a faculty advisor and an Instructional Vice President, up to 3 credits of Cooperative Education may count toward a degree.

Approved Elective Credit Course List for the Associate of General Studies Degree

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

Accounting ACC	121 & 122	
Anthropology	ANT	All courses
Art	ART	All courses
Astronomy AST	All courses	
Biology	BIO	All courses
Business	BUS	115, 216, 217 & 226 (See AA degree, emphasis in Business)
Chemistry	CHE	All courses
Computer Info. Sys. (generally transferable)	CIS	115, 116, 118, 240, 270
Computer Science* (generally transferable)	CSC	160, 161, 165, 225, 230, 231, 255
Early Childhood Profession	ECP	101, 214, 215 & 227 (formerly ECE)
Economics ECO	All courses	
English	ENG	121, 122, 131, 221 & 222
Environmental Sci.	ENV	101
Foreign Language	FRE, GER, SPA, FOL- All courses except 101 & 102	
Geography GEO	All courses	
Geology	GEY	All courses
History	HIS	All courses
Humanities HUM	All courses	
Literature	LIT	All courses
Management	MAN	226
Marketing	MAR	216
Mathematics	MAT	All courses 160 and above
Music	MUS	All courses
Nutrition	NUT	100
Philosophy PHI	All courses	
Physical Education	PHE	All courses (Maximum of 3 credits applies toward degree)
Physics	PHY	All courses
Political Science	POS	All courses
Psychology PSY	101, 102, 205, 215, 217, 226 227, 235, 238, 239 &249	
Sociology	SOC	101, 102, 205, 215, 218, 226, 237& 255
Speech	SPE	All courses
Theatre	THE	All courses

Associate of Applied Science (AAS) Degree

2001-2002 Student Evaluation Worksheet

(See specific program advisor for student worksheet)

Additional Catalog Requirements

You will graduate under the catalog requirements listed for the year that you were first enrolled. If you interrupt attendance for two consecutive semesters (excluding Summer term) or more, and then return, the catalog of the readmission semester is the governing document. You may choose to use the catalog that is in effect the semester you graduate. You should be sure to obtain and keep a copy of your governing catalog.

Courses numbered below 100 will not count toward any degree.

Other (AAS) Degree Requirements

1. Aminimum of 60 semester credits is required for the Associate of Applied Science degree. These must include 45 credits in specific program courses and 15 credits in general education courses. Please see your advisor.
2. You must complete 26 semester elective credits. These must be college level transfer courses and may include no more than three credits of Physical Education (PHE) – see approved electives below. Please see an advisor in your area of emphasis for specific course suggestions.
3. You must earn a cumulative grade point average of 2.0 (C average) in order to graduate.
4. 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. (Advisors can be seen in the Advising/Counseling office at Red Rocks.)
5. If you are planning to transfer to a four-year college or university, you should consult the Transfer Guide for GPArequirements of the receiving institution (Advising/Counseling office) .
6. You must complete a minimum of 15 semester credits in your program area at Red Rocks.
7. 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. (Apply in Admissions or the Records office.) You must apply to graduate within one year of completing requirements
8. No more than 6 semester credits of independent study course work may be applied toward an Associate Degree program.
9. There is no limit on special-topics course 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, you should consult with your advisor regarding how these credits will apply toward a degree.
10. The college reserves the right to substitute or delete course work based on the current curriculum. You are assured that if the curriculum changes, the college will make every effort to determine an equitable solution.
11. If you are applying for an additional degree at Red Rocks, you must complete an additional 15 credits at Red Rocks and the requirements for the degree.
12. With the approval of a faculty advisor and an Instructional Vice President, up to 3 credits of Cooperative Education may count toward a degree. (Some AAS degrees will require Cooperative Education credits.)

Instructional Programs

Instructional Programs

Attention: Course numbers and descriptions are subject to changes. The Community Colleges of Colorado launched a common course numbering and common competency project to improve student transfer and to ensure curriculum quality across our system. The project is scheduled to be fully implemented in fall 2001. The project will not jeopardize student credit and transfer. The system will provide an electronic addendum at www.rightchoice.com and www.cterc.cccoes.edu/cccns as course numbers and course competencies are completed.

Accounting

Degree: Associate of Applied Science
Paraprofessional Emphasis
Accounting Technician Emphasis
Certificate:
Accounting Clerk
Bookkeeping Clerk

The college offers an AAS degree in accounting with two options as well as two accounting certificates. If you plan to transfer to a baccalaureate institution you should consider the AA degree with a business emphasis. You should consult with an accounting faculty advisor early in your career at Red Rocks Community College to explore all educational options.

Degree Area of Emphasis: Accounting Paraprofessional

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

Required Accounting Courses

ACC	121	Accounting Principles I	4
ACC	122	Accounting Principles II	4
ACC	125	Computerized Accounting and Lab	4
ACC	135	Spreadsheet App. for Acct. and Lab	4
ACC	138	Payroll and Sales Tax	3
ACC	131	Income Tax I	3
ACC	211	Intermediate Accounting I	4
ACC	226	Cost Accounting	3

Required Business Courses

BTE	108*	Ten-Key by Touch and Lab or elective with approval of advisor	1.3
BUS	115	Introduction to Business	3
BUS	216	Legal Environment of Business	3
BUS	217	Business Comm./Report Writing	3
CIS	118	Intro to PC Applications and Lab	4
Electives* Choose from Accounting, Business and computer electives with advisor approval.			3

Required General Education Courses

SPE	125	Interpersonal Communication	3
or COM 125 Communication in the Workplace			
ENG	121	English Composition I	3
MAT	1XX	Any MATcourse numbered 100 or higher	3
Credit from two of the following three areas			6

Social Science (ANT, ECO, GEO, HIS, POS, PSY, SOC)
Arts and Humanities (ART, SPA, FRE,GER, HUM, LIT, MUS, PHI, THE)
Science (AST, BIO, CHE, GEY, PHY)

Total Required Credits **61.3**

*See faculty advisor for approval; you must have "C" or better in all ACC courses to graduate. For a sequential course scheduling plan, please see an accounting faculty advisor. Also see an advisor if you plan to transfer.

Area of Emphasis: Accounting Technician

Upon successful completion of this program you should be able to perform bookkeeping and general office duties in a small office or begin a career path as an accounting technician in a large, departmentalized organization

Required Accounting Courses

ACC	101*	Fundamentals of Accounting	3
ACC	121	Accounting Principles I	4
ACC	122	Accounting Principles II	4
ACC	125	Computerized Accounting and Lab	4
ACC	135	Spreadsheet App. for Accounting and Lab	4
ACC	138	Payroll and Sales Tax	3

Required Business Courses

BTE	108*	Ten-Key by Touch and Lab or elective with approval of advisor	1.3
BUS	115	Introduction to Business	3
BUS	216	Legal Environment of Business	3
BUS	217	Business Comm./Report Writing	3
CIS	118	Intro. to PC Applications and Lab	4
CIS	135	Complete PCWord Processing	4
Electives* Choose from Accounting, Business and computer electives with advisor approval.			6

Required General Education Courses

SPE	125	Interpersonal Communication	3
or COM 125 Communication in the Workplace			
ENG	121	English Composition I	3
MAT	1XX	Any MATcourse numbered 100 or higher	3
Credit from two of the following three areas			6

Social Science (ANT, ECO, GEO, HIS, POS,PSY, SOC)
Arts and Humanities (ART, SPA, FRE, GER, HUM, LIT, MUS, PHI, THE)
Science (AST, BIO, CHE, GEY, PHY)

Total Required Credits **61.3**

*See faculty advisor for approval; you must have "C" or better in all ACC courses to graduate. For a sequential course scheduling plan, please see an accounting faculty advisor. Also see an advisor if you plan to transfer.

Certificate: Bookkeeping Clerk

Upon successful completion of this program you should possess the skills and knowledge to perform entry-level bookkeeping tasks.

Required Courses:

ACC	101*	Fundamentals of Accounting	3
ACC	138	Payroll and Sales Tax	3
BTE	100*	Touch Keyboarding and Lab	3-4
& BTE	108*	Ten-Key by Touch and Lab or elective with approval of advisor	
CIS	118	Intro. to PC Applications and Lab	4
		Total Required Credits	**13**

*See faculty advisor for approval; you must have "C" or better in all ACC courses to graduate. For a sequential course scheduling plan, please see an accounting faculty advisor. Also see an advisor if you plan to transfer.

Certificate: Accounting Clerk

Upon successful completion of this program you should possess the skills and knowledge 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

ACC	101*	Fundamentals of Accounting	3
ACC	121	Accounting Principles I	4
ACC	125	Computerized Accounting and Lab	4
ACC	135	Spreadsheet Applications for Acct & Lab	4
ACC	138	Payroll and Sales Tax	3
BTE	100*	Touch Keyboarding and Lab	3-4
& BTE	108*	Ten-Key by Touch and Lab or elective with approval of advisor	
BUS	115	Introduction to Business	3
CIS	118	Intro. to PC Applications and Lab	4
SPE	125	Interpersonal Communications	3
Or COM	125	Communications in the Workplace	
		Total Required Credits	**31**

*See faculty advisor for approval; you must have "C" or better in all ACC courses to graduate. For a sequential course scheduling plan, please see an accounting faculty advisor. Also see an advisor if you plan to transfer.

Air Conditioning Apprenticeships

(See Construction Technology)

Art

Degree: Associate of Arts

The completion of the following courses is appropriate if you plan to transfer to a four-year college or university to complete a major in art. This program provides basic preparation leading to art-related careers as well as to the teaching of art.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			**Credits**
ART	211	Art History I *(Core)*	3
ART	212	Art History II *(Core)*	3
ART	121	Drawing I	3
ART	122	Drawing II	3
ART	131	Design I	3
ART	132	Design II	3
ART	216	Painting I	3
ART	224	Sculpture I	3

Core Curriculum Requirements

English/Speech			
ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Principles of Speech Communication	3
Humanities (any course from the following)			3
Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT 115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 211, 212			
Mathematics (any course from the following)			
MAT160, 171, 175, 201, 202			3
Science (any course from the following)			4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 111, 112, 211, 212			
Social and Behavioral Sciences (courses from two different disciplines)			ANT101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105,115; PSY101, 102; SOC 101, 102	9
Electives			8
Electives must be selected from college-level transfer courses. No more than three credits in physical education may be counted.			
		Total Required Credits	**60**

Auto Collision Technology

(In cooperation with and held at Warren Tech)

Degree: Associate of Applied Science

Certificates: Five *(NATEF)* areas

This is a National Certified Auto Collision Repair program 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 46 ACT credits, 15 general education credits and completion of one or more of the *(NATEF)* certificate areas of instruction are required for the AAS degree. Some of the courses may transfer to a bachelor degree in Automotive Management.

Associate of Applied Science

Required Courses			Credits
ACT	100	Non-Structural Analysis and Damage Repair	12
ACT	150	Painting and Refinishing	18 1/2
ACT	200	Plastic Repair	4 1/2
ACT	220	Structural Analysis and Damage Repair	18
ACT	260	Mechanical and Electrical Components	15

General Education Requirements

English/Speech (COM, ENG, SPE—*any course level*)	3
Mathematics (100 or above)	3
Credit from any two of the following three areas:	**9**
Humanities (ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, THE)	15
Science (AST, BIO, CHE, GEY, PHY)	
Social and Behavioral Sciences (ANT, ECO, GEO, HIS, POS,PSY, SOC)	
Total Required Credits	**61**

For the following Certificates please check with the instructor/advisor or the Course Description section of this Catalog for prerequisites.

Non-Structural Analysis/ Damage Repair ACT 100

			Credits
ACT	101	Preparation	2
ACT	111	Panel Replacement and Alignment	3
ACT	121	GMAW (MIG) Welding	3
ACT	131	Metal Straightening	2
ACT	141	Plastic Filler	1
ACT	145	Glass & Misc.	1

Painting and Refinishing ACT 150

			Credits
ACT	151	Safety Precautions	1
ACT	160	Surface Preparation	4
ACT	165	Spray Gun and Related Equipment Operation	2
ACT	170	Paint Mixing, Matching and Applying	5
ACT	185	Solving Paint Application Problems	3
ACT	190	Finish Defects, Causes and Cures	3
ACT	195	Final Detail	1/2

Plastic Repair ACT 200

			Credits
ACT	201	Identification and Repair Decisions	1/2
ACT	205	Adhesive Repair	1
ACT	209	Welding Repairs	1
ACT	213	SMC Repairs	1
ACT	217	Refinishing Plastics	1

Structural Analysis and Damage Repair ACT 220

			Credits
ACT	121	GMAW (MIG) Welding	3
ACT	222	Measurement	3
ACT	224	Damage Analysis	4
ACT	232	Straighten Structural Parts	4
ACT	234	Replace Structural Parts	4

Mechanical and Electrical Components ACT 260

			Credits
ACT	261	Suspension and Steering	3
ACT	265	Electrical	4
ACT	270	Heating and Air Conditioning	2
ACT	275	Drive Train	2
ACT	280	Active Restraint Systems Passive Restraint Systems Supplementary Restraint Systems	1
ACT	290	Brakes	3

Automotive Technology

(In cooperation with and held at Warren Tech)

Degree: Associate of Applied Science

Certificates: Awarded upon completion of at least one NATEF specialty area and at least 60 AUM credits.

Master Technician: Completion of all 8 NATEF areas

This program is a nationally certified automotive repair program *(NATEF)* providing you with entry level skills in the automotiveindustry or upgrading for those currently in the field. This is an open-entry program where students may begin at several designated starting times during the year. Therefore, you may complete some of the courses, enter the work force, then return to complete requirements for the AAS degree, certificates, or to upgrade specific skills. Demonstrated mastery of skills is required. All automotive *(AUM)* courses are held at the Warren Tech. Auto Shop. The instructors are ASE Certified Master Technicians.

You should consult with an Automotive Technology advisor before beginning any program of study.

Associate of Applied Science

The Associate of Applied Science degree (60—66 semester credits),requires a minimum of 15 semester credits of academic general education courses and a minimum of 45 semester credits from five of the eight NATEF specialty areas listed. The AUM courses offered in the NATEF specialty areas must be completed as groups to satisfy requirements.

General Education **15**

English/Speech (COM, ENG, SPE) minimum 3 semester credits

Mathematics (MAT100 or above) minimum 3 semester credits

Take a minimum of 9 semester credits from any two of the following three areas:

Humanities (ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, THE)

Science (AST, BIO, CHE, ENV, GEY, PHY)

Social/Behavioral Science (ANT, ECO, GEO, HIS, POS, PSY, SOC)

Automotive Courses (At least 45 Credits)

	Credits
AUM 101 Basic Mechanics/Safety	1

(Required course for all students new to the program)

NATEF Specialty Area Certificates:

Brakes

AUM	102	Brakes I	2
AUM	103	Brakes II	3
		Total Required Credits	**5**

Suspension and Steering

AUM	104	Suspension I	2
AUM	105	Suspension II	3
AUM	106	Alignment I	3
AUM	107	Alignment II	2
		Total Required Credits	**10**

Heating and Air Conditioning

AUM	108	Heating and A/C	7
		Total Required Credits	**7**

Manual Drive Train and Axles

AUM	109	Manual Drive Train I	3
AUM	110	Manual Drive Train II	6
		Total Required Credits	**9**

Automatic Transmission/Transaxles

AUM	114	Auto Transmission I	3
AUM	115	Auto Transmission II	4
		Total Required Credits	**7**

Engine Performance

AUM	118	Tune-up I	3
AUM	119	Tune-up II	3
AUM	120	Emissions	2
AUM	123	Fuel Systems I	2
AUM	125	Fuel Systems II	1
AUM	126	Fuel Injection	3
		Total Required Credits	**14**

Electrical and Electronic Systems

AUM	127	Basic Electrical I	6
AUM	128	Advanced Electrical II	6
		Total Required Credits	**12**

Engine Repair

AUM	131	Basic Engines I	3
AUM	132	Engine Overhaul II	5
		Total Required Credits	**8**

Other Electives

AUM 297 Cooperative Education	1 to 3
AUM 299 Independent Study	1 to 3

No more than 5 semester credits from these two courses may be used to sub - stitute for NATEF specialty area courses.

Suggested Sequence

The suggested sequence of classes below is for full-time students seeking an AAS degree in Automotive Technology. If you are a part-time student it will take longer to complete the sequence. Some courses might not be offered each session.

First Session	**Credits**
AUM 101 Basic Mechanics/Safety	1
AUM XXX NATEF specialty area courses	9
English/Speech General Education Requirement	3
Mathematics General Education Requirement	3
	16
Second Session	
AUM XXX NATEF specialty area courses	12
Science, Humanities, or Social/Behavioral Science General Education Requirement	3
	15
Third Session	
AUM XXX NATEF specialty area courses	12
Science, Humanities, or Social/Behavioral Science General Education Requirement	3
	15
Fourth Session	
AUM XXX NATEF specialty area courses	11
Science, Humanities, or Social/Behavioral Science General Education Requirement	3
	14
Total Required Credits	**60-66**

Certificates: Automotive Technology

Contact an Automotive Technology advisor for prerequisites before beginning any NATEF certificate program. All AUM courses in any NATEF specialty area must be successfully completed to satisfy requirements for that specialty area. Successful completion of all AUM courses in all eight of the NATEF specialty areas results in a Certificate.

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 are urged to consult with a faculty advisor before beginning any program of study.

Required Courses

			Credits
BIO	111	General College Biology I *(Core)*	5
BIO	112	General College Biology II *(Core)*	5
CHE	111	General College Chemistry I *(Core)*	5
CHE	112	General College Chemistry II *(Core)*	5
MAT	160	College Algebra *(Core)*	4
PHY	111	Physics: Algebra-based I *(Core)*	5
			29

Recommended Courses (at least 10 credits)

BIO	201	Human Anatomy and Physiology I	4
BIO	202	Human Anatomy and Physiology II	4
BIO	205	Microbiology	4
BIO	211	Cellular Biology	4
BIO	225	General Zoology	5
BIO	226	General Botany	5
BIO	228	Field Biology	2-3
GEY	121	Historical Geology	4
			at least 10

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (any two courses from the following) 6
ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 211, 212

Social and Behavioral Sciences
(courses from two different disciplines)
ANT 101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 6

Total Required Credits 60

Biotechnology

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 specialization in biotechnology. You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses

			Credits
BIO	111	General College Biology I *(Core)*	5
BIO	201	Human Anatomy and Physiology I	4
BIO	202	Human Anatomy and Physiology II	4
BIO	205	Microbiology	4
CHE	111	General College Chemistry I *(Core)*	5
CHE	112	General College Chemistry II *(Core)*	5
MAT	160	College Algebra *(Core)*	4
BIO	211	Cellular Biology	4
BIO	212	Molecular Biology	4
			39

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3
			9

Humanities (any two courses from the following) 6
ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 211, 212

Social and Behavioral Sciences (courses from two different disciplines) ANT101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 6

Total Required Credits 60

Blueprints
Building Codes
Building Maintenance

(See Construction Technology)

Business

Degree: Associate of Applied Science (offered through CCConline)

For more information go to www.ccconline.org

Required Major Courses

ACC	121	Principles of Accounting I	4
ACC	122	Principles of Accounting 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
MAN	216	Small Business Management	3
MAN	226	Principles of Management	3
MAR	111	Principles of Sales	3
MAR	216	Principles of Marketing	3
BUS	158	Human Resource Management	3
CIS	115	Introduction to Computer Systems	4
CIS	118	Introduction to PC Applications	4
CIS	155	Complete PC Spreadsheets	4

General Education Courses

ECO	201	Principles of Macroeconomics	3
ECO	202	Principles of Microeconomics	3
ENG	121	English Composition I	3
ENG	122	English Composition II	3
MAT	160	College Algebra	4
SPE	115	Speech Communications	3

Total Required Credits **66**

Business Administration

Degree: Associate of Applied Science Certificates: Variable

Business organizations are looking for people who can help them achieve their goals. Training in business helps increase an individual's opportunity for advancement within a corporate or administrative structure. Both large and small businesses stress the need for academic preparation in addition to work experience. Depending upon the level of work and the company, advanced degrees may be required.

This AAS degree is meant for those who want a business degree and do not plan to transfer to a four-year college or university, although many of these courses will transfer.

The Associate of Applied Science degree in Business Administration is available with an emphasis in the following areas:

- E-Business
- Interdisciplinary
- Management and Supervision
- Real Estate

Certificates are also available in the following areas:

- E-Business
- Management and Supervision
- Real Estate
- Small Business Management

See also CCC Online under the Additional Learning Opportunities section of this catalog for information regarding an AAS in Business delivered entirely over the Internet.

Please contact your Business Administration faculty advisor for choice of electives and general education courses, program planning, and transfer information.

Business Core: (Required for all areas of emphasis)

ACC	121	Accounting Principles I	4
ACC	122	Accounting Principles II	4
BUS	115	Introduction to Business	3
BUS	205	Introduction to E-Business	3
BUS	216	Legal Environment of Business	3
BUS	2XX	Business Contract Law	1
BUS	217	Business Communication & Report Writing	3
MAN	226**	Principles of Management	3
MAR	216**	Principles of Marketing	3

Total Business Core Credits **27**

General Education Core: (Required for all areas of emphasis)

ENG	121	English Composition I	3
MAT	1XX	Any MATcourse 100 or higher	3
ECO	201	Principles of Macroeconomics	3
PHI	112	Ethics	3
XXX	XXX	Elective see advisor for approval	3

Total General Education Core Credits **15**

Area of Emphasis: E-Business

Business Core			27
General Education Core			15
Additional Required Courses			
BUS	210	E-Commerce	3
BUS	215	Global E-Commerce	3
MAR	220	E-Marketing	3
CIS	XXX	CIS Elective	3
XXX	XXX	Electives (see advisor for approval)	
Choose from ACC, BUS, CIS, MAN, MAR, SBM			9
			21
		Total Required Credits	**63**

Area of Emphasis: Interdisciplinary

This area of emphasis is for students who have started or completed vocational programs like Construction Technology or Fire Science and who would like to supplement their trade knowledge with business and management knowledge.

Business Core			27
General Education Core*			15
Additional Required Courses			
XXX	XXX	Interdisciplinary Credits (see note below)	15
XXX	XXX	Electives (see advisor for approval)	
Choose from ACC, BUS, CIS, MAN, MAR, SBM			6
			21
		Total Required Credits	**63**

INTERDISCIPLINARYNOTE: At least 15 credits in 100-level courses (or higher) in one vocational program within the Community Colleges of Colorado.

Or

The equivalent of the 15 credits (mentioned above) through an articulation agreement with the particular educational institution (see Business Administration advisor for approval)

Area of Emphasis: Management and Supervision

Business Core			27
General Education Core			15
Additional Required Courses			
CIS	118	Introduction to PC Applications	4
MAN	116	Principles of Supervision	3
MAN	117	Time Management (Fall only)	1
XXX	XXX	Electives (see advisor for approval)	
Choose from ACC, BUS, CIS, MAN, MAR, SBM			12
			20
		Total Required Credits	**62**

Area of Emphasis: Real Estate

Business Core			27
General Education Core			15
Additional Required Courses			
REE	100	Real Estate Broker's Course	11
CIS	118	Introduction to PC Applications	4
MAN	116	Principles of Supervision	3
XXX	XXX	Electives (see advisor for approval)	
Choose from ACC, BUS, CIS, MAN, MAR, SBM			3
			21
		Total Required Credits	**63**

Certificate: E-Business

BUS	205	Introduction to E-Business	3
BUS	210	E-Commerce	3
BUS	215	Global E-Commerce	3
MAR	220	E-Marketing	3
XXX	XXX	CIS Elective or Cooperative Education (see advisor for approval)	3
		Total Required Credit	**15**

Students in the E-Business Certificate Program must achieve a grade of C or better in all classes to graduate.

Certificate: Management and Supervision

ACC	121	Accounting Principles I	4
BUS	115	Introduction to Business	3
BUS	216	Legal Environment of Business	3
BUS	2XX	Business Contract Law	1
BUS	217	Business Com. & Report Writing	3
CIS	118	Introduction to PC Applications	4
MAN	116	Principles of Supervision	3
MAN	226**	Principles of Management	3
MAR	216**	Principles of Marketing	3
XXX	XXX	Business Elective (see advisor for approval)	3
		Total Required Credits	**30**

Certificate: Real Estate

Required Course

REE	100	Real Estate Broker's Course	11
		Total Required Credits	**11**

Certificate: Small Business Management

Required Courses

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	120	Writing a Business Plan	1
Elective Courses: (select 1 credit from the following)			
MAN	117	Time Management (Fall only)	1
SBM	290	Special Topics (Spring only)	1
XXX	XXX	See your Faculty Advisor	_
		Total Required Credits	**8**

*General Educational courses already taken through a Community Colleges of Colorado vocational program may be accepted for these requirements (see Business Administration advisor).

**MAN 226 and MAR 216 are accepted at four-year institutions provided that the community college student completes the prerequisites (i.e., ACC 121, ACC 122, BUS 226 and either ECO 201 or ECO 202) and has sophomore standing before enrolling in either MAN 226 or MAR 216.

Business

Degree: Associate of Arts

The study of business examines the strategies and functional activities that private enterprises undertake to achieve the profit motive. You can major in the following fields at the baccalaureate level: accounting, finance, information systems, management and marketing. Graduates in these disciplines go on to exciting and challenging professional careers in the business world.

Colorado Community Colleges have a Business Transfer Agreement with most of the public four-year colleges and universities in the state. Please see a faculty advisor or the Advising Office for more specific information.

Required Business Courses

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 Comm./Report Writing	3
BUS	226	Business Statistics	3
CIS	118	Intro. To PC Applications	4
MAN	226**	Principles of Management	3
MAR	216**	Principles of Marketing	3
		Required Business Courses	**30**

Required Core Curriculum

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities* (courses from at least two different disciplines)

ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 105, 211, 212 — 9

Mathematics* (Mathematics requirements vary at four-year schools. See advisor.)

MAT	160	College Algebra	
	OR		
MAT	171	Survey of Calculus	4

Science* (any course from the following) AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 111, 112, 211, 212 — 4

Social and Behavioral Sciences

ECO	201	Principles of Macroeconomics	3
ECO	202	Principles of Microeconomics	3

Any course from the following* ANT 101, 111; GEO 105; HIS 101, 101, 201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 — 3

Required Core Curriculum **35**

TOTAL REQUIRED CREDITS **65**

* See advisor

** Must complete ACC 121, ACC 122, BUS 226 and either ECO 201 or ECO 202 and have sophomore standing before enrolling in MAN 226 or MAR 216.

Business Technology

Degree: Associate of Applied Science

Certificates: Variable Credits

These program options are designed to prepare you for entry-level positions and/or advancement in business, governmental agencies and other institutions which employ persons in office occupations. If you are aspiring for advanced work placement, you should expect to have several years of work experience in addition to the degree.

BTE 103 and BTE 104 may be waived or challenged with a validated typing speed of 65 wam for five minutes with 5 or fewer errors. Please see your BTE Faculty Advisor for choice of elective and general education courses, program planning, and transfer information. You must earn a minimum grade of C in all BTE, CIS, and BUS courses required for a certificate or degree.

Area of Emphasis: Administrative Assistant

			Credits
ACC	101	Expanded Fundamentals of Accounting	3
BTE	102	Keyboarding Applications	4
BTE	103	Keyboarding Skillbuilding I	4
BTE	104	Keyboarding Skillbuilding II	4
BTE	125	Procedures for the Workplace 2000	3
BTE	126	Intermediate Office Procedures	4
BTE	135	Office Correspondence	3
BTE	161	Filing and Records Management	2
BTE	162	Electronic Filing	4
BTE	225	Advanced Office Procedures	4
BTE	297	Cooperative Education/Internship	3
CIS	118	Introduction to PC Applications	4
CIS	135	Complete PC Word Processing	4
CWB	100	Introduction to the Internet	1.33
CIS	155	Complete PC Spreadsheet	4
ENG	121	English Composition I	3
MAT	121		4
General Education Courses*			9

*General Education Courses

Credit from any two of the following three areas:

Humanities (ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, THE)

Science (AST, BIO, CHE, GEY, PHY)

Social and Behavioral Science (ANT, ECO, GEO, HIS, POS, PSY, SOC)

Total Required Credits **66.33**

Certificate: Clerical Assistant

			Credits
BTE	102	Keyboarding Applications	4
BTE	135	Office Correspondence	3
BTE	161	Filing and Records Management	2
BTE	297	Cooperative Education/Internship	3
BUS	110	Mathematics for Business/ Personal Finance	3
CIS	118	Introduction to PC Applications	4
ENG	115	Technical English	3
MAT	102	General Mathematics For College Students	3
Elective		CIS 125, CIS 155, BTE 125, BTE 162	7
		Total Required Credits	**32**

Certificate: Office Assistant

			Credits
BTE	100	Touch Keyboarding	4
BTE	102	Keyboarding Applications	4
BTE	103	Keyboarding Skillbuilding I	4
BTE	125	Procedures for the Workplace 2000	3
BTE	126	Intermediate Office Procedures	4
BTE	135	Office Correspondence	3
BTE	161	Filing and Records Management	2
BTE	162	Electronic Filing	4
BTE	297	Cooperative Education/Internship	3
CIS	118	Introduction to PC Applications	4
CWB	100	Complete PC Word Processing	4
CIS	130	Introduction to the Internet	1.33
CIS	155	Complete PC Spreadsheet	4
ENG	115	Technical English	3
MAT	102	General Mathematics For College Students	3
		Total Required Credits	**50.33**

Carpentry

(See Construction Technology)

Chemistry

Degree: Associate of Science

The completion of the following courses is appropriate for those planning to plan to transfer to a four-year college or university to completea major in chemistry. You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			Credits
CHE	111	General College Chemistry I *(Core)*	5
CHE	112	General College Chemistry II *(Core)*	5
CHE	211	Organic Chemistry I	5
CHE	212	Organic Chemistry II	5
MAT	201	Calculus I *(Core)*	5
MAT	202	Calculus II *(Core)*	5
MAT	204	Calculus III	5
PHY	211	Physics: Calculus-Based I *(Core)*	5
PHY	212	Physics: Calculus-Based II *(Core)*	5

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

**Humanities* (any two courses from the following) 6
ART110, 211, 212; Foreign Language 111, 112, 211, 212;
HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI
111, 112, 113; THE 211, 212

Social and Behavioral Sciences (courses from two different disciplines) 6ANT
101, 111; ECO 201, 202; GEO 105; HIS 101, 102,
201, 202; POS 105, 115; PSY101, 102; SOC 101, 102

Electives **3**
Electives must be selected from college-level transfer courses. No
more than three credits in physical education may be counted.

Total Required Credits **68**

** You are encouraged to complete GER 111 and 112 to satisfy the Arts and Humanities requirement.*

Codes

(See Construction Technology)

Communication

(See Speech Communication)

Computer Information Systems

Important Note:

Course numbers, degrees and certificates are being revised. Please consult an insert to be published in August 2000. More info at:
http://www.rrcc-online.com/comptech/CTdeptHmPg.html

Degree: Associate of Applied Science
Certificates: Variable Credits

The Computer Information Systems Associate of Applied Science degree program is designed to prepare you for entry level positions in six areas of emphasis: Internet/Web Developer, PC Applications Specialist, Multimedia Software Developer, Network Engineering, Network Associate and Programming.

Required Credits (for all Areas of Emphasis)			Credits
ACC	121	Accounting Principles I	4
		or	
BUS	115	Introduction to Business	3
ENG	121	English Composition I	3
ENG	122	English Composition II	3
		or	
ENG	131	Technical Writing I	3
MAT	160	College Algebra (or higher)	4
SPE	115	Principles of Speech Communication	3
CIS	281	Ethics in Computer Technology	1
CIS	270	Systems Analysis and Design	5
CIS	280	Project Development	4

Credit from any two of the following three areas: 6
Humanities (ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, THE)

Science (AST, BIO, CHE, GEY, PHY)

Social and Behavioral Science (ANT, ECO, GEO, HIS, POS, PSY, SOC)

Total Required Credits **32-33**

Area of Emphasis: Internet/ Web Developer

This area of emphasis is designed to prepare you for an entry-level position in Internet or Web development. Additional career opportunities exist for Web Masters.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CWB	175	Complete Web Editing: HTML	4
CWB	110	Web Layout and Design Concepts	4
CWB	161	Image Editing I (Adobe PhotoShop)	4
CWB	200	Web Programming I (JavaScript)	1.33
CWB	201	Web Scripting II (JavaScript)	1.33
CIS	220	UNIX	4
CIS	240	Database Management Systems	4
Faculty Advisor approved electives			4

Minimum Required Credits for Area of Emphasis:
Internet/ Web Development 31.66-33.66
Total Required Credits for Associate of Applied Science Degree **63.66-66.66**

Area of Emphasis: PC Applications Specialist

This area of emphasis is designed to prepare you as an entry-level microcomputer specialist with and emphasis in applications. Upon completion of the course work, you will be prepared to sit for the Microsoft Office Users Specialist (MOUS) examinations for MOUS certification.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	150	Visual Basic Programming	5
CIS	118	Introduction to PC Applications	4
CIS	123	Advanced Windows	1.33
CIS	131	Intermediate PC Word Processing	1.33
CIS	132	Advanced PC Word Processing	1.33
CIS	141	Intermediate PC Database	1.33
CIS	142	Advanced PC Database	1.33
		or	
CIS	145	Complete PC Database	4
CIS	151	Intermediate PC Spreadsheet	1.33
		and	
CIS	152	Advanced PC Spreadsheet	1.33
		or	
CIS	155	Complete PC Spreadsheet	4
CIS	165	Presentation Graphics	4
CNT	200	Introdruction to Networking	4
Faculty Advisor approved electives			7
Required Credits for Area of Emphasis:			
Microcomputer Applications Specialist			25.31-35.31
Total Required Credits for Associate of Applied Science Degree			**60.33-68.31**

Area of Emphasis: Multimedia Software Developer

This area of emphasis is designed to prepare you for an entry-level position as a Multimedia Software Developer. Upon completion of this program, the student will have completed Authorized Macromedia Training Courses conducted by authorized trainers, specifically CWB 141 (Director) and CWB 142 (Authorware). You should be prepared to enter the multimedia software field as an entry-level developer.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CIS	118	Introduction to PC Applications	4
CWB	140	Introduction to Multimedia	4
CWB	141	Multimedia Development Software Modeling (Director)	4
CWB	142	Multimedia Software Authorship (Authorware)	4
CWB	143	Multimedia Software Design/Development (Lingo)	4
CWB	161	Image Editing I (Adobe PhotoShop)	4
CIS	240	Database Management Systems	4
Faculty Advisor-approved electives			4
Minimum Required Credits for Area of Emphasis:			
Multimedia Software Developer			37-79
Total Required Credits for Associate of Applied Science Degree			**69-72**

Area of Emphasis: Network Engineering - NACSE

This area of emphasis is designed to prepare you for a position in the expanding field of networking and internetworking. You will learn networking principles, standards and protocols, network analysis and design, network troubleshooting and network administration.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CNT	200	Introduction to Networking	4
CNT	201	Local Area Networks	4
CNT	202	Wide Area Networks	4
CNT	203	TCP/IP and Networking Architectures	4
CNT	204	Introduction to Internet Technologies	4
CNT	205	Internetworking	4
CNT	206	Network Processes and Protocols	4
CNT	207	Network Analysis and Design	4
Minimum Required credits for Area of Emphasis:			
Network NACSE 37-39			
Total Required Credits for Associate of Applied Science Degree			**69-72**

Area of Emphasis: Network Systems Engineering-MCSE

This area of emphasis is designed to prepare you for the Microsoft Certified System Engineer Certification. You will learn to install, configure and maintain Windows 2000 Professional and Server; design, implement and secure Active Directory Services and Network Infrastructure.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CNT	231	MCSE I	4
CNT	232	MCSE II	4
CNT	233	MCSE III	4
CNT	234	MCSE IV	4
CNT	235	MCSE V	4
CNT	236	MCSE VI	4
Faculty Advisor Approved Electives			6
Minimum Required Credits for Area of Emphasis:			
Network Engineering-MCSE			35-37
Total Required Credits for Associate of Applied Science Degree			**67-70**

Area of Emphasis: Network Associate - Cisco

This area of emphasis is designed to prepare you for the Cisco Certified Network Associate certification. You will learn about networking principles, setup and configuration of internetworking devices, and Local Area and Wide Area Network planning and design.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CNT	260	Cisco Network Associate I	6
CNT	261	Cisco Network Associate II	6
CNT	262	Cisco Network Associate III	6
CNT	263	Cisco Network Associate IV	6
Faculty Advisor approved electives			4
Required Credits for Area of Emphasis: Network Associate - Cisco			33-35
Total Required Credits for Associate of Applied Science Degree			**65-68**

Area of Emphasis: Programming

This area of emphasis is designed to prepare you as an entry-level programmer. Upon completion of this program, you will have completed a minimum of thirty programs ranging from simple business programs to the design and completion of a complex business system.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CIS	220	UNIX	4
CIS	221	Advanced UNIX	4
CSC		Two programming languages with at least one second semester course	8
Electives: CSC 130, CIS 240, CWB 160, CNT200 or higher with Faculty Advisors'approval			8
Minimum Required Credits for Area of Emphasis: Programming			29-31
Total Required Credits for Associate of Applied Science Degree			**61-64**

Area of Emphasis: Internet Programming Specialist

This certificate is designed to prepare you as an entry-level programmer, with an emphasis on programming for the Internet. Upon completion of this program, you will have written a minimum of sixty programs in a range of programming languages. The programs include general-purpose applications, client side programs, and server side programs.

			Credits
CSC	160	Computer Science I (C++)	5
CSC	161	Computer Science II (C++)	5
CSC	240	Java Programming	4
CIS	220	UNIX	4
CIS	221	Advanced UNIX	4
		or	
CWB	210	CGI and Perl	4
CWB	175	Complete Web Editing: HTML	4
CNT	200	Introduction to Networking	4
Minimum Required credits for Area of Emphasis: Internet Programming			30
Total Required Credits for Associate of Applied Science Degree			**62-63**

Certificate: Internet/ Web Specialist

This certificate program is designed to prepare you for a entry-level position in Internet or Web development. Additional career opportunities exist for Web Masters.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CWB	100	Introduction to the Internet	1.33
CWB	175	Complete Web Editing: HTML	4
CWB	110	Web Layout and Design Concepts	4
CWB	161	Image Editing I (Adobe PhotoShop)	1
CWB	200	Web Scripting I (Java Script)	1.33
CWB	200	Web Scripting II (Java Script)	1.33
CIS	220	UNIX	4
CIS	281	Ethics in Computer Technology	1
CIS	240	Database Management Systems	4
Faculty Advisor approved electives			4
Minimum Required Credits for Certificate: Internet/Web Developer			
Minimum Required Credits			**34-36**

Certificate: PC Applications Specialist

This certificate program is designed to prepare you for an entry-level position as a microcomputer specialist with an emphasis in applications. Upon completion of the course work, you will be prepared to sit for the Microsoft Users Specialist (MOUS) examination for MOUS certification.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	150	Visual Basic Programming	4
CIS	118	Introduction to PC Applications	4
CIS	123	Advanced Windows	1.33
CIS	131	Intermediate PC Word Processing	1.33
		and	
CIS	132	Advanced PC Word Processing	1.33
		or	
CIS	135	Complete PC Word Processing	4
CIS	141	Intermediate PC Database	1.33
		and	
CIS	142	Advanced PC Database	1.33
		or	
CIS	145	Complete PC Database	4
CIS	151	Intermediate PC Spreadsheet	1.33
		and	
CIS	152	Advanced PC Spreadsheet	1.33
		or	
CIS	155	Complete PC Spreadsheet	4
CIS	165	Presentation Graphics	4
CIS	281	Ethics in Computer Technology	1
CNT	200	Introduction to Networking	4
Faculty Advisor approved electives			4
Minimum Required Credits for Certificate: PC Applications Specialist			**30.31-37.33**

Certificate: Multimedia Software Specialist

This certificate is designed to prepare you for an entry-level position as a Multimedia Software Developer. Upon completion of this program, the student will have completed Authorized Macromedia Training Courses conducted by authorized trainers, specifically CWB 141 (Director) and CWB (Authorware). You should be prepared to enter the multimedia software field as an entry-level developer.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CIS	118	Introduction to PC Applications	4
CWB	140	Introduction to Multimedia	4
CWB	141	Multimedia Software Modeling Development (Director)	4
CWB	142	Multimedia Software Authorship (Authorware)	4
CWB	143	Multimedia Software Design/Development	4
CWB	161	Image Editing I(Adobe PhotoShop)	4
CIS	240	Database Management Systems	4
CIS	281	Ethics in Computer Technology	1
Faculty Advisor approved electives			4
		Total Required Credits	**38-40**

Certificate: Network Associate - NACSE/NANS

This certificate is designed to prepare you for an entry-level position in the field of networking and internetworking. You learn about networking principles, standards and protocols, networking architectures used in both Local Area and Wide Area networks.

			Credits
CNT	200	Introduction to Networking	4
CNT	201	Local Area Networks	4
CNT	202	Wide Area Networks	4
CNT	203	TCP/IP and Networking Architectures	4
CIS	220	UNIX	4
CWB	175	Complete Web Editing: HTML	4
Minimum Required Credits for Certificate: NetworkAssociate-NACSE/NANS			**24**

Certificate: Network Specialist - NACSE/NSNS

This certificate is designed to prepare your for a position in the field of networking and internetworking. You will learn networking principles, standards and protocols, networking architectures used in both Local Area and Wide Area networks.

			Credits
CNT	204	Internetworking	4
CNT	205	Network Processes and Protocols	4
CNT	206	Introduction to the Internet	4
CNT	207	Network Analysis and Design	4
CIS	221	Advanced UNIX	4
CIS	222	UNIX Systems Administration	4
Minimum Required Credits for Certificate: Network Specialist-NACSE/NANS			**24**

Certificate: Network Associate - Cisco

This certificate is designed to prepare you for the Cisco Certified Network Associate certification. You will learn about networking principles, setup and configuration of internetworking devices, and Local Area and Wide Area Network planning and design.

			Credits
CNT	260	Cisco Network Associate I	6
CNT	261	Cisco Network Associate II	6
CNT	262	Cisco Network Associate III	6
CNT	263	Cisco Network Associate IV	6
Minimum Required Credits for Certificate: NetworkAssociate			**24**

Certificate:
Network Systems Engineering-MCSE

This certificate is designed to prepare you for the Microsoft Certified System Engineer Windows 2000 certification. Students will learn to install, configure and maintain Windows 2000 Professional, Server, Active Directory Server, Security and Network Infrastructures.

			Credits
CNT	231	MCSE I	4
CNT	232	MCSE II	4
CNT	233	MCSE III	4
CNT	234	MCSE IV	4
CNT	235	MCSE V	4
CNT	236	MCSE VI	4
Minimum Required Credits for Certificate: Network Engineering-MCSE			**24**

Certificate: Programming Specialist

This certificate is designed for you as an entry-level programmer. Upon completion of this program, you will have written a minimum of thirty programs ranging from simple business programs to the design and completion of a complex business system.

			Credits
CIS	115	Introduction to Computer Information Systems	4
		and	
CIS	116	Logic and Program Design	3
		or	
CSC	160	Computer Science I	5
CIS	220	UNIX	4
CIS	221	Advanced UNIX	4
CIS	281	Ethics in Computer Technology	1
CSC		Two programming languages with at least one second semester course	8
Electives above CSC 130, CIS 240, CWB 160, CNT200 with advisors approval			8
Minimum Required Credits for Certificate: Programming			**30-32**

Certificate:
Internet Programming Specialist

This certificate is designed to prepare you as an entry-level programmer, with an emphasis on programming for the Internet. Upon completion of this program, you will have written a minimum of sixty programs in a range of programming languages. The programs include general-purpose applications, client side programs, and server side programs.

			Credits
CSC	160	Computer Science I (C++)	5
CSC	161	Computer Science II (C++)	5
CSC	240	Java Programming	4
CIS	220	UNIX	4
CIS	221	Advanced UNIX	4
		or	
CWB	210	CGI and Perl	4
CWB	175	Complete Web Editing: HTML	4
CNT	200	Introduction to Networking	4
Minimum Required Credits for Certificate: Internet Programming			**31**

Computer Science

Important Note:

Please refer to the CIS department Website: www.rrcc-online.com/~comptech or talk to your faculty advisor for the most current course, degree, and certificate information.

Degree: Associate of Science

The completion of the following courses is for those planningto transfer to a four-year college or university to complete a major in computer science. Students are urged to consult a faculty advisorbefore beginning any program.

Recommended Courses

			Credits
CSC	160	Computer Science I *(Required Lab)*	
CSC	161	Computer Science II *(Required Lab)*	
CSC	165	Discrete Structures	
MAT	201	Calculus I (Core)	
MAT	202	Calculus II (Core)	
PHY	211	Physics: Calculus-based I* *(Core)*	
PHY	212	Physics: Calculus-based II* *(Core)*	

**Other natural science credits may be substituted for the AS degree. However, many colleges and universities offering a bachelor of sciencedegree in Computer Science require PHY 211 and PHY 212. Please consult with a computer science faculty advisor.*

Electives in Mathematics and Computer Science	**6**
All electives must be transferable. You are encouraged to work with your computer science faculty advisor.	40

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (any two courses from the following) 6
ART110, 211, 212; Foreign Language 111 ,112, 211, 212;
HUM 121, 122, 123; LIT115, 201, 202; MUS 211, 212;
PHI 111, 112, 113; THE 211, 212

Social and Behavioral Sciences (courses from two different disciplines) ANT101, 111; ECO 201, 202; GEO 105; HIS 101, 102
201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 6

Electives	**3**
Electives must be selected from college-level transfer courses. No more than 3 credits in PHE may be counted.	

Total Required Credits **64**

Construction Technology

Degree: Associate of Applied Science

With Areas of Emphasis and Options in:

Air Conditioning, Heating & Refrigeration (AHR)

Degree	Certificate
•Air Conditioning, Heating & Refrigeration	• Comm. Res. Heating
•Refrigeration	• Level I Refrigeration
•Residential Air Conditioning	• Refrigeration
•Residential Heating	• Residential Air Conditioning
•Heating, Ventilation, Air Conditioning	• Residential Forced Air Heating
	• Residential HVAC
	• Residential Hydronic Heating
	• HVAC Apprenticeship
	• Comm. Refrig. Apprentice

Carpentry (CAR)

Degree	Certificate
•Carpentry	• Carpentry

Construction Technology (CON)

Degree	Certificate
•Construction Technology Technician	• Construction Technology Technician
•Building Maintenance Technician	• Building Maintenance Technician
•Trades Degree	• Construction Fundamentals
•Construction Management	• Construction Management

Electrical (EIC)

Degree	Certificate
•Construction Electrician	• Construction
•Maintenance Electrician	• Electrical Installation
•IBEW/NECA Construction Electrician	• Maintenance
•Power Technology	• Residential Construction
•Electro Mechanical Industrial Maintenance Tech	• National Electrical Code
• Data Communication Designer	• Post Degree Specializations: Advanced Construction
• Data Communication Technician	• Advanced Maintenance
	•Data Communication

Facility Maintenance (FMS)

Certificate
• Facility Maintenance

Fine Woodworking (FIW)

Degree	Certificate
•Fine Woodworking	• Fine Woodworking
	• Post Degree Specialization: Master Craftsman

Manufacturing Technology

• Electro- Mechanical Industrial Maintenance Technology option

Plumbing (PLU)

Degree	Certificate
•Plumbing	• Colorado Plumbing Code Test Preparation
• United Association of Plumbing and Pipefitting	• Residential Plumbing
•	• Residential Plumbing & Heating Journey Level Plumbing

Solar Construction Technology (ENT)

Degree	Certificate
•Active	• Solar Construction Technology
•Passive	

Apprentice-Related Technology

(In conjunction with the Construction Industry Training Council*)

Degree	Certificate
•Carpentry	• Carpentry (ARC)
•Drywall Applicator	• Drywall Applicator (ARD)
•Electrical	• Electrical (ARE)
•Ironworker	• Ironworker (ARI)
•Masonry	• Masonry (ARM)
•Painting	• Painting (ARB)
•Plumbing	• Plumbing (ARP)
•Sheetmetal	• Sheetmetal Worker (ARS)
	• Skilled Laborer (ARL)

*Permission of Construction Technology Department Chair required. **303.914.6511**

Interdisciplinary Certificates

Degree	Certificate
•Building Code Enforcement*	•Building Code Certificate
	•Basic Plumbing & Heating Maintenance Certificate
	•Building Code Enforcement*

*in conjuction with BOCA.

Fire Protection Technology(EIC)

Degree	Certificate
•Fire Alarm Systems	• Fire Alarm and Detection Technician
Hand/Power, Portable /Stationary	•Fire CodeCAR 151 Tools: 4

CAR	202	Exterior Finishes	1-4
CAR	203	Finishes and Refinishes	1-4
CAR	208	Interior Finishes	1-4

Construction Technology Associate of Applied Science Degree Requirements for All Areas of Emphasis

General Education Requirements

English/Speech (COM, ENG, SPE)	3
Mathematics (MAT114)	3
Credit from **any two of the following three areas:** Humanities (ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, THE); Science (AST, BIO, CHE, GEY, PHY); Social and Behavioral Sciences (ANT, ECO, GEO, HIS, POS, PSY, SOC)	6
General Education Electives	3
	15

Construction Technology Requirements

CON	100	Computers for Construction	2
CON	105	Blueprint Reading	4
CON	151	Construction Process	4
			10

Required Major Courses **36**
See individual areas of emphasis for specific requirements

Total Required Credits (Minimum) **61**

Degrees: Associate of Applied Science (All Emphases)

Certificates: Variable Credits

The Construction Technology degree is the most comprehensive training program for the building industry in the state. This flexible program allows you to choose courses in one or more trades. In addition to teaching all four National Codes, this degree provides you with opportunities to earn interdisciplinary certificates as well as post-degree upgrading. Construction Technology requirements and electives must be approved by a Construction Technology Advisor. **(303) 914-6511**

Degree: Associate of Applied Science Construction Management

General Education Requirements	15
Construction Technology Requirements	10
	25
Required Major Courses	36

You must complete a total of **36** credits in a variety of areas. Meet with your Construction Technology Advisor to predesign an educational plan. This customized degree may include but is not limited to the following areas of study: business, management, supervision, accounting, foreign language skills, estimating, building codes, OSHAtraining and professional trade skills.

Total Required Credits **61**

Certificate: Construction Management

Construction Technology Requirements	**10**
Required Major Courses	**20**

Construction Technology requirements and electives must be preapproved by your Construction Technology advisor with course selections similar to the degree requirements.

Total Required Credits **30**

Degree: Associate of Applied Science Construction Technology Technician

General Education Requirements	15
Construction Technology Requirements	10
	25
Required Major Courses	36

You must complete a total of **36** credits in a variety of areas. Meet with your Construction Technology Advisor to predesign an educational plan.

Total Required Credits **61**

Certificate: Construction Technology Technician

Construction Technology Requirements	**10**
Required Major Courses	**20**

Construction Technology requirements and electives must be preapproved by your Construction Technology advisor.

Total Required Credits **30**

Certificate: Construction Technology Fundamentals

Construction Technology Requirements	**10**
Additional Construction Technology Electives	**4**

Construction Technology requirements and electives must be preapproved by your Construction Technology advisor.

Total Required Credits **14**

Degree: Associate of Applied Science Trades Degree

The Trades AAS degree program consists of a maximum of 58 semester credit hours 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 credit hours of core general education courses at RRCC. For those registered apprentices who complete a three-year registered apprenticeship program, 20 RRCC credit hours will be required. For those completing a four-year or five-year apprenticeship program, 17 RRCC general educationcredits will be required. This program is offered jointly by RRCC, Emily Griffith Opportunity School and the Joint Apprenticeship Training Committee.

Degree: Associate of Applied Science Building Maintenance Technician

General Education Requirements	15
Construction Technology Requirements	10
	25
Required Major Courses	36

You must complete a total of 36 credits including one course from the areas listed (below). No more than four courses from any one area will count toward the completion of this degree. Meet with Construction Technology Advisor.

Total Required Credits **61**

Certificate: Building Maintenance Technician

Construction Technology Requirements	**10**
Required Major Courses	**36**

You must complete a total of 36 credits including one course from each of the areas listed (below). No more than four courses from any one area will count toward the completion of this degree. Meet with Construction Technology Advisor.

Total Required Credits **46**

Building Maintenance Technician

Air Conditioning, Heating, Refrigeration & Ventilation

AHR	103	Fundamentals of Gas Heating	4
AHR	105	Electricity for HVAC/R	4
AHR	110	Refrigeration Fundamentals	4
AHR	122	Air Conditioning Systems	4
AHR	132	Air Conditioning and Refrigeration Controls	4
AHR	162	Heating Controls	4

Carpentry

CAR	151	Tools: Hand/Power, Portable /Stationary	4
CAR	202	Exterior Finishes	1-4
CAR	203	Finishes and Refinishes	1-4
CAR	208	Interior Finishes	1-4
CAR	207	Roof Coverings	1-4

Electricity

EIC	100	Electrical Construction and Planning	4
EIC	105	Basics of AC and DC Electricity	4
EIC	110	Electrical Installations I	4
EIC	130	National Electric Code I	4
EIC	155	AC Circuit Fundamentals	4
EIC	180	Electrical Maintenance Techniques	4

Plumbing

PLU	101	Introduction to Plumbing	4
PLU	105	Piping Skills	4
PLU	118	Plumbing Service	4
PLU	206	Hot Water Heating Systems	4
PLU	232	Commercial Plumbing Service	4

Interdisciplinary Certificates

Certificate: Building Codes

Credit from any two of the following four classes:

CAR	225	Uniform Building Code	4
PLU	216	Uniform Plumbing Code	4
AHR	216	Uniform Mechanical Code	4
EIC	130	National Electric Code I	4
		Total Required Credits	**8**

Certificate: Basic Plumbing/Heating Maintenance

PLU	101	Introduction to Plumbing	4
PLU	118	Plumbing Service	4
AHR	103	Fundamentals of Gas Heating	4
AHR	142	Servicing Forced Air Systems	4
AHR	206	Hot Water Heating Systems	4
		Total Required Credits	**20**

Applied Certificate: Building Code Enforcement

Apartnership with BOCA. All courses available through CCC on-line

Required Major Courses			**Credits**
CON	220	Basic Code Enforcement	3
CON	221	Overview of the International Codes	3
CON	222	Residential and Non-Residential Plan Review	3
EMP	101	Principles of Emergency Management	3
EMP	240	Leadership and Influence	3
EMP	241	Decision Making and Problem Solving	3
EMP	242	Effective Communications	3
EMP	244	Developing Volunteer Resources	3
EMP	291	Public Information Officer	3
ECO	290	Principles of Macroeconomics	3
		Total	**30**

Associate of Applied Science Degree with an emphasis in Building Code Enforcement

Apartnership w/BOCA(Building Officials Code Administrators). All courses available through CCConline.

Required Major Courses			**Credits**
CON	220	Basic Code Enforcement	3
CON	221	Overview of the International Codes	3
CON	222	Residential and Non-Residential Plan Review	3
EMP	101	Principles of Emergency Management	3
EMP	240	Leadership and Influence	3
EMP	241	Decision Making and Problem Solving	3
EMP	242	Effective Communications	3
EMP	244	Developing Volunteer Resources	3
EMP	291	Public Information Officer	3

General Education Requirements: 15–17 CREDIT HOURS

ENG	131	Technical Writing	3
MAT	100	or Higher	3
PSY	101	General Psychology I	3
SOC	101	Introduction to Sociology I	3
GEY	235	Introduction to Geographic Information Systems	3
Elective Course Requirement:			**15-20**
ENV	101	Introduction to environmental Science	3
FST	201	Instructional Methodology (Fire Instructor I,II)	3
MAN	116	Principles of Supervision	3
MAN	226	Principles of Management	3
ECO	201	Principles of Macroeconomics	3
SPE	125	Interpersonal Communication	3
		Total	**60**

Facility Maintenance (FMS)

This course of study involves the maintenance of commercial and industrial facilities. Please see a Construction Technology Advisor. 303-914-6511

Certificate: Facility Maintenance I

FMS	100	Basic Power and Hand Tools	3
FMS	102	Facilities Maintenance Job Skills I	1
FMS	105	Building Systems I	4
FMS	108	Building Systems II	4
EIC	180	Electrical Maintenance Techniques	4
CON	105	Blueprint Reading	4
MAN	117	Time Management	1
PLU	116	Plumbing Repair	4
		Total Required Credits	**25**

Air Conditioning, Heating, and Refrigeration (AHR)

This program provides the knowledge and skills for job 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. Please see a Construction Technology Advisor.
303.914.6511

Graduates of the HVAC/R Program may articulate with Ferris State University to pursue a baccalaurate degree.

Construction Technology AAS Degree with Heating, Ventilation & Air Conditioning Emphasis

			Credits
General Education Requirements			15
Construction Technology Curriculum Requirements			10
			24
Required Major Courses			
First Session			
AHR	103	Fundamentals of Gas Heating	4
AHR	105	Electricity for HVAC/R	4
AHR	110	Refrigeration Fundamentals	4
MAT	115	Applied Occupational Math	3
			15
Required Major Courses			
Second Session			
AHR	132	Refrigeration and Air Conditioning Controls	4
AHR	120	Air Conditioning Systems	6
AHR	125	Refrigerent Recovery Certification Training	1
English Credit			3
			14
Required Major Courses			
Third Session			
AHR 162 Heating Controls			4
AHR 142 Servicing Forced Air Systems			4
AHR 206 Hot Water Heating Systems			4
Science or Humanities or Social Science Course			3
			16
Required Major Courses			
Fourth Session			
AHR 216 Uniform Mechanical Code			4
AHR 278 Advanced HVAC/R Lab			3
CON 105 Blueprint Reading			3
CON 100 Computers for Construction			3
Science or Humanities or Social Science Course			3
			16
		Total Required Credits	**64**

Associate of Applied Science: Air Conditioning, Heating/Refrigeration

			Credits
General Education Requirements			**15**
Construction Technology Requirements			**10**
			25
Required Major Courses			
AHR	103	Fundamentals of Gas Heating	4
AHR	105	Electricity for HVAC/R	4
AHR	110	Refrigeration Fundamentals	4
AHR	122	Air Conditioning Systems	4
AHR	125	Refrigerant Recovery Certification Training	1
AHR	132	Refrigeration and Air Conditioning Controls	4
AHR	142	Servicing Residential Forced Air Systems	4
AHR	162	Heating Controls	4
AHR	206	Hot Water Heating Systems	4
AHR	216	Uniform Mechanical Code	4
AHR	278	Advanced Refrigeration Lab	2
		Total Required Credits	**64**

Associate of Applied Science: Refrigeration

			Credits
General Education Requirements			**15**
Construction Technology Requirements			**10**
			25
Required Major Courses			
AHR	105	Electricity for HVAC/R	4
AHR	110	Refrigeration Fundamentals	4
AHR	125	Refrigerant Recovery Certification Training	1
AHR	132	Refrigeration and Air Conditioning Controls	4
PLU	105	Piping Skills	4
AHR	202	Pneumatic Controls	4
AHR	217	Refrigeration Operator	4
AHR	222	Evaporative Cooling Systems and Water Treatment	4
AHR	230	Commercial Refrigeration	4
AHR	XXX	AHR Electives	4
		Total Required Credits	**62**

Associate of Applied Science: Residential Air Conditioning

	Credits
General Education Requirements	15
Construction Technology Requirements	10
	25

Required Major Courses

AHR	105	Electricity for HVAC/R	4
PLU	105	Piping Skills	4
AHR	110	Refrigeration Fundamentals	4
AHR	122	Air Conditioning Systems	4
AHR	125	Refrigerant Recovery Certification Training	1
AHR	132	Air Conditioning/Refrigeration Controls	4
AHR	140	Residential Sheet Metal	4
AHR	190	Air Conditining Systems Service and Repair	4
AHR	216	Uniform Mechanical Code	4
AHR	260	Estimating Residential HVAC Systems	4
		Total Required Credits	**62**

Associate of Applied Science: Residential Heating

	Credits
General Education Requirements	15
Construction Technology Requirements	10
	25

Required Major Courses

AHR	104	Sizing: Heat., Vent./Comb. Air Systems	4
AHR	103	Fundamentals of Gas Heating	4
AHR	105	Electricity for HVAC/R	4
PLU	105	Piping Skills	4
AHR	140	Residential Sheet Metal	4
AHR	145	Sizing Residential Forced Air Systems	4
AHR	162	Heating Controls	4
AHR	206	Hot Water Heating Systems	4
AHR	216	Uniform Mechanical Code	4
		Total Required Credits	**65**

Certificate: Level I Refrigeration

Required Major Courses			**Credits**
AHR	105	Electricity for HVAC/R	4
AHR	110	Refrigeration Fundamentals	4
AHR	125	Refrigerant Recovery Certificate	1
		Total Required Credits	**9**

Certificate: Comprehensive Residential Heating

Required Major Courses			**Credits**
AHR	103	Fundamentals of Gas Heating	4
AHR	104	Sizing: Heating, Venting and Combustion Air	4
AHR	105	Electricity for HVAC/R	4
PLU	105	Piping Skills	4
AHR	140	Residential Sheet Metal	4
AHR	142	Servicing Residential Forced Air Systems	4
AHR	145	Sizing Residential Forced Air Systems	4
AHR	151	Low Pressure Steam Heating	4
AHR	162	Heating Controls	4
AHR	206	Hot Water Heating Systems	4
AHR	208	Radiant Heating Systems	4
AHR	216	Uniform Mechanical Code	4
CON	100	Computers for Construction	2
CON	105	Construction Blueprint Reading	4
CON	151	Construction Process	4
AHR	260	Estimating Residential HVAC Systems	4
		Total Required Credits	**62**

Certificate: Refrigeration

Required Major Courses			**Credits**
AHR	105	Electricity for HVAC/R	4
AHR	110	Refrigeration Fundamentals	4
AHR	125	Refrigerant Recovery Certificate	1
AHR	132	HVAC/R Controls I	4
PLU	105	Piping Skills	4
AHR	216	Uniform Mechanical Code	4
AHR	XXX	AHR Electives	4
AHR	230	Commercial Refrigeration	4
		Total Required Credits	**29**

Certificate: Residential Air Conditioning

Required Major Courses			**Credits**
AHR	105	Electricity for HVAC/R	4
PLU	105	Piping Skills	4
AHR	110	Refrigeration Fundamentals	4
AHR	122	Air Conditioning Systems	4
AHR	125	Refrigerant Recovery Certificate	1
AHR	132	Air Conditioning and Refrigeration Controls	4
AHR	140	Residential Sheet Metal	4
AHR	190	Air Conditioning Systems Service and Repair	4
AHR	216	Uniform Mechanical Code	4
		Total Required Credits	**33**

Certificate: Residential Forced Air Heating

Required Major Courses			**Credits**
AHR	103	Fundamentals of Gas Heating	4
AHR	104	Sizing: Heating, Venting/Combustion Air Systems	4
AHR	105	Electricity for HVAC/R	4
AHR	140	Residential Sheet Metal	4
AHR	142	Servicing Residential Forced Air Systems	4
AHR	145	Sizing Residential Forced Air Systems	4
AHR	162	Heating Controls	4
AHR	216	Uniform Mechanical Code	4
		Total Required Credits	**32**

Certificate: Residential HVAC

Required Major Courses			Credits
AHR	103	Fundamentals of Gas Heating	4
AHR	104	Sizing: Heating, Venting/Combustion Air Systems	4
AHR	105	Electricity for HVAC/R	4
PLU	105	Piping Skills	4
AHR	110	Refrigeration Fundamentals	4
AHR	122	Air Conditioning Systems	4
AHR	125	Refrigeration Recovery Certification Training	1
AHR	132	Air Conditioning and Refrigeration Controls	4
AHR	140	Residential Sheet Metal	4
AHR	142	Servicing Residential Forced Air Systems	4
AHR	145	Sizing Residential Forced Air Systems	4
AHR	162	Heating Controls	4
AHR	190	Air Conditioning Systems Service and Repair	4
AHR	206	Hot Water Heating Systems	4
AHR	208	Radiant Heating Systems	4
AHR	216	Uniform Mechanical Code	4
AHR	260	Estimating Residential HVAC Systems	4
		Total Required Credits	**65**

Certificate: Residential Hydronic Heating

Required Major Courses			Credits
AHR	103	Fundamentals of Gas Heating	4
AHR	104	Sizing: Heating, Venting/Combustion Air Systems	4
AHR	105	Electricity for HVAC/R	4
PLU	105	Piping Skills	4
AHR	151	Low Pressure Steam Heating	4
AHR	162	Heating Controls	4
AHR	206	Hot Water Heating Systems	4
AHR	208	Radiant Heating Systems	4
AHR	216	Uniform Mechanical Code	4
		Total Required Credits	**36**

Certificate: Air Conditioning, Heating/Refrigeration Apprenticeship Program

Required Major Courses			
AHR	105	Basic Electricity	4
AHR	110	Refrigeration Fundamentals	4
AHR	125	EPARefrigeration Certification	1
AHR	103	Heating Fundamentals	4
AHR	104	Sizing: Heating, Venting, Combustion	4
AHR	132	Air Conditioning Controls	4
AHR	140	Sheet Metal (Residential)	4
AHR	162	Heating Controls	4
AHR	216	Uniform Mechanical Code OR	
CON	105	Blueprint Reading	4
		Total Required Credits	**33**

Certificate: Commercial Refrigeration Apprenticeship Program

Required Major Courses			
AHR	105	Basic Electricity	4
AHR	110	Refrigeration Fundamentals	4
AHR	125	EPARefrigeration Certification	1
AHR	132	Air Conditioning Controls	4
AHR	230	Commercial Refrigeration 1	4
PLU	105	Piping Skills	4
AHR	216	Uniform Mechanical Code	4
CON	100	Computers for Construction OR	
CON	105	Blueprint Reading	4
AHR	278	Advanced Refrigeration Lab	4
		Total Required Credits	**33**

Carpentry (CAR)

This program provides theory and hands-on training for job-entry skills through craftsman level competencies in a variety of areas in addition to general carpentry classes. Areas of emphasis are designed to meet individual needs, whether you are a part- or full-time student.

Courses are competency-based. Variable credit classes are available to fit your schedule. Courses may be repeated up to three times to increase proficiency. All classes are open to all skill levels unless otherwise noted. Additional unlisted topics are available through independent study. Personal tool requirements increase with proficiency. Please see a Construction Technology Advisor. **303.914.6511**

Associate of Applied Science: Carpentry

			Credits
General Education Requirements			15
Construction Technology Requirements			10
			25
Required Major Courses			
CAR	152	Tools	4
CAR	XXX	Carpentry Class from Structure Category	4
CAR	XXX	Carpentry Class from Structure Category	4
CAR	XXX	Carpentry Class from Specialities Category	4
CAR	XXX	Carpentry Class from Trade Skills Category	4
CAR	XXX	Carpentry Class from Exterior Finishes Category	4
CAR	232	Carpentry Lab or	
CAR	233	Technical Project	4
CAR	XXX	Carpentry Class from Specialties Category	4
		Total Required Credits	**61**

Certificate: Carpentry

Required Major Courses			
CON	151	Construction Process	4
CAR	152	Tools: Hand and Power/Portable and Stationary	4
Choose a minimum of 4 credits from each category:			
Structure	4		
Exterior Finishes	4		
Specialties			4
Trade Skills			4
CAR/FIW Electives (must have approval of your advisor)			8
		Total Required Credits	**32**

Choose the number of credits shown from each group.

Structure			**8**
CAR	107	Site Preparation	
CAR	108	Foundation Systems	
CAR	109	Floor Framing	
CAR	110	Wall Framing	
CAR	111	Roof Framing	
CAR	112	Stair Framing	
CAR	113	Framing Labs	
CAR	114	Formwork Lab	
Exterior Finishes			**4**
CAR	200	Exterior Trim	
CAR	201	Commercial Roofing Project	
CAR	202	Exterior Finishes Lab	
CAR	205	Exterior Doors and Windows	
CAR	206	Exterior Wall Coverings	
CAR	207	Roof Coverings	
Specialties			**8**
CAR	208	Interior Finishes	
CAR	215	Cabinet Installation, Countertops & Built-Ins	
CAR	216	Drywall Construction	
CAR	218	Commercial and Tenant Finishes	
CAR	220	Remodeling, Renovation and Additions	
CAR	221	Building Maintenance	
Trade Skills			**8**
CON	100	Computers for Construction	
CON	228	Cost Estimation	
CAR	150	Construction Materials	
CAR	224	Contracting and the Construction Business	
CAR	225	Building Codes, Permits, Inspection, Compliance and Variances	
CAR	227	Construction Licensing	
CAR	229	Contractors' and Builders' Seminar	
CAR	232	Carpentry Lab	

or

CAR	233	Technical Project for Specialty Trade

Electricity—Commercial/Industrial/Residential (EIC)

This program is designed to prepare you for the many career opportunities in the electrical industry. Athorough 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 state license and NICET certification examinations. This program is excellent for job upgrading, electricians, engineers, fireman, building department inspectors, and maintenance personnel. This program uses an extensive lab environment for important hands-on experience in electrical classes. Please see a Construction Technology Advisor. 303-914-6511

Associate of Applied Science: Maintenance Electrician

			Credits
General Education Requirements			15
Construction Technology Requirements			10
			25
Required Major Courses			
EIC	100	Electrical Construction and Planning	4
EIC	105	Basics AC & DC Electricity	4
EIC	120	Electrical Installations II	4
EIC	155	AC Circuit Fundamentals	4
EIC	170*	Solid State Circuits and Devices	4
EIC	210	Advanced National Electrical Code	4
EIC	220	Industrial Electrical Controls	4
EIC	225	Programmable Controllers	4
EIC	230*	AC/DC Machines: Theory and Applications	4
EIC	235*	Transformers and Power Distribution	4
EIC	240*	Fire Alarm Fundamentals	4
*Take 2 of 4 classes marked.			
		Total Required Credits	**61**

Associate of Applied Science: Construction Electrician

			Credits
General Education Requirements			15
Construction Technology Requirements			10
			25
Required Major Courses			
EIC	100	Electrical Construction and Planning	4
EIC	105	Basics AC & DC Electricity	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
EIC	190*	Electrical Code Calculations	4
EIC	240*	Fire Alarm Fundamentals	4
		Total Required Credits	**61**

*Take 2 of the 4 classes marked.

Certificate: Construction Electrician

Required Major Courses			Credits
CON	105	Blueprint Reading	4
CON	151	Construction Process	3
EIC	100	Electrical Construction and Planning	4
EIC	105	Basics of AC and DC Electricity	4
EIC	120	Electrical Installations I	4
EIC	130	National Electric Code I	4
EIC	135	National Electric Code II	4
EIC	190	Electrical Code Calculation	4
EIC	240	FIre Alarm Fundmentals	4
		Total Required Credits	**35**

Certificate: Advanced Construction Electrician*

Required Major Courses			Credits
CON	105	Blueprint Reading	4
EIC	120	Electrical Installation 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
EIC	190	Electrical Code Calculations	4
EIC	205	Advanced Electrical Planning	4
		Total Required Credits	**32**

*Requires Construction Electrician Certificate or instructor's approval.

Certificate: Electrical Installation

Required Major 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 Required Credits	**16**

Certificate: National Electrical Code Certificate

Required Major Courses			Credits
EIC	130	National Electrical Code I	4
EIC	135	National Electrical Code II	4
EIC	190	Electrical Code Calculations	4
		Total Required Credits	**12**

Certificate: Residential Construction Electrician

Required Major Courses			Credits
CON	105	Blueprint Reading	4
EIC	100	Electrical Construction and Planning	4
EIC	105	Basics of AC and DC Electricity	4
EIC	110	Electrical Installations I	4
EIC	130	National Electric Code I	4
		Total Required Credits	**20**

Degree: Associate of Applied Science in Construction Technology with an Emphasis in IBEW/NECA

Construction Electrician Via CCC On-Line

Greg Morey, Academic Advisor – **303.914.6242** – greg.morey@rrcc.cccoes.edu

Rich Thatcher: Electrical Program Faculty – rich.thatcher@rrcc.cccoes.edu

You can earn an Associate of Applied Science degree in Construction Technology with an Emphasis in IBEW/NECAConstruction Electrician. Utilize your four or five years of apprenticeship schooling and combine it with an articulation agreement between IBEW/NECAand Red Rocks Community College.

The objective of the program is to allow members having served their apprenticeship program through the National Joint apprenticeship (NJATC) to earn an associate's degree. This program allows you to combine your excellent trade skills with your academic skills.

After completing the IBEW/NECA NJATC apprenticeship program, Red Rocks Community College will grant forty-three (43) credits toward the degree. You will need to complete eighteen (18) hours of general education requirements at (Red Rocks Community College) offered through CCCOnline to complete the degree.

IBEW/NECA Members Graduation Requirements and Policy

1. Proof of completion of IBEW/NECAWireman or Outside Lineman NJATC programs.
2. Acumulative grade point average of 2.0 (a "C" average)
3. Eighteen approved credit hours must be earned through RRCC and/or CCCOnline.
4. File an Application for Graduation before completing your last class.
5. Resolve all financial obligations to the college and return all college-owned materials.

Associate of Applied Science in Construction

Required Major Courses	Credits
Technology with an Emphasis in IBEW/NECA	
English or Speech	3
Mathematics	3
Credit from any two of the following three areas;	6
Area 1 - Humanities,	
(art, foreign language, literature, music, philosophy, theater)	
Area 2 - Science	
Astronomy, biology, chemistry, geology, physics)	
Area 3 - Social and Behavioral Sciences	
(Anthropology, economics, geography, history, political science, psychology, sociology)	
Electives form any of the above subjects;	3
Computer Science	3
Total Required Credits	**18**

Associate of Applied Science in Construction Technology with an Emphasis in Power Technology

Via CCC On-Line
Greg Morey, Academic Advisor – **303.914.6242** –
greg.morey@rrcc.cccoes.edu

Rich Thatcher: Electrical Program Faculty – rich.thatcher@rrcc.cccoes.edu

Rocks Community College Catalog.

Line Technician	Substation Electrician
Meter Specialist	Apparatus Electrician
Instrument & Control Specialist	Electrician Specialist
Mechanic Specialist	Power Plant Operator
*Field Engineering Specialist	*Relay & Control Specialist
*Standards Specialist	*Utility Engineering Technician

* Upon program approval by the Department of Labor.

Articulation Agreement Construction Technology with Emphasis in Power Technology

An Associate of Applied Science Degree is available for those currently enrolled or has completed their 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 via CCC online.

By utilizing your apprentice training and just six additional classes, you may obtain a degree online, at home, and at times of you're choosing. All AAS degrees will articulate with a variety of colleges and universities if you elect to pursue a Baccalaureate Degree.

Graduation Requirements and Policy

1. Proof of completion above listed programs.
2. Acumulative grade point average of 2.0 (a "C" average)
3. Eighteen approved credit hours must be earned through RRCC and CCCOnline.
4. File an Application for Graduation before completing your last class.
5. Resolve all financial obligations to the college and return all college-owned materials.

Degree Requirements:

Power Technology Apprenticeship	43

Credit for your Apprenticeship will be granted after completion of your apprenticeship and a minimum of 18 credits from the below options, and upon application for graduation, which must be made at the start of the last semester of classes through RRCC.

English/Speech/Communications (choose one)	3
Mathematics (choose one)	3
Computer Science (choose one)	3
Two Classes from the following three areas: Humanities Science Social and Behavioral Sciences	6
General Education Electives (choose one)	3
MINIMUM TOTALCREDITS	**61**

Certificate: Maintenance Electrician

Required Major Courses			Credits
CON	100	Computers for Construction	2
CON	105	Blueprint Reading	4
EIC	105	Basics of AC and DC Electricity	4
EIC	120	Electrical Installations II	4
EIC	130	National Electric Code I	4
EIC	135	National Electric Code II	4
EIC	230	AC/DC Machines: Theory and Applications	4
EIC	220	Industrial Electrical Controls I	4
EIC	240	Fire Alarm Fundamentals	4
		Total Required Credits	**34**

Certificate: Advanced Maintenance Electrician*

Required Major Courses			Credits
CON	105	Blueprint Reading	4
EIC	105	Basics of AC and DC Electricity	4
EIC	100	Electrical Maintenance Techniques	4
EIC	160	Electrical Instruments and Measurements	4
EIC	210	Advanced National Electrical Code	4
EIC	215	Advanced Code Calculations	4
EIC	225	Programmable Controllers	4
EIC	230	AC/DC Machines: Theory and Applications	4
EIC	235	Transformers and Power Distribution	4
		Total Required Credits	**36**

*Requires Certificate for Maintenance or instructor's approval.

Certificate: Post-Degree Specialization for Advanced Construction Electrician*

Required Major 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 Required Credits	**16**

*Prerequisite: AAS Degree Construction Electrician Emphasis or instructor's approval.

Certificate: Post-Degree Specialization for Advanced Maintenance Electrician*

Required Major Courses			Credits
EIC	170	Solid State Devices and Circuits	4
EIC	220	Industrial Electrical Controls I	4
EIC	225	Programmable Controllers	4
EIC	235	Power Transformers and Distribution	4
		Total Required Credits	**16**

*Prerequisite: AAS Degree Maintenance Electrician Emphasis or instructor's approval.

Associate of Applied Science Degree with an Emphasis in Data Communication Technician

***Courses have special pricing/in partnership with NMFOTC**

General Education Requirements

English/Speech (COM, ENG, SPE)	3
Mathematics (MAT114)	3
Credit from any two of the following three areas:	6
Humanities (ART, FRE, GET, HUM, LIT, MUS, PHI, SPA, THE)	
Science (AST, BIO, CHE, GEY, PHY)	
Social and Behavioral Sciences (ANT, ECO, GEO, HIS, POS, PSY, SOC)	
General Education Electives	3
Total	**15**

CON	105	Blueprint Reading	4
EIC	100	Electrical Construction and Planning	4
EIC	105	Basics of AC and DC Electricity	4
EIC	120	Electrical Installations II	4
EIC	130	National Electrical Code I	4
EIC	135	National Electrical Code II	4
EIC	280*	Fiber Optic Levels 1, 2 & 3	2
EIC	281*	Electrical Considerations for Telecommunications	.5
EIC	282*	Electrical Estimating	1
EIC	283*	Structured Cabling Systems Distribution Certification	.5
EIC	284*	Certification for Residential Voice/Data and Systems Networks	1.5
EIC	285*	Voice/Data Cat Rated Cabling Distribution	1
EIC	286*	LAN Troubleshooting, Repair and Certifying	1
EIC	287*	NICET Levels 1 & 2 Exam Preparation	2
EIC	288*	RCDD Pre-study Course (Condensed)	1.5
EIC	289*	RCDD Pre-study Course	2
EIC	291*	Estimating for Voice/Data Low Voltage Integration and Systems	1.5
EIC	292*	Project Management	1
EIC	293*	Voice/Data Engineering Design	2
EIC	294*	Specifications Analysis	.5
EIC	295*	Specifications Writing for Engineers	1
EIC	296*	Grounding and Bonding	1
EIC	298*	Conest Software Telecommunications Estimating	1
		Total	**60**

Associate of Applied Science Degree with an Emphasis in Data Communication Designer

***Courses have special pricing/in partnership with NMFOTC**

General Education Requirements

English/Speech (COM, ENG, SPE)	3
Mathematics (MAT114)	3
Credit from any two of the following three areas:	6
Humanities (ART, FRE, GET, HUM, LIT, MUS, PHI, SPA, THE)	
Science (AST, BIO, CHE, GEY, PHY)	
Social and Behavioral Sciences (ANT, ECO, GEO, HIS, POS, PSY, SOC)	
CNT 293 Voice/Data Engineering Design	2
CNT 295 Specifications Writing for Engineers	1
Total	**15**

CON	105	Blueprint Reading	4
CON	228	Construction Estimating	3
EGT	120	Intermediate CADD Applications	3
EIC	100	Electrical Construction and Planning	4
EIC	105	Basics of AC and DC Electricity	4
EIC	130	National Electrical Code I	4
EIC	135	National Electrical Code II	4
EIC	280	*Fiber Optic Levels 1, 2 & 3	2
EIC	281	*Electrical Considerations for Telecommunications	.5
EIC	283*	Structured Cabling Systems Distribution Certification	.5
EIC	282*	Electrical Estimating	1
EIC	284*	Certification for Residential Voice/Data and Systems Networks	1.5
EIC	285*	Voice/Data Cat Rated Cabling Distribution	1
EIC	286*	LAN Troubleshooting, Repair and Certifying	1
EIC	287*	NICET Levels 1 & 2 Exam Preparation	2
EIC	288*	RCDD Pre-study Course (Condensed)	1.5
EIC	289*	RCDD Pre-study Course	2
EIC	291*	Estimating for Voice/Data Low Voltage Integration and Systems	1.5
EIC	292*	Project Management	1
EIC	294*	Specifications Analysis	.5
EIC	296*	Grounding and Bonding	1
EIC	298*	Conest Software Telecommunications Estimating	1
		Total	**59**

Certificate: Data Communications

***Courses have special pricing/in partnership with NMFOTC**

EIC	280*	Fiber Optic Levels 1, 2 & 3	2
EIC	281*	Electrical Considerations for Telecommunications	.5
EIC	282*	Electrical Estimating	1
EIC	283*	Structured Cabling Systems Distribution Certification	.5
EIC	284*	Certification for Residential Voice/Data and Systems Networks	1.5
EIC	285*	Voice/Data Cat Rated Cabling Distribution	1
EIC	286*	LAN Troubleshooting, Repair and Certifying	1
EIC	287*	NICET Levels 1 & 2 Exam Preparation	2
EIC	288*	RCDD Pre-study Course (Condensed)	1.5
EIC	289*	RCDD Pre-study Course	2
EIC	291*	Estimating for Voice/Data Low Voltage Integration and Systems	1.5
EIC	292*	Project Management	1
EIC	293*	Voice/Data Engineering Design	2
EIC	294*	Specifications Analysis	.5
EIC	295*	Specifications Writing for Engineers	1
EIC	296*	Grounding and Bonding	1
EIC	298*	Conest Software Telecommunications Estimating	1
		Total	**21**

Manufacturing Technology

Associate of Applied Science

Competitive Colorado manufacturing must bring quality products to state, national and international markets in the shortest possible time. To do so, Colorado manufacturing firms require employees with knowledge and skills in technology application, engineering and design, production processes-planning and control, equipment maintenance, communication, and data manipulation and file exchange.

Increasingly, complex automated industrial environments are requiring maintenance, diagnosis, and troubleshooting of modern systems in the work place in tandem with preventive maintenance techniques and competency for job safety. In Colorado, these sophisticated environments necessitate knowledge and skills from basic electrical and mechanical capabilities to competencies for integration of electromechanical systems.

Electromechanical Industrial Maintenance is an expanding area for employment. Within a number of workplaces, integration of electromechanical systems and devices requires that industrial maintenance technicians have competencies and know-how in electronics, electrical wiring, quality control, motor controls, programmable logic controllers, industrial mechanics, welding, vacuum systems, troubleshooting and others.

Electro-Mechanical Industrial Maintenance Technology Option

In conjunction with the Manufacturing Academy at Higher Education and Advanced Technology (HEAT) Center at Lowry.

			Credits
General Education Requirements			
PHY	106	Physics for Technicians	4
CIS	118	Microcomputer Applications	4
ENG	131	Technical Writing	3
MAT	114	Career Mathematics	4
New Course		Engineering Communication & Teamwork	3
			18
Common Technical Core			
ITE	135	Hazardous Materials	1
EIC	105	Basic AC/DC	4
New Course		Lifting Devices	2
ETE	237	Fluidics: Hydraulics and Pneumatics	3
			10
Technical Core Curriculum: Electrical			
EIC	120	Electrical Installations II	4
EIC	210	National Electric Code	4
EIC	220	Industrial Electrical Controls I	4
New Course		Solid State to Inverters	4
ETE	127	Digital Devices	5
EIC	225	Programmable Controllers	4
ELT	225	Sensors and Detectors	3
New Course		Electrical Print Reading/Schematics	3
MAC	256	Industrial Components	3
WFT	102	Oxy-Fuel Gas Cutting and Welding	3
MTR	205	Electrical Instrumentation	4
			45
		Total Required Credits	**72**

Industrial Maintenance Technology Option

Associate of Applied Science Degrees and Certificate

General Education Requirements			
MAT	114	Career Mathematics	4
PHY	106	Physics for Technicians	4
CIS	118	Microcomputer Applications	4
ENG	131	Technical Writing	3
XXX		Science of Communication – elective	3
		General Education	**18**
Technical Core Requirements			
MTR	104	Statistical Process Control	3
MTE	110	Communication & Teamwork	3
XXX		Solid State Devices	6
XXX		Electromechanical & Fluid Devices	3
XXX		Electromechanical Systems	3
		Technical Core	**24**
Industrial Maintenance Technology: Integrated Option			
XXX		Digital Circuits and Systems	6
XXX		Automation Systems	3
MAS		Machining for Industrial Maintenance	3
WFT		Industrial Maintenance Welding	3
XXX		Programmable Logic Controllers	3
ELT	225	Sensors and Detectors	3
XXX		Mechanical Components I	3
XXX		Mechanical Components II	3
MTR	205	Electrical Instrumentation	4
XXX		Electrical Print Reading & Schematics	3
Industrial Maintenance: Integrated Option			**34**
Industrial Maintenance: Integrated Option			
		Total	**75**

Industrial Maintenance Technology: Mechanical Option

MAS		Machining for Industrial Maintenance	3
WFT		Industrial Maintenance Welding	3
XXX		Print Reading	3
XXX		Mechanical Components I	3
XXX		Mechanical Components II	3
XXX		Programmable Logic Controllers	3
ELT	225	Sensors and Detectors	3
MTR	106	Electrical Instrumentation	4
MTR	105	Physical Metrology I	4
XXX		Systems & Trouble Shooting	3
Industrial Maintenance: Mechanical Option			**32**
Industrial Maintenance: Mechanical Option			
		Total	**73**

Industrial Maintenance Technology: Electrical Option

XXX		Digital Circuits & Systems	6
XXX		Electrical Print Reading & Schematics	3
XXX		Automation Systems	3
EIC	210	National Electrical Code	4
XXX		Mechanical Components I	3
XXX		Programmable Logic Controllers	3
ELT	225	Sensors and Detectors	3
MTR	205	Electrical Instrumentation	4
XXX		Systems & Trouble Shooting	3
Industrial Maintenance: Electrical Option			**32**
Industrial Maintenance: Electrical Option			
		Total	**73**

Industrial Maintenance Technology: Certificate

MAT	114	Career Mathematics	4
PHY	106	Physics for Technicians	4
CIS	118	Microcomputer Applications	4
ENG	131	Technical Writing	3
MTR	104	Statistical Process Control	3
MTE	110	Communication & Teamwork	3
XXX		DC and AC Circuits	6
XXX		Electromechanical & Fluid Devices	3
MAS		Machining for Industrial Maintenance	3
WFT		Industrial Maintenance Welding	3
XXX		Mechanical Components I	3
Industrial Maintenance Certificate			**39**

Manufacturing Technologies Associate of Applied Science Degree

Semiconductor Manufacturing Technology Option

General Education Requirements

MAT	160	College Algebra	4
MAT	161	College Trigonometry	3
PHY	111	College Physics I, Algebra-based	5
PHY	112	College Physics II, Algebra-based	5
CHE	111	College Chemistry I, with lab	5
ENG	131	Technical Writing	3
		General Education	**25**

Technical Core Requirements

MTR	104	Statistical Process Control	3
MTE	110	Communication & Teamwork	3
XXX		Solid State Devices	6
XXX		Electromechanical & Fluid Devices	3
XXX		Electromechanical Systems	3
		Technical Core	**24**

Semiconductor Manufacturing Technology Option

XXX		Digital Circuits & Systems	6
XXX		Automation Systems	3
XXX		Power RF	3
PHV	134	Introduction to Vacuum Systems	3
PHV	232	Vacuum Systems II	3
XXX		Semiconductor Manufacturing Process I	3
XXX		Semiconductor Manufacturing Process II	3
Semiconductor Manufacturing Technology			**24**
Semiconductor Manufacturing Technology			
		Total	**73**

Semiconductor Manufacturing Certificate

MAT	160	College Algebra	4
MAT	161	College Trigonometry	3
PHY	111	College Physics I, Algebra-based	5
CHE	111	College Chemistry I, with lab	5
ENG	131	Technical Writing	3
MTR	104	Statistical Process Control	3
MTE	110	Communication & Teamwork	3
XXX		Electromechanical & Fluid Devices	3
PHV	134	Introduction to Vacuum Systems	3
XXX		Semiconductor Manufacturing Processes I	3
Semiconductor Manufacturing Technology Certificate			**41**

Fine Woodworking (FIW)

(See Carpentry)

This program provides theory and hands-on training for entry skills through craftsman-level competencies. Day and evening classes for part- or full-time students range from the areas of millwork, cabinetmaking, furniture making, restoration and repair, toolmaking and related topics in fine woodworking from boat and musical instrument making to bending and veneering. Courses are competency-based. Courses may be repeated up to three times to increase proficiency. All courses are sequenced as shown in the certificate.

Please see a Construction Technology advisor. **303.914.6511**

Associate of Applied Science: Fine Woodworking

			Credits
General Education Requirements			15
Construction Technology Requirements			10
			25
Required Major Courses			
FIW	100	Fundamentals of Woodworking	4
FIW	125	Finishing Wood	4
FIW	201	Joinery	4
FIW	208	Furniture Repairs	4
FIW	209	Cabinetmaking	4
FIW	215	Advanced Joinery	4
FIW	XXX	Elective	4
FIW	220	Advanced Furniture and Cabinet Construction	4
FIW	XXX	Elective	4
		Total Required Credits	**61**

Certificate: Fine Woodworking

			Credits
Required Major Courses			
FIW	100	Fundamentals of Woodworking	4
FIW	125	Finishing Wood	4
FIW	201	Joinery	4
FIW	208	Furniture Repairs	4
FIW	209	Cabinetmaking	4
FIW	215	Advanced Joinery	4
FIW	220	Advanced Furniture/Cabinet Construction	4
Electives			
FIW/CAR	Electives (must have approval of your advisor)		4
		Total Required Credits	**32**

Certificate: Post-Degree Specialization for Master Craftsman*

This program expands skills to the level of Master Craftsman. You are expected to develop individual portfolios; demonstrating your ability to setup and maintain equipment and design and build original pieces and demonstrate specific skills through presentations for each course. Design skills and drawing proficiency are required. If you cannot demonstrate adequate ability, additional courses are required. AMaster 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.

			Credits
Required Major Courses			
FIW	106	Planemaking	3
FIW	108	Toolmaking & Jigs	3
FIW	116	Cabriole Leg and Queen Anne Furniture	2
FIW	118	Lathe Turning	2
FIW	122	Wood Carving	2
FIW	125	Finishing Wood	4
FIW	128	Doormaking	4
FIW	150	Period Furniture Making	4
FIW	200	Veneering and Marquetry	2
FIW	205	Tablemaking	4
FIW	206	Chairmaking	4
FIW	208	Furniture Repairs	2
FIW	210	Bending and Laminating	2
FIW	211	Shop Carpentry	2
FIW	215	Advanced Joinery	4
FIW	217	Advanced Cabinetmaking	4
		Total Required Credits	**48**

* Prerequisite: Fine Woodworking Certificate or Degree or permission of Fine Woodworking Department.

Fire Protection Technology Degree: Associate of Applied Science

This degree prepares the student for entry into a career in fire alarm systems design, a fire alarm systems technician, or fire sprinkler systems design. This degree is also useful for anyone working for building or fire departments doing 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 & IV is included in the program.

AAS Degree with area of emphasis in Fire Alarm and Detection

FST	102	Intro to Fire Science and Suppression	3
EIC	105	AC/DC Circuit Fundamentals	4
FST	104	Fire Protection Systems	3
CON	105	Blueprint Reading	4
EIC	240	Fire Alarm Fundamentals	4
EIC	241	Advanced Fire Alarm Systems	4
FST	204	Fire Codes and Ordinances	3
EGT	120	Intermediate CADD Applications	3
EIC	242	National Fire Alarm Code	4
EIC	243	National Fire Alarm Code Calculations	4
EIC	287	NICET I & II	1
EIC	130	National Electrical Code I	4
EIC	135	National Electrical Code II	4
General Education Classes			15
		Total	**60**

Fire Code Certificate

FST	204	Fire Codes and Ordinances	3
EIC	242	National Fire Alarm Code	4
EIC	130	National Electrical Code I	4
EIC	135	National Electrical Code II	4
EIC	287*	NICET I, II	1
EIC	278*	NICETIII	1
EIC	270*	NICETIV	1
		Total	**22**

Fire Alarm and Detection Technician Certificate

FST	102	Intro to Fire Science and Suppression	3
EIC	150	DC Circuit Fundamentals	4
EIC	155	AC Circuit Fundamentals	4
FST	104	Fire Protection Systems	3
CON	105	Blueprint Reading	4
EIC	240	Fire Alarm Fundamentals	4
EIC	241	Advanced Fire Alarm Systems	4
FST	204	Fire Codes and Ordinances	3
EIC	242	National Fire Alarm Code	4
EGT	120	Intermediate CADD Appications	3
		Total	**36**

Plumbing (PLU)

This program is designed to give you basic job-entry skills. It is also intended for job upgrading in special areas and for preparation of plumbers for all of the State Plumbing Exams. Please see a Construction Technology Advisor.
(303) 915-6511

Associate of Applied Science in Construction Technology Plumbing Emphasis

			Credits
General Education Requirements			15
Construction Technology Requirements			10
			25
Required Major Courses			
PLU	101	Introduction to Plumbing	4
PLU	105	Piping Skills	4
PLU	110	Waste and Vent Code Requirements	4
PLU	112	Residential Plumbing	4
PLU	118	Plumbing Service	4
PLU	200	Backflow Prevention Certification	3
PLU	212	Commercial and Multi-Story Projects	4
PLU	216	Uniform Plumbing Code	4
CON	100	Computers for Construction	2
PLU	255	Medical Gas	2
PLU	260	Estimating Plumbing Costs	4
		Total Degree Requirements	**62**

Certificate: Colorado Plumbing Code Test Preparation

PLU	116	Soldering and Brazing Skills	.5
PLU	216	Uniform Plumbing Code	4
		Total Required Credits	**4.5**

Certificate: Residential Plumbing

PLU	101	Introduction to Plumbing	4
PLU	105	Piping Skills	4
PLU	110	Waste and Vent Code Requirements	4
PLU	112	Residential Plumbing	4
PLU	114	Piping Lab	2
PLU	118	Plumbing Service	4
PLU	216	Uniform Plumbing Code	4
CON	105	Blueprint Reading	4
		Total Required Credits	**30**

Associate of Applied Science in Construction Technology in Partnership with United Association of Plumbing and Pipefitting Emphasis

Degree: RRCC/UA Plumber/Pipefitter

This degree allows a UA member, having documentation of completion of a UA apprenticeship, to complete the necessary academic credits for an Associate of Applied Science Degree.

Credits from Articulated Apprenticeship Program	43
General Education Requirements	15
Computer Skills	2
Total	**60**

Certificate: Journey Level Plumbing

CON	151	Construction Process	4
PLU	200	Backflow Prevention Certificate	3
PLU	260	Estimating Plumbing Costs	4
PLU	212	Commercial and Multi-Story Project	4
PLU	225	Technical Project	3
PLU	232	Commercial Plumbing Service	2
PLU	255	Medical Gas	2
		Residential Certificate Credits	**28**
		Journey Level Course Credits	**28**
		Total Required Credits	**57**

Certificate: Residential Plumbing and Heating

Required Major Courses			
PLU	101	Introduction to Plumbing	4
PLU	105	Piping Skills	4
PLU	110	Waste and Vent Code Requirements	4
PLU	112	Residential Plumbing	4
PLU	118	Plumbing Service	4
PLU	206	Hot Water Heating Systems	4
CON	105	Blueprint Reading	4
PLU	216	Uniform Plumbing Code	4
AHR	103	Fundamentals of Gas Heating	4
AHR	104	Sizing: Venting, Comb. Air & Heat Systems	4
AHR	105	Electricity for HVAC/R	4
AHR	140	Residential Sheetmetal	4
AHR	142	Servicing Forced Air Systems	4
AHR	162	Heating Controls	4
AHR	216	Uniform Mechanical Code	4
		Total Required Credits	**60**

Associate of Applied Science: Active Solar Construction Technology

The program is designed to provide the knowledge and skills necessary for job entry into the solar energy installation and maintenance field. Upgrading and refresher courses are offered for those already employed in the field.

			Credits
General Education Requirements			15
Construction Technology Requirements			10
			25
Required Major Courses			
PLU	101	Introduction to Plumbing	4
PLU	114	Piping Lab	2
PLU	206	Hot Water Heating Systems	4
PLU	207	Basic Solar Energy	3
ENT	125	Basic Solar Design and Layout	3
ENT	126	Solar Collectors	3
ENT	225	Solar Domestic Hot Water Systems	3
ENT	226	Solar Panel Installation	4
ENT	298	Solar Labs	4
AHR	103	Fundamentals of Gas Heating	4
AHR	142	Servicing Residential Forced Air Systems	4
		Total Required Credits	**62**

Associate of Applied Science: Passive Solar Construction Technology

The program provides the knowledge and skills necessary for job entry. Upgrading and refresher courses are offered for those already employed in the field.

			Credits
General Education Requirements			15
Construction Technology Requirements			10
			25
Required Major Courses			
PLU	207	Basic Solar Energy	3
ENT	141	Passive Solar Systems I	3
BRI	120	Construction Elective	3
ENT	145	Passive Solar Retrofit	3
AHR	103	Fundamentals of Gas Heating	4
EGT	110	Basic CADD	6
EGT	120	Intermediate CADD	3
EGT	121	intermediate CADD: Architectural	3
EGT	130	Three Dimensional CADD	3
EGT	131	Three Dimensional CADD: Architectural	3
ENT	298	Solar Lab	3
		Total Required Credits	**62**

Certificate: Solar Construction

Required Major Courses			
ENT	125	Basic Solar Design and Layout	3
ENT	126	Solar Collectors	3
ENT	225	Solar Domestic Hot Water Systems	3
ENT	298	Solar Lab	3
AHR	103	Fundamentals of Gas Heating	4
AHR	142	Servicing Forced Air Systems	4
PLU	101	Introduction to Plumbing	4
PLU	114	Piping Lab	2
PLU	206	Hot Water Heating Systems	4
		Total Required Credits	**30**

Apprentice-Related Technology

All apprentice-related courses are taught in cooperation with the Construction Industry Training Council. Apprentice classes require 1000 hours of on-the-job training in conjunction with each class. You must have the approval of the Chair of Construction Technology. **303.914.6511**

Associate of Applied Science: Apprentice-Related (Applicable Trade)

	Credits
General Education Requirements	15
Construction Technology Requirements	10
Apprentice Trade-Related Certificate	16-40
Construction Technology Electives (see CT Advisor)	4-20
Total Required Credits	**60**

Certificate: Apprentice-Related Carpentry

ARC	111	Carpentry I	4
ARC	112	Carpentry I (continued)	4
ARC	121	Carpentry II	4
ARC	122	Carpentry II (continued)	4
ARC	131	Carpentry III	4
ARC	132	Carpentry III (continued)	4
ARC	141	Carpentry IV	4
ARC	142	Carpentry IV (continued)	4
		Total Required Credits	**32**

Certificate: Apprentice-Related Drywall

ARD	111	Drywall Applicator I	4
ARD	112	Drywall Applicator I (continued)	4
ARD	121	Drywall Applicator II	4
ARD	122	Drywall Applicator II (continued)	4
		Total Required Credits	**16**

*This degree requires additional electives (see advisor).

Certificate: Apprentice-Related Electrical

ARE	111	Electrical I	4
ARE	112	Electrical I (continued)	4
ARE	121	Electrical II	4
ARE	122	Electrical II (continued)	4
ARE	131	Electrical III	4
ARE	132	Electrical III (continued)	4
ARE	141	Electrical IV	4
ARE	142	Electrical IV (continued)	4
		Total Required Credits	**32**

Certificate: Apprentice-Related Ironworker

ARI	111	Ironworker I	4
ARI	112	Ironworker I (continued)	4
ARI	121	Ironworker II	4
ARI	122	Ironworker II (continued)	4
ARI	131	Ironworker III	4
ARI	132	Ironworker III (continued)	4
		Total Required Credits	**24**

Certificate: Apprentice-Related Laborer

Courses marked with an asterisk (*) are required. Completing six of the eight courses satisfies the requirements for this certificate.

ARL	104	Basic Measuring and Layout	1/2
ARL	105	Crane Setup, Rigging and Signaling*	1/2
ARL	107	Scaffold Setup and Safety Certification*	1/2
ARL	112	Basic Blueprint Reading	1/2
ARL	113	Concrete Consolidation, Finishing and Tie Hole Patching*	1/2
ARL	114	Forklift and Bobcat Training	1/2
ARL	115	Scissor Lift and Boom Lift Training	1/2
ARL	116	Hand, Power and Pneumatic Tools and Compaction Operations	1/2
		Total Required Credits	**3**

Certificate: Apprentice-Related Masonry

ARM	111	Masonry I	4
ARM	112	Masonry I (continued)	4
ARM	121	Masonry II	4
ARM	122	Masonry II (continued)	4
ARM	131	Masonry III	4
ARM	132	Masonry III (continued)	4
		Total Required Credits	**24**

Certificate: Apprentice-Related Painting

ARB	111	Painting I	4
ARB	112	Painting I (continued)	4
ARB	121	Painting II	4
ARB	122	Painting II (continued)	4
ARB	131	Painting III	4
ARB	132	Painting III (continued)	4
		Total Required Credits	**24**

Certificate: Apprentice-Related Plumbing

ARP	111	Plumbing I	4
ARP	112	Plumbing I (continued)	4
ARP	121	Plumbing II	4
ARP	122	Plumbing II (continued)	4
ARP	131	Plumbing III	4
ARP	132	Plumbing III (continued)	4
ARP	141	Plumbing IV	4
ARP	142	Plumbing IV (continued)	4
		Total Required Credits	**32**

Certificate: Apprentice-Related Sheet Metal

ARS	111	Sheet Metal I	4
ARS	112	Sheet Metal I (continued)	4
ARS	121	Sheet Metal II	4
ARS	122	Sheet Metal II (continued)	4
ARS	131	Sheet Metal III	4
ARS	132	Sheet Metal III (continued)	4
ARS	141	Sheet Metal IV	4
ARS	142	Sheet Metal IV (continued)	4
		Total Required Credits	**32**

Criminal Justice

Degrees: Associate of Applied Science Associate of General Studies

Certificates: Variable

- **Investigations**
- **Victim Assistance Administration**
- **Victim Assistance Direct Service**
- **Basic Law Enforcement Training Academy**

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.** You may choose from the following emphasis areas: law enforcement, corrections,juvenile or victim assistance direct service. Certificate programs in investigations, law enforcement and victim assistance are available. The Associate of General Studies degree is articulated with Metropolitan State College of Denver *(MSCD)* for those planning to continue in the criminal justice and criminology field. An Associate of General Studies degree with an emphasis in Criminal Justice with the AA or AS core completed and stamped will be considered to have completed MSCD's lower division general studies. CRJ 290 Criminal Justice Seminar (1 credit) must be taken the semester you plan to graduate. (Summer graduates enroll Spring.)

Associate of Applied Science

Required Major Courses			**Credits**
CRJ	110	Introduction to Criminal Justice	3
CRJ	111	Substantive Criminal Law	3
CRJ	112	Procedural Criminal Law	3
CRJ	125	Law Enforcement Operations	3
CRJ	135	Judicial Function	3
CRJ	145	Correctional Process	3
CRJ	210	Constitutional Law	3
CRJ	220	Human Relations and Social Conflict	3
CRJ	211	Criminal Behavior	3
CRJ	290	Criminal Justice Seminar	1
		Total Required Credits	**28**

General Education Requirements

English/Speech			
ENG	121	English Composition I	3
SPE	115	Public Speaking	3
		or	
SPE	125	Interpersonal Communication	
MAT (100 or above)			3
HUM			
PHI	112	Ethics	3
Credit from one of the following two areas:			3
Science (AST, BIO, CHE, GEY, PHY)			
Social and Behavioral Sciences (ANT, ECO, GEO, HIS, POS, PSY, SOC)			15
Other Required Courses (Emphasis areas)*			**21**

Note: You must select an emphasis area in the Criminal Justice program. Course substitutions may be made with the permission of your faculty advisor. Those who are not presently employed in the field will be required to take a minimum of 3 credits in CRJ 297 Internship.

Total Required Credits **64**

**Criminal Justice Emphasis Areas*

Area of Emphasis: Corrections

Required Courses			**Credits**
CRJ	146	Community Based Corrections	3
CRJ	150	Introduction to Victims of Crime and Trauma	3
CRJ	225	Crisis Intervention	3
CRJ	239	Managing Emergency Worker Stress	3
CRJ	256	Classification and Treatment of Offenders	3
			15
Required Courses for Adult Corrections			
CRJ	116	Civil Liability	3
SOC	218	Sociology of Minorities	3
Required Courses for Juvenile Corrections			
CRJ	216	Juvenile Law	3
CRJ	235	Delinquent Behavior	3
		Total Required Credits	**21**

Area of Emphasis: Law Enforcement

You must complete seven law enforcement CRJ courses for a total of 21 credits. **You must confer with your CRJ Law Enforcement advisor to determine the appropriate courses**. Specific courses required may vary, depending upon your background and work experience. The RRCC Basic Law Enforcement Training Academy may be used to satisfy the requirements of the Law Enforcement Emphasis area.

Area of Emphasis: Victim Assistance

Required Courses			**Credits**
CRJ	150	Introduction to Victims of Crime and Trauma	3
CRJ	225	Crisis Intervention	3
CRJ	239	Managing Emergency Worker Stress	3
PSY	227	Death and Dying	
		or	
SOC	237	Sociology of Death and Dying	3
SOC	258	Violence and Morality	3

Choose any two courses *(6 credits)*

CRJ	151	Domestic Violence	3
CRJ	152	Sexual Assault	3
CRJ	153	Violence Against Children	3
CRJ	287	Adult Survivors of Childhood Molestation	3
		Total Required Credits	**21**

Basic Law Enforcement Training Academy P.O.S.T. Certification

This certificate program exceeds the Colorado Peace Officers Standards and Training (P.O.S.T.) requirements for Peace Officer entry level training. You will earn 27 credits during this intense couse of study. Twenty-one of these credits may be used to meet the Law Enforcement Emphasis area requirement of the Associate of Applied Science degree. This is not an open enrollment offering. You must make separate application to the Academy. See the Academy Director for details. Information: **303.914.6464** or **303.914.6462**

Required Courses			**Credits**
CRJ	101*	Basic Law Enforcement Academy	9
CRJ	102	Arrest and Control Techniques	2
CRJ	103	Law Enforcement Driving	1
CRJ	104	Firearms	2
CRJ	126*	Patrol Procedures	3
CRJ	214*	Colorado Revised Statutes	3
CRJ	240*	Criminal Investigation	3
CRJ	246*	Traffic Investigation and Management	3
PHE	100	Aerobic Conditioning	1
		Total Required Credits	**27**

**These courses may be used to satisfy the Emphasis area requirement of the Associate of Applied Science degree in Law Enforcement.*

Associate of General Studies

You are urged to consult with the criminal justice faculty advisor before beginning any program of study.

General Education Requirements			**Credits**
English/Speech			
ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3
Humanities (courses from two different disciplines) (Must include PHI 112) ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 220, 221, 222; PHI 111, 112, 113; THE 211, 212			9
Mathematics (any course from the following) MAT160, 171, 175, 201, 202			3
Science (any course from the following) AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 115, 112, 211, 212			4
Social and Behavioral Sciences (courses from two different disciplines) ANT101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; PSY101, 102; SOC 101, 102			9
			34

Required Major Courses

CRJ	110	Introduction to Criminal Justice	3
CRJ	111	Substantive Criminal Law	3
CRJ	112	Procedural Criminal Law	3
CRJ	125	Law Enforcement Operations	3
CRJ	135	Judicial Function	3
CRJ	145	Correctional Process	3
CRJ	210	Constitutional Law	3
CRJ	220	Human Relations and Social Conflict	3
CRJ	211	Criminal Behavior	3
CRJ	290	Criminal Justice Seminar	1
			28
		Total Required Credits	**62**

Certificate: Investigations

The Investigations Certificate program will be of interest to those seeking employment in the private sector or if you are seeking academic recognition in a specialized area of law enforcement.

Required Major Courses			**Credits**
CRJ	110	Introduction to Criminal Justice	3
CRJ	111	Substantive Criminal Law	3
CRJ	112	Procedural Criminal Law	3
CRJ	118	Report Writing	3
CRJ	210	Constitutional Law	3
CRJ	240	Criminal Investigation	3
CRJ	245	Interview and Interrogation	3
			21
Elective Courses *(Select two courses from the following)*			
CRJ	190	Financial Investigations	3
CRJ	218	Drug Investigative Strategies	3
CRJ	246	Traffic Investigation and Management	3
FST	252	Arson Investigation	3
			6
		Total Required Credits	**27**

Certificate: Victim Assistance Direct Service

You must have strong writing skills. A writing sample will be evaluated by the English Department. You must write at the ENG 121 level. You also need to be computer literate. If you do not have experience using a computer, you will need to take:

CIS	118	Microcomputer Applications (IBM)	5

If you are computer literate, you must demonstrate computerability prior to CIS 118 being waived. Prospective students must take the ASSET basic skills assessment test. If you score 43 or higher on the writing skills portion, you need to take ENG 121. If you score 42 or lower on the writing skills portion, you need to take ENG 105 prior to ENG 121. Writing ability and computer literacy are pre-requisitesto receiving the certificate.

			Credits
CRJ	110	Introduction to Criminal Justice	3
CRJ	150	Introduction to Victims of Crime and Trauma	3
CRJ	151	Domestic Violence	3
CRJ	152	Sexual Assault	3
CRJ	153	Violence against Children	3
CRJ	225	Crisis Intervention	3
CRJ	239	Managing Emergency Worker Stress	3
CRJ	287	Adult Survivors of Childhood Molestation	3
PSY	227	Death and Dying	3
		or	
SOC	227	Sociology of Death and Dying	(3)
SOC	258	Violence and Morality	3
		Total Required Credits	**30**

Certificate: Victim Assistance Administration

			Credits
CRJ	110	Introduction to Criminal Justice	3
CRJ	150	Introduction to Victims of Crime and Trauma	3
CRJ	239	Managing Emergency Worker Stress	3
CRJ	288	Grant Writing for Non-profit Organizations	2
ACC	121	Accounting Principles I	5
MAN	200	Human Resources Management	3
MAN	226	Principles of Management	3
MAR	216	Principles of Marketing	3
		Total Required Credits	**25**

Drywall

(See Construction Technology)

Early Childhood Professions Program

(Early Childhood Education)
For further information call: **303.914.6533**

Red Rocks Community College provides four possible alternatives for students desiring training in the Early Childhood Education field. These alternatives are:

Preschool age Group Leader Certificate	**minimum 16 credits**
Infant/Toddler Group Leader Certificate	**minimum 16 credits**
Director's Certificate	**minimum 30 credits**
AGS Degree in Early Childhood Professions	**minimum 60 credits**

Two year graduates can transfer at the junior level to a number of four year colleges in Colorado. The group leader and director certificates are approved by the State of Colorado Department of Human Services. The certificate programs of Red Rocks Community College require a greater level of training than is required by the state of Colorado for these positions.

The AGS degree and certificates in Early Childhood Professions (ECP) at Red Rocks Community College provide comprehensive training in both the underlying theories of Early Childhood Education and extensive application of quality practices in the field of early childhood. Currently the program reflects an emphasis on :

1. Primary caregiving as a model for full-time care of young children.
2. The social and emotional development of young children.
3. Observations of best quality practices at the Children's Center at Red Rocks.

4. The importance of observation for developmentlly appropriate practice.

5. Working in partnership with families.

6. The concepts and applications of child sensitive curriculum approaches.

Designed to meet the needs of ECE professionals, who are currently working, ECPclasses are only offered nights and on weekends. Classes other than ECPcan be taken during the daytime. All students should contact the Early Childhood Professions Director for advising. Considerable financial assistance is available for individuals already employed in the field.

Preschool Group Leader Early Childhood Professions

Minimum Credits Required: 16

Certificate Description:

The Preschool Group Leader certificate at Red Rocks Community College meets Colorado State Human Servicesí guidelines for Group Leader. This certificate focuses on appropriate curriculum for preschool age children. The Red Rocks Community College Preschool Group Leader Certificate requires the student to observe in the Children's Center@ Red Rocks in a number of courses.

Please refer to the program guidelines under the AGS degree.

Suggested order of Courses Preschool Emphasis

1st Session:

ECP	101	Intro to Early Childhood Professions	3
ECP	102	Intro ECP Lab	3
ECP	148	Guidance Strategies	3
			9

2nd Session:

ECP	238	Child Development	3
ECP	238	Child Development	1
ECP	227	Methods and Techniques: Curriculum Development	3
			7

By the end of 9 credit hours students need to take the assessment of basic skills. If students cannot achieve a score of 41+ in reading comprehension and 43+ in writing on the ASSET or comparable scores on other assessments, they need to seek remediation help in the Learning Development Center.

Please see other guidelines immediately after the AGS degree plan

Infant/Toddler Group Leader Early Childhood Professions

Minimum Credits Required: 16

Certificate Description:

The Infant/Toddler Group Leader certificate at Red Rocks Community College meets Colorado State Human Services'guidelines for Group Leader. This certificate focuses on the particular caregiving needs of infants, toddlers and their families. The Red Rocks Community College Infant/Toddler Group Leader Certificate requires the student to observe in the Children's Center at Red Rocks in a number of courses.

Suggested order of Courses Infant/ Toddler Emphasis

1st Session:

ECP	111	Infant and Toddler Theory and Practice	3
ECP	112	Care and Nurturing of Infants/Toddlers Lab Techniques	3
			6

2nd Session:

ECP	148	Guidance Strategies for Children	3
ECP	206	Child, Family And Community	3
or ECP	227	Methods & Techniques: Curriculum Development	
ECP or Psy 238		Child Development	3
ECP or Psy 238		Child Development Lab	1
			10

By the end of 9 credit hours students need to take the assessment of basic skills. If students cannot achieve a score of 41+ in reading comprehension and 43+ in writing on the ASSET or comparable assessment tests, they need to seek remediation help in the Learning Development Center.

Director Certificate Early Childhood Professions

Minimum Credits Required: 30

Certificate Description:

The Director's Certificate at Red Rocks Community College enriches the Colorado Human Services director certificate by offering ECP102 or ECP 112 Lab Techniques in order to provide a quality field experience in Early Childhood Education. Students are also required to chose either ECP Professional Issues for Teachers or Directors. This class addresses some of the challenges of real world practice.

All individuals seeking a certificate or an AGS degree from Red Rocks Community College must be able to pass the Asset Test of General Education Skills at a collegiate level of: 41+ in Reading Comprehension and 43+ in Writing. Comparable assessments can be used. See other suggested guidelines immediately following the AGS degree description.

In Colorado, two alternatives for fulfilling the requirements for Early Childhood Director qualification are: 1) completion of (*) courses in the Directorís certificate and two years of accrued experience or 2) completion of an Associate of General Studies and one year of accrued experience.

Suggested order of Courses

1st Session:

ECP	101	Intro to Early Childhood Professions	3
ECP	102	Intro to Early Child Professions Lab	3
ECP	148	Guidance Strategies	3
			9

2nd Session:

ECP	238	Child Development	3
ECP	239	Child Development Lab	1
ECP	227	Methods and Techniques: Curriculum Development	3
			7

By the end of 9 credit hours students need to take the assessment of basic skills. If students cannot achieve a score of 41+ in reading comprehension and 43+ in writing on the ASSET or comparable assessment, they need to seek remediation help in the Learning Development Center.

3rd Session:

ECP	205	Health Safety & Nutrition	3
ECP	216	Administration: Human Relations	3
ECP	226	Administration of Early Childhood Care and Education Programs	3
			9

4th Session

ECP	294	Professional Issues for Teachers/Directors	2

Associate of General Studies Early Childhood Professions

Minimum Credits Required: 60

All individuals seeking a certificate or an AGS degree from Red Rocks Community College must be able to pass the Asset Test of General Education Skills at a collegiate level of: 41+ in Reading Comprehension and 43+ in Writing. Comparable assessments can be used.

- When planning your course of study, some general guidelines are:
- There are a number of scholarships available to ECPmajors. Contact the program Director for more information.
- Students should plan their program of study with the Early Childhood Professions Program Director.
- Students are encouraged to take ECP101 or 111, ECP148, and ECP or PSY 238 in their first year of classes.
- Contact the Early Childhood Professions Program Director the semester prior to taking ECP102 and 112 to ensure space availability in the class.
- Some ECPcourses are offered on a two year cycle, contact the Early Childhood Professions Director for the proposed schedule of these courses.
- With prior approval of the Director of the ECPprogram substitutions may be acceptable.

1st Session:			Sem Hrs.
ENG	121	English Composition I	3
SOC	101	Sociology I or SOC 205 Marriage and Family	3
ECP	148	Guidance Strategies for Children	3
ECP or PSY238		Child Development	3
ECP or PSY238		Child Development Lab	1
ECP	101	Intro to Early Childhood Professions	3
			16

By the end of 9 credit hours students need to take the assessment of basic skills. If students cannot achieve a score of 41+ in reading comprehension and 43+ in writing they need to seek remediation help in the Learning Development Center.

2nd Session:

ECP	227	Methods and Techniques: Curriculum Development	3
PSY	101	Intro to Psychology	3
ECP	102	Intro to ECE Lab Techniques	3
ECP	206	Child, Family and Community	3
Core		Humanities elective	3
			15

3rd Session:

ECP	205	Health Safety & Nutrition	3
ECP	216	Administration: Human Relations for ECE	3
BIO	111	Biology preferred or Gey 111 or Ast 101	3-4
SPE	115	Principals of Speech Communication	3
ECP	214	Language and Cognition and the Young Child or	
ECP	237	Reggio Emilia and Vygotsky in ECE	3
			15

4th Session:

ECP	226	Admin. of Early Childhood Care and Education Programs	3
ECP	295	Professional Issues for Teacher/Directors	2
MAT	175	Statistics (Preferred) or MAT 160	3-4
			8-9

During the fourth session students should choose two of the following courses.

ECP	213	Childrenís Literature	3
ECP	215	Creativity and the Young Child	3
ECP	287	The Exceptional Child in Integrated Settings	3

Atwo year degree in Early Childhood Professions requires a minimum of 60 credit hours.

Special Notes:

With the approval of the program coordinator, electives that may be substituted for courses in the degree program

ECP	104	Basics for Child Care Professionals
ECP	105	"Grand Beginnings" Infant and Toddler Care
ECP	111, 112	Infant Toddler Series may be substituted for ECP 101-102
ECP	291	Child Care Education Certificate (1 only)

Students having considerable experience in the field or prior training should contact the Early Childhood Professions Program Director for other substitutions.

Economics

Degree: Associate of Arts Degree

Economics is the study of how our society feeds, clothes, houses and otherwise materially supports itself. It answers the fundamentalquestions of how?, what? and for whom? Graduates work in business,government and teaching 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. You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			Credits
ACC	121	Accounting Principles I	4
ACC	122	Accounting Principles II	4
ACC	226	Cost Accounting	3
ECO	201	Principles of Macroeconomics *(Core)*	3
ECO	202	Principles of Microeconomics *(Core)*	3
HIS	101	Western Civilization I *(Core)*	3
HIS	102	Western Civilization II *(Core)*	3
HIS	137	Contemporary World History	3

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (courses from two different disciplines) 9
ART110, 211, 212; Foreign Language 111, 112, 211, 212;
HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222;
PHI 111, 112, 113; THE 211, 212

Mathematics (any course from the following) 3
MAT160, 171, 175, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112;
GEY 111, 121; PHY105, 111, 112, 211, 212

Electives **11**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **60**

Electrical

(See Construction Technology)

Emergency Management and Planning

Degree: Associate of Applied Science

(Offered through CCCOnline)

Completion of this curriculum prepares you for:

- Entry into a career in Emergency Management and Planning
- Promotion within an Emergency Management 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 access flexibility and avoiding lengthy and costly travel. Registration for the program is accomplished over the INTERNETat **www.ccconline.org**. (Pick Red Rocks, then Emergency Management and Planning).

For more information call: **303.914.6333**

Major 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	241/247	Decision Making and Problem Solving or Decision Making in a Crisis	3
EMP	242	Effective Communications	3
EMP	244	Developing Volunteer Resources	3
EMP	291	Public Information Officer	3
			30

General Education Requirements

ENG	131	Technical Writing or English Composition I	3
or ENG	122	English Composition II	(3)
MAT	175	Introduction to Statistics	3
PSY	101	General Psychology or 3, one cr. PSY classes	3
SOC	101	Introduction to Sociology	3
CIS	118	Introduction to Microcomputer Applications	3
HUM	121	Survey of Humanities	3
			18

Elective Classes (Not on the internet)

ENV	101	Intro to Environmental Science	3
FST	107	Hazardous Materials Awareness & Operations	3
FST	201	Instructional Methodology	3
MAN	116	Principles of Supervision	3
MAN	226	Principles of Management (on the internet)	3
EMP	108	Mass Casualty Response	3
EMP	297	Internship	1-6
EMP	299	Independent Study	1-6
POS	121/211	Intro to Public Administration or Public Finance	3
			12-15

Total A.A.S. Degree Credits **60**

Certificate: Emergency Management and Planning

The certificate program is geared toward current emergency management practitioners who want to upgrade their skills. The certificate program requires the completion of 30 hours of coursework. All courses except the Internship and Independent Study courses are available over the INTERNET.

Major 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	241	Decision Making and Problem Solving	3
EMP	242	Effective Communications	3
EMP	244	Developing Volunteer Resources	3
EMP	291	Public Information Officer	3
FST	201	Instructional Methodology	3
			30

Emergency Medical Services (EMS)

Meet with the emergency medical services faculty advisor before beginning any program of study.

Course number and credit hours are currently under revision. Call pro - gram coordinator for update. Information: 303.914.6333

Emergency Medical Technician Certificate I

To apply for a job as an EMT-Basic, one needs to pass the Colorado State certification exam. This college certificate program includes the course need- ed to qualify to sit for the state exam as well as courses one would need to prepare to apply for a job as an EMT-Basic

EMS 125 Emergency Medical Technician Basic		10
EMS 130 Pre-hospital Intravenous Therapy	2	
SPE 125; PSY101, 102, 226; SOC 101, 102, 226	3	
(Choose one from the above)		
Total Required Credits		**15**

Emergency Medical Technician Certificate II

Prerequisites for application to the paramedic course include approximately one year of field experience as an EMT-Basic along with several EMS and college courses. This college certificate program includes those courses needed to qualify to apply into most Denver Metro paramedic training cours- es.

EMS	125	Emergency Medical Technician Basic	10
EMS	130	Pre-hospital Intravenous Therapy	2
EMS	134	Basic EKG Interpretation	2
SPE 125; PSY101, 102, 226; SOC 101, 102, 226			3
(Choose one from the above)			
BIO	201	Human Anatomy and Physiology	4
BIO	202	Human Anatomy and Physiology	4
ENG	121	English Composition I	
		or ENG 131 Technical Writing	3
MAT	130 or 160		3
	Total Required Credits		**31**

Associate of Applied Science in Paramedicine

In order to work as a paramedic in Colorado one needs to complete a state approved paramedic course. Most EMS agencies and require managerial candidates to have at least an associate's degree. This program offers those already certified as a paramedic an opportunity to obtain a higher education degree.

Required Major Courses			**Credits**
EMS	225	Paramedicine I	14
EMS	226	Paramedicine II	13
EMS	279	Paramedicine III	8
General Education Requirements			**Credits**
ENG	131	Technical Writing	3
MAT	130	Intermediate Algebra (or higher)	3
PSY	101	Intro to Psychology	3
SOC	101	Intro to Sociology	3
SPE	125	Interpersonal Communication	3
Electives (any two courses from below)			
ANT	101	Cultural Anthropology	3
ENG	121	English Composition I	3
MAN	116	Principles of Supervision	3
MAN	226	Principles of Management	3
Credits Required for Graduation			**69**

Engineering

(Pre-Engineering) Degree: Associate of Science with an Emphasis in Pre-Engineering

The college offers courses that will transfer to many of the four-year institu- tions including Colorado School of Mines, University of Colorado at Denver, Colorado State University, and the University of Colorado at Boulder. All transfer students are subject to a minimum grade point average of 3.0 (B) or better to compete successfully for admission to these institutions.

You are urged to consult with a Red Rocks Pre-Engineering/ Mathematics faculty advisor before beginning any program of study.

Associate of Science

This is a suggested sequence for full-time students completing the degree. Part-time students will take longer to complete the sequence. Some courses might not be offered each session.

First Session—Fall			**Credits**
CHE	111	General College Chemistry I	5
CHE	111	General College Chemistry I Lab	
ENG	121	English Composition I	3
MAT	201	Calculus I (CORE)	5
Core: Social/Behavioral Science Elective			3
			16
Second Session—Spring			
CHE	112	General College Chemistry II	5
CHE	112	General College Chemistry II Lab	
ENG	122	English Composition II	3
MAT	202	Calculus II (CORE)	5
Core: Social /Behavioral Science Elective			3
			16
Third Session—Fall			
PHY	211	Physics: Calculus-based I	5
PHY	211	Physics: Calculus-based I Lab	
SPE	115	Public Speaking	3
Core: Humanities Elective			3
CSC	XXX	Computer Science Elective	3
			14
Fourth Session—Spring			
PHY	212	Physics: Calculus-based II	5
PHY	212	Physics: Calculus-based II Lab	
Core: Humanities Elective			3
CSC	XXX	Computer Science Elective	4
Transferable Elective *			3
			15
Total Required Credits			**61**

Engineering Graphics Technology

Degrees: Associate of Applied Science With an Emphasis in Architectural or Mechanical
Certificates: Variable Credits

The Engineering Graphics Technology program offers Associate of Science degrees and certificates with emphases in Architectural and Mechanical drafting and design. This program prepares you for employment as design drafters.

If you are seeking to upgrade or advance your current drafting and design knowledge and skills, classes can be tailored to fit your course work and schedule needs. Prerequisites may be waived for previous educational, occupational or related experience. The curricula are designed to develop communication, leadership and critical thinking skills and to provide a setting in order for you to experience a team approach to problem solving.

You will use CADD (Computer-Aided Design Drafting) to form the foundation for drafting standards, conventions, layouts, designs and details of working drawings and models. ASME (ANSI) and AIA specifications, handbooks and technical data applicable to engineering graphics are emphasized.

Lab fees are assessed. You should consult with a Red Rocks Engineering Graphics Technology faculty advisor before beginning any program of study: 303.914.6385

Area of Emphasis: Architectural

Along with the Engineering Graphics course work, 15 generaleducation semester credits are required for the AAS degree. The following is a suggested sequence for completing an Associate of Applied Science Degree in Engineering Graphics—Architectural for full-time students. If you are a part-time student it will take you longer to completethe sequence. Some courses might not be offered each session.

First Session			**Credits**
•EGT	100	Technical Drawing	6
•EGT	110	Basic CADD *(Computer-Aided Design Drafting)*	6
•*General Education Mathematics Requirement			3-5
			15-17
Second Session			
•EGT	120	Intermediate CADD *(Computer-Aided Design Drafting)*	3
•EGA	121	Intermediate CADD *(Architectural)*	3
•EGT	130	Three-Dimensional CADD	3
•EGA	131	Three-Dimensional CADD *(Architectural)*	3
•COM	125	Communication in the Workplace	3
			15
Third Session			
EGA	207	Framing Methods	3
EGT	265	Presentation Graphics	3
PHY	XXX*	Physics *(General Ed. Science Requirement)*	4-5
EGA	231	Architectural Design/Drafting I	6
			16-17
Fourth Session			
EGA	241	Architectural Design/Drafting II	6
EGA	209	Roof Design	3
General Education Humanities, Social/Behavioral Science Requirement			3
ENG	121 English Composition I or ENG 131 Technical Writing		3
			15
		Total Required Credits	**60**

*****Mathematics Course: MAT115, 160, 161 or 201 (or higher)*
Physics Course: PHY105 (or higher)
For the Humanities or Social/Behavioral Science Elective see "Core Courses" under the Degrees and Certificates section of this Catalog.
• Required for Certificate

Area of Emphasis: Mechanical

Along with the Engineering Graphics course work, 15 general education semester credits are required for the AAS degree. The following is a suggested sequence for completing an Associate of Applied Science Degree in Engineering Graphics—Mechanical for full-time students. If you are a part-time student it will take you longer to complete the sequence. Some courses might not be offered each session.

First Session			**Credits**
•EGT	100	Technical Drawing	6
•EGT	110	Basic CADD *(Computer-Aided Design Drafting)*	6
•*General Education Mathematics Requirement			3-5
			15-17
Second Session			
•EGT	120	Intermediate CADD *(Computer-Aided Design Drafting)*	3
•EGM	121	Intermediate CADD *(Mechanical)*	3
•EGT	130	Three-Dimensional CADD	3
•EGM	131	Three-Dimensional CADD *(Mechanical)*	3
•COM	125	Communication in the Workplace	3
			15
Third Session			
EGM	205	Assembly and Detail	3
EGT	265	Presentation Graphics	3
PHY	XXX*	Physics *(General Ed. Science Requirement)*	4-5
EGM	231	Mechanical Design/Drafting I	6
			16-17
Fourth Session			
EGM	241	Mechanical Design/Drafting II	6
EGM	215	Mechanisms and Drives	3
General Education Humanities, Social/Behavioral Science Requirement			3
ENG	121 English Composition I or ENG 131 Technical Writing		3
			15
		Total Required Credits	**60**

**Mathematics Course: MAT115, 160, 161 or 201 (or higher)*

Physics Course: PHY105 (or higher)

For the Humanities or Social/Behavioral Science Elective see "Core Courses" under the Degrees and Certificates section of this Catalog.

• Required for Certificate

Certificate: Architectural

The following is a suggested sequence for completing a Certificate in Engineering Graphics—Architectural for full-time students. If you are a part-time student it will take you longer to complete the sequence. Some courses might not be offered each session.

First Session			**Credits**
EGT	100	Technical Drawing	6
EGT	110	Basic CADD *(Computer-Aided Design Drafting)*	6
*General Education Mathematics Requirement			3-5
			15-17
Second Session			
EGT	120	Intermediate CADD *(Computer-Aided Design Drafting)*	3
EGA	121	Intermediate CADD *(Architectural)*	3
EGT	130	Three-Dimensional CADD	3
EGA	131	Three-Dimensional CADD *(Architectural)*	3
COM	125	Communication in the Workplace	3
			15
		Total Required Credits	**30**

** May take MAT115, 160,161 or 201 (or higher)*

Certificate: Mechanical

The following is a suggested sequence for completing a Certificate in Engineering Graphics—Mechanical for full-time students. If you are a part-time student it will take you longer to complete the sequence. Some courses might not be offered each session.

First Session			**Credits**
EGT	100	Technical Drawing	6
EGT	110	Basic CADD *(Computer-Aided Design Drafting)*	6
*General Education Mathematics Requirement			3-5
			15-17
Second Session			
EGT	120	Intermediate CADD *(Computer-Aided Design Drafting)*	3
EGM	121	Intermediate CADD *(Mechanical)*	3
EGT	130	Three-Dimensional CADD	3
EGM	131	Three-Dimensional CADD *(Mechanical)*	3
COM	125	Communication in the Workplace	3
			15
		Total Required Credits	**30**

** May take MAT115, 160, 161 or 201 (or higher)*

Certificate: Industry Up-Grade Auto CAD or Pro Engineer

EGT	100	Technical Drawing	6
EGT	110	Basic CADD	6
EGT	120	Intermediate CADD	3
EGA	121	Intermediate CADD (ARCH)	3
EGM	121	Intermediate CADD (MECH)	3
EGT	130	Three-Dimensional CADD	3
EGA	131	Three-Dimensional CADD (ARCH)	3
EGA	131	Three-Dimensional CADD (MECH)	3

Acertificate is offered in:

Basic AUTOCAD - 6 credits120 HR
Intermediate AUTOCAD - 6 credits120 HR
Advacnced AUTOCAD - 6 credits120 HR
Call 303.914.6385 for more information.

English

Degree: Associate of Arts

The completion of the following courses is appropriate for those of you who plan to transfer to a four-year college or university to complete a major in English. For those of you who do not plan to major in English, emphasis in this area provides an excellent, general liberal arts background for many professions such as teaching, writing,community service, law and research. You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			**Credits**
Select 21 credits from the following courses:			
ENG	125	Advanced Grammar	3
ENG	131	Technical Writing I	3
ENG	215	Playwriting	3
ENG	217	Business Communication and Report Writing	3
ENG	221	Creative Writing I	3
ENG	222	Creative Writing II	3
ENG	225	Advanced Topics in Composition	3
LIT	115	Introduction to Literature *(Core)*	3
LIT	201/202	Masterpieces of Literature I, II *(Core)*	3
LIT	125	Study of the Short Story	3
LIT	126	Study of Poetry	3
LIT	127	Study of the Novel	3
LIT	211/212	Survey of American Literature I, II	3
LIT	221/222	Survey of British Literature I, II	3
LIT	225	Introduction to Shakespeare	3
LIT	145	Literature of Women	3

Core Curriculum Requirements

English/Speech
ENG 121 English Composition I 3
ENG 122 English Composition II 3
SPE 115 Public Speaking 3

Humanities (courses from two different disciplines) 9
ART110, 211, 212; Foreign Language 111, 112, 211, 212;
HUM 121, 122, 123; MUS 120, 221, 222; PHI 111, 112;
THE 211, 212; LIT115, 201, 202

Mathematics (any course from the following) 3
MAT160, 171, 175, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112;
GEY 111, 121; PHY105, 111, 112, 211, 212

Social and Behavioral Sciences (courses from two different disciplines)ANT 101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202;
POS 105, 115; PSY101, 102; SOC 101, 102 9

Electives **5**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **60**

Entrepreneurship
E-Business

(See Business Administration)

Estimating
Facility Maintenance

(See Construction Technology)

Film Video Technology

Degrees: Associate of Applied Science
Associate of General Studies

Certificates: Credit Professional Training

The Film Video Technology program at Red Rocks Community College offers AAS and Certificate programs for students seeking professional preparation for careers in Film, Video, and related industries. The AGS degree is intended for students seeking a Bachelor of Fine Arts degree in Film Video Production in a unique "2+2" offering with the University of Colorado at Denver, College of Arts and Media. (There is also an articulation agreement with Metropolitan State College of Denver wherein up to 64 semester hours including general education, will be accepted towards MSCD's Bachelor's degree in Technical Communications.) The AAS, AGS, BFAand Certificate programs are all located at Colorado Film Video Instructional Studios (CFVI Studios), at the Higher Education Advanced Technology (HEAT) campus at the former Lowry Airforce Base on the Denver/Aurora city border.

Upon completion of degree and certificate programs, students will be prepared for employment in the television, industrial video, network, cable, and internet production, commercial production, educational video, and feature film production industries, or for entry into graduate study programs.

Employment opportunities exist in writing, producing, directing, production management, production design, camera, lighting, audio and audio post, post production; editing, graphics, motion graphics, compositing, title design, animation, multimedia for motion images, video streaming for the internet; and a host of business management and creative development opportunities in the advertising, cable, broadband internet, broadcast, and motion picture industries in Colorado and throughout the world.

Students may satisfy Core Curriculum requirements at the Red Rocks, HEAT, or Auraria campuses. The Red Rocks/UCD merged program at CFVI Studios includes a 17,000 square foot main building, and the 600 seat HEAT Movie Theater. HEATcampus dormitory space is available to full time Film Video students. Information is available at **303.365.7902.** or **www.cfvistudios.com**

Degree: Associate of General Studies

Designed for transfer to a four-year program such as the BFA offered at the University of Colorado at Denver, College of Arts & Media department of Theater, Film & Video Production. Students intending to transfer should consult requirements at their intended four-year institution.

General Education Requirements:

34 semester credits in transferable core courses - see AGS Specialist Worksheet in this catalogue.

Film Video Technology Requirements:

33 semester credits in one of the following emphases:

All of the required 33 FVTcredits must have grades of "C" or better to count towards the Red Rocks AGS degree. The following AGS degree programs are directly transferable to Junior standing in the Bachelor of Fine Arts degree program in Film Video Production in the College of Arts and Media at the University of Colorado at Denver. Students intending to transfer should consult requirements at their intended four-year institution.

Writing/Producing Emphasis

FVT	117/290	Understanding the Actor's Process	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	155	Writing the Short Script	3
FVT	164	Intro to Digital Editing: FCP	3
FVT	185	Documentary Film & Video	3
FVT	187	The Comedy Film	3
FVT	188	The Horror Film	3
		or	
FVT	189	The Science Fiction Film	3
FVT	209	Production Management Techniques	3
FVT	220	16mm Production	3
FVT	250	Scriptwriting for Film & Video	3
			33

Writing & Directing for Film & Video Emphasis

FVT	105	Video Production I	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	160	Video Post Production I	3
FVT	200	Video Production II	3
FVT	250	Scriptwriting for Film & Video	3
FVT	206	Film/Video Lighting & Grip	3
FVT	209	Production Management Techniques	3
FVT	215	Video Post Production II	3
FVT	220	16mm Production	3
FVT	290/117	Understanding the Actor's Process	3
			33

Videography/Cinematography Emphasis

FVT	105	Video Production I	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	160	Video Post Production I	3
FVT	200	Video Production II	3
FVT	205	Film/Video Camera Equip. & Techniques	3
FVT	206	Film/Video Lighting & Grip	3
FVT	209	Production Management Techniques	3
FVT	215	Video Post Production II	3
FVT	220	16mm Production	3
FVT	290/117	Understanding the Actor's Process	3
			33

Video Post-Production Emphasis

FVT	105	Video Production I	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	160	Video Post Production I	3
FVT	164	Intro to Digital Editing	3
FVT	200	Video Production II	3
FVT	206	Film/Video Lighting & Grip	3
FVT	208	Sound for Film & Video	3
FVT	209	Production Management Techniques	3
FVT	215	Video Post Production II	3
FVT	290/264	Digital FX for Post I	3
			33

Degree: Associate of Applied Science

Designed for students who wish to move directly into the professional marketplace.

General Education Requirements:

15 semester credits in general education courses

Film Video Technology Requirements:

45 semester credits in one of the following emphases:

(42 of the required 45 FVTcredits must have grades of "C" or better to count towards the FVTAAS degree.)

Writing/Producing Emphasis

FVT	105	Video Production I	3
FVT	117/290	Understanding the Actor's Process	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	164	Intro to Digital Editing: FCP	3
FVT	155	Writing the Short Script	3
FVT	160	Video Post Production I	3
FVT	185	Documentary Film & Video	3
FVT	187	The Comedy Film	3
FVT	188	The Horror Film	3
FVT	189	The Science Fiction Film	3
FVT	209	Production Management Techniques	3
FVT	220	16mm Production	3
FVT	250	Scriptwriting for Film & Video	3
FVT	297	Cooperative Education	3
			45

Videography/Cinematography Emphasis

FVT	105	Video Production I	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	160	Video Post Production I	3
FVT	185	Documentary Film & Video	3
FVT	200	Video Production II 3 FVT205 Film/Video Camera Equipment & Techniques	3
FVT	206	Film/Video Lighting & Grip	3
FVT	209	Production Management Techniques	3
FVT	215	Video Post Production II	3
FVT	220	16mm Production	3
FVT	290/117	Understanding the Actor's Process	.3
FVT	290/155	Writing the Short Script	3
FVT	290/275	Cinematography/Videography Workshop	3
FVT	297	Cooperative Education	3
			45

Video Post Production Emphasis

FVT	105	Video Production I -	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	160	Video Post Production I	3
FVT	164	Intro to Digital Editing	3
FVT	185	Documentary Film & Video	3
FVT	200	Video Production II	3
FVT	206	Film/Video Lighting & Grip	3
FVT	208	Sound for Film & Video	3
FVT	209	Production Management Techniques	3
FVT	215	Video Post Production II	3
FVT	280	Intro to Avid Media Composer	3
FVT	290/218	Advanced Sound	3
FVT	290/264	Digital FX for Post I	3
FVT	297	Cooperative Education	3
			45

Writing & Directing for Film & Video Emphasis

FVT	105	Video Production I	3
FVT	150	Development of Film Expression	3
FVT	153	Intro to Film Production	3
FVT	160	Video Post Production I	3
FVT	185	Documentary Film & Video	3
FVT	200	Video Production II	3
FVT	250	Scriptwriting for Film & Video	3
FVT	206	Film/Video Lighting & Grip	3
FVT	209	Production Management Techniques	3
FVT	215	Video Post Production II	3
FVT	220	16mm Production	3
FVT	290/117	Understanding the Actor's Process	3
FVT	290/155	Writing the Short Script	3
FVT	290/217	The Actor Script to Screen	3
FVT	297	Cooperative Education	3
			45

Certificate: Writing & Directing for Film & Video

Credit: 45

(42 of the required 45 FVTcredits must have grades of "C" or better to count towards the Red Rocks/CFVI Studios FVT Certificate)
Same as FVTcourse requirements under the Associate of Applied Science degree without the 15 credits of General Education requirements

Certificate: Videography/Cinematography

Credit: 45

(42 of the required 45 FVTcredits must have grades of "C" or better to count towards the Red Rocks/CFVI Studios FVT Certificate)

Same as FVTcourse requirements under the Associate of Applied Science degree without the 15 credits of General Education requirements

Certificate: Writing & Producing

Credit: 45
(42 of the required 45 FVTcredits must have grades of "C" or better to count towards the Red Rocks/CFVI Studios FVT Certificate)

Same as FVTcourse requirements under the Associate of Applied Science degree without the 15 credits of General Education requirements.

Certificate: Video Post-Production

Credit: 45
(42 of the required 45 FVTcredits must have grades of "C" or better to count towards the Red Rocks/CFVI Studios FVT Certificate)

Same as FVTcourse requirements under the Associate of Applied Science degree without the 15 credits of General Education requirements

Fine Woodworking

(See Construction Technology)

Fire Science Technology

Degree: Associate of Applied Science

Completion of this curriculum prepares you for:

- Entry into a career of fire suppression, prevention or related fields.
- Promotion within a fire department or within the fire service.
- Advancement to a four-year college in pursuit of a Bachelor of Science degree in Fire Science Administration.

Emphasis is placed on modern methods of fire prevention and suppression, and management of the fire service. Public and privatefire protection systems; life safety of fire service personnel and civilians; protection of property through the application of code enforcement; and the increasing problems of hazardous materials and arson are studied.

Prior to enrollment, if you are not presently a member of a fire department, you are required to take assessment tests which are administered in the Learning and Resource Center. The fire science instructor, upon consultation with assessment staff, evaluates test results in order to assist you with proper placement in your course of study in fire science. Advanced students are expected to substitute advanced courses for introductory courses.
For more information call: **303.914.6333.**

Required Major Courses			**Credits**
FST	100**	Essentials of Firefighting	5
FST	297**	Fire Academy I	4
FST	102	Introduction to Fire Science and Suppression	3
FST	103	Firefighter Occupational Health and Safety	3
FST	104	Fire Protection Systems	3
FST	105	Building Plans and Construction	3
FST	106	Fire Inspection Practices *(Fire Inspector I)*	3
FST	107	Hazardous Materials I/Awareness and Operations	3
FST	110	Job Assessment	3
		or	
FST	201	Instructional Techniques(for Officer Development)	(3)
FST	202	Firefighting Strategy and Tactics	3
FST	204	Codes and Ordinances	3
FST	205	Fire Cause Determination	3
EMS	227	Emergency Medical Technician—Basic	10
PHE	100 and 150	Physical Education (or as approved by advisor)	2
			51

General Education Requirements			
Science elective		CHE, BIO, PHY, AST or GEY	4-5
ENG	121	English Composition I	3
MAT	130	Intermediate Algebra *(or higher)*	4
Humanities or Liberal Arts Course			3
Social and Behavioral Sciences Course			3
			17-18

Elective Courses			**11**
FST	259	Chemistry of Hazardous Materials I	4
EMS	237	Emergency Medical Technician—Paramedic	35
FST	101	Fire Academy *(Firefighter II)*	3
FST	111	Private Fire Protection Systems	3
FST	112	Fire Service Planning	3
FST	113	Introduction to Fire Prevention Awareness	3
FST	121	Rope Rescue	3
FST	131	Heavy Rescue Rope	2
FST	132	Structural Collapse	2
FST	133	Trench Rescue	2
FST	134	Confined Space	2
FST	135	Ice Rescue	2
FST	136	Swift Water Rescue	2
FST	137	Vehicle Extriction	2
CRJ	225	Crisis Intervention	3
CRJ	239	Managing Emergency Worker Stress	3
FST	150	Public Fire Prevention and Education *(Public Fire Education)*	3
FST	152	Wildland Firefighter	3
FST	206	Fire Service Supervision/Leadership *(Officer I Cert.)*	3
FST	207	Strategy and Tactics II	3
FST	208	Codes and Ordinances II	3
FST	251	Fire Service and the Law	3
FST	252	Fire Investigation *(Fire Investigator)*	3
FST	253	Incident Command or EMP 109(internet)	3
FST	254	Hazardous Materials II *(Technician Level)*	6
FST	255	Fire Service Management *(Fire Officer II)*	3
FST	256	Fire Administration *(Fire Officer III)*	3
FST	257	Volunteer Fire Department Administration	3
FST	258	Wildland Fire Incident Management and Organization	2
FST	260	Intermediate Fire Behavior S-290	2
FST	261	Fire Operation in the Urban Interface	2
FST	262	Advanced Wildland Firefighter S-131	1
FST	263	Powersaws S-212	2
FST	264	Helicopter Crew S-217	2
FST	265	Ignition Operations S-234	2
FST	270	Basic Air Operations S-270	1
FST	290	Advanced Topics	1-3
FST	297	Cooperative Education Internship	1-6
FST	299	Independent Study and Analysis	1-3

*** Required if you are not currently employed in the Fire service, prerequisites FST 102, 103, 105, 106*

S-270 AIR OPS S-270

Certificates: Fire Science Technology

Certificates may be obtained upon completion of the following "Areas of Emphasis". Please submit a written application to the Director of Fire Science Technology.

Area of Emphasis: Code and Ordinances

			Credits
FST	105	Building Plans and Construction	3
FST	106	Fire Inspection Practices	3
FST	204	Codes and Ordinances I	3
FST	208	Codes and Ordinances II	3
		Total Required Credits	**12**

Area of Emphasis: Emergency Medical Service/Paramedic

			Credits
EMS	125	Emergency Medical Technician—B	10
EMS	225*	Emergency Medical Technician/Paramedic	35
		Total Required Credits	**45**

**EMS 237 is available through the St. Anthony's Hospital EMS Program.*
Upon completion of this course, you receive 24 credits toward an Associates Degree in Fire Science or a Paramedic Technician Degree.

Area of Emphasis: Fire Investigations

(Police and Fire Personnel only)

			Credits
FST	205	Fire Cause Determination	3
FST	252	Arson Investigation	3
FST	299	Independent Study—Fire Analysis	3
CRJ	240	Criminal Investigations	3
CRJ	245	Interviewing Techniques	
FST	259	Chemistry of Hazardous Materials	4
		Total Required Credits	**19**

Area of Emphasis: Officer Development

			Credits
FST	201	Instructional Methodology	3
FST	206	Fire Company Supervision and Leadership	3
FST	253	Incident Command	3
FST	255	Fire Service Management	3
FST	256	Fire Administration	3
		or	
FST	257	Volunteer Department Administration	(3)
FST	299	Independent Study and Analysis	3
		Total Required Credits	**18**

Area of Emphasis: Hazardous Materials Technician

			Credits
FST	107	Hazardous Materials Awareness/Operations Level	3
FST	202	Firefighting Strategy and Tactics	3
FST	253	Incident Command	3
FST	254	Hazardous Materials Technician	6
FST	259	Chemistry of Hazardous Materials	4
		Total Required Credits	**15**

Area of Emphasis: Wildland Management

			Credits
FST	152	Wildland Firefighting	3
FST	260	Intermediate Fire Behavior S-290	2
FST	258	Wildland Fire Management/Organization	2
FST	261	Fire Operations in the Urban Interface	3
PAR	203	Natural Resource Management	3
FST	262	Advance Wildland Firefighter S-131	2
		Total Required Credits	**15**

Foreign Languages

Degree: Associate of Arts Degree

The completion of the following courses is appropriate for those of you who plan to transfer to a four-year college or university to complete a major in a foreign language. If you do not plan to major in a foreign language, knowledge of a second language may significantly improve changes of professional advancement in careers such as business, computer technology, medicine, engineering and in the natural and behavioral sciences.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses	**Credits**
Choose one (FREnch, GERman, SPAnish)	
FRE/GER/SPA111 Foreign Language I *(Core)*	5
FRE/GER/SPA112 Foreign Language II *(Core)*	5
FRE/GER/SPA 211 Foreign Language III *(Core)*	3
FRE/GER/SPA212 Foreign Language IV *(Core)*	3

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I *(Core)*	3
ENG	122	English Composition II *(Core)*	3
SPE	115	Public Speaking *(Core)*	3

Humanities (any course from the following) 3
ART110, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 211, 212

Mathematics (any course from the following) 4
MAT160, 171, 175, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112;
GEY 111, 121; PHY105, 115, 112, 211, 212

Social and Behavioral Sciences (courses from two different disciplines) ANT101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202;POS 105, 115; PSY 101, 102; SOC 101, 102 9

Electives **16**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **60**

** If your emphasis is in Spanish, you are encouraged to complete HUM 126 and HIS 271.*

Geology

Degree: Associate of Science

The completion of the following courses is appropriate for those of you who plan to transfer to a four-year college or university to complete a major in geology.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			Credits
BIO	112	General College Biology II *(Core)*	5
CHE	111	General College Chemistry I *(Core)*	5
GEY	111	Physical Geology *(Core)*	4
GEY	121	Historical Geology *(Core)*	4
GEY	XXX	Other GEY courses	6
MAT	160	College Algebra *(Core)*	4
MAT	161	College Trigonometry	3

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (any two courses from the following) 6
ART110, 211, 212; Foreign Language 111, 112, 211, 212;
HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222;
PHI 111, 112, 113; THE 211, 212

Social and Behavioral Sciences (courses from two different disciplines) ANT101, 111; ECO 201, 202; GEO 105; HIS 101, 102,
201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 6

Electives **8**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **60**

Graphics and Animation Technology

(See Multimedia Technology Cluster)

Heating

(See Construction Technology)

History

Degree: Associate of Arts Degree

The completion of the following courses is appropriate for those of you who plan to transfer to a four-year college or university to complete a major in history. This program provides preparation for you if you are interested in teaching, government service, law, research, business and industry, journalism, publishing, historical societies, museums, archives and library science.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			Credits
ANT	101	Cultural Anthropology *(Core)*	3
ECO	201	Principles of Macroeconomics *(Core)*	3
GEO	105	World Regional Geography *(Core)*	3
HIS	101	Western Civilization I *(Core)*	3
HIS	102	Western Civilization II *(Core)*	3
HIS	137	Contemporary World History	3
HIS	201	U.S. History I *(Core)*	3
HIS	202	U.S. History II *(Core)*	3
POS	115	American Government *(Core)*	3
SOC	101	Introduction to Sociology I *(Core)*	3
			30

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (courses from two different disciplines) 9
ART110, 221, 222; Foreign Language 111, 112, 211, 212;
HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222;
PHI 111, 112, 113; THE 211, 212

Mathematics (any course from the following) 3
MAT160, 171, 175, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112;
GEY 111, 121; PHY105, 111, 112, 211, 212

Electives	**5**

Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits	**60**

Holistic Health and Continuing Education

Certificates: 15 Credits
Holistic Health
Holistic Nursing

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 healthcare practice as well as to prepare one 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. The required courses are:

Course			Credits
CEN	244	HOLISTIC NURSING I	1
CEN	254	HOLISTIC NURSING II	2
CEN	256	HOLISTIC NURSING III	2
(13 credits must be completed before participating in Holistic III)			
Total Required Credits			**5**

An additional 10 credit hours need to be chosen from the list below to complete the requirements for the certificate. It is recommended that at least one course be chosen from each of the four sub-categories. Courses are added frequently, please call the Health Careers Center at **303.940.9690** for a current brochure.

Course			Credits
Physical:			
CEN	115	Traceless Way	0.5
CEN	122	Qigong	1
CEN	125	Feldenkrais"	0.5
CEN	130	First Degree Reiki	0.5
CEN	170	Reflexology	1
CEN	190	Introduction to Crystals & Minerals	0.5
CEN	202	Aromatherapy	0.5
CEN	205	Herbology	0.5
CEN	221	High Level Wellness	1
CEN	224	Massage Therapy	1
CEN	235	Nutritional Therapy and Health	0.5
CEN	236	Dance Therapy and Healing	0.5
CEN	242	Healing Touch, Level 1	1
CEN	245	Bridging to Hospice Nursing	0.5
CEN	246	Second Degree Reiki	1
CEN	252	Menopause: Natural and Traditional Approaches	0.5

Emotional:

CEN	215	The Role of Art in Healing	1
CEN	216	Humor Playshops	0.5
CEN	249	Journaling, the Healing Journey	1
CEN	267	Living Without Limits	0.5
CEN	276	Creating Healthy Relationships	1
CEN	285	Stress Management	0.5

Mental:

CEN	100	Exploring Complimentary Healing Methods	1
CEN	110	Neurolinguistic Programming I	0.5
CEN	212	Neurolinguistic Programming II	0.5
CEN	214	Exploring Your Dreams	1
CEN	222	Self-Hypnosis: The Basics	1
CEN	223	Hypnosis for Medical Professionals	1
CEN	227	Communication Skills	0.5
CEN	229	Wellness Counseling	1
CEN	265	Personal Power - Gift of Self Esteem	1
CEN	283	Psychoneuroimmunology	0.5
CEN	287	Creating a Holistic Practice	0.5

Spiritual:

CEN	104	The Healing Mind	0.5
CEN	135	Assessing Inner Resources – 1	1
CEN	140	Assessing Inner Resources – 2	1
CEN	160	Learn to Meditate	0.5
CEN	180	Turaya Meditation	1
CEN	213	Spiritual Role in Health Care	0.5
CEN	241	Healing Imagery: Body, Mind, Spirit	0.5
CEN	258	Journaling The Spiritual Journey	1
CEN	269	Healing Presence	1

Health Care Continuing Education

These courses are offered on a credit/noncredit basis.

Course			Credits
CEN	106	Case Management	0.5
CEN	107	Camp Health Care	0.5
CEN	185	Basic Life Support(BLS)	1
CEN	201	Nuts and Bolts of Law	0.5
CEN	203	Women's Holistic Health Care	0.5
CEN	207	Patient Rights	0.5
CEN	208	Basic EKG Interpretation	1
CEN	209	Spanish for Health Care Level 1	1
CEN	210	Physical Assessment of the Adult	2
CEN	217	Phlebotomy Refresher	1
CEN	218	Supervision/Delegation	0.5
CEN	220	Advanced Law and Ethics	0.5
CEN	225	Introduction to Home Health Nursing	0.5
CEN	226	Intravenous Therapy	1
CEN	230	Trauma Assessment and Intervention	1
CEN	232	Caring for the Caregiver	0.5
CEN	238	Advanced EKG Interpretation	1
CEN	239	Intravenous (IV) Certification	5
CEN	243	Teaching in Community/Home Health Nursing	0.5
CEN	247	Phlebotomy Certification	4

CEN	248	Conflict Resolution	0.5
CEN	250	Home Health Nursing Skills Part 1	0.5
CEN	251	Music as a Therapy for Wellness	1
CEN	255	Spanish for Health Care Level II	1
CEN	257	ACLS (Advanced Cardiac Life Support)	2
CEN	259	ACLS Recertification	0.5
CEN	260	Bereavement Counseling	0.5
CEN	263	Self-Esteem and the Child	1
CEN	264	Documentation in Home Health	0.5
CEN	266	Physical Assessment for Home Health	1
CEN	271	HEP/HIV Update	0.5
CEN	281	Home Health Nursing Skills Part II	0.5
CEN	282	System Issues & Specific Legal Requirements	0.5
CEN	289	Career Alternatives Within Nursing	0.5

Certificate: Continuing Education Refresher Nursing

Proof of immunizations, liability insurance, CPR, and a letter from a physician stating you are physically and mentally able to participate in this course is required prior to participating in clinicals.

Required Major Courses	**Credits**
CER 200 Registered Nurse Refresher Course	12
CEN 210 Physical Assessment	2
Total Required Credits	**14**

Humanities

Degree: Associate of Arts Degree

Humanities is the study of literature, philosophy, art, music and theatre. It provides an excellent background for professions such as teaching, writing, community service, law and research.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			**Credits**
ART	110	Art Appreciation *(Core)*	3
		or	
ART	211	Art History I *(Core)*	
		or	
ART	212	Art History II *(Core)*	
HIS	137	Contemporary World History	3
HUM	121	Survey of Humanities I *(Core)*	3
HUM	122	Survey of Humanities II *(Core)*	3
HUM	123	Survey of Humanities III *(Core)*	3
LIT	115	Introduction to Literature *(Core)*	3
MUS	120	Music Appreciation *(Core)*	3
PHI	111	Introduction to Philosophy *(Core)*	3
THE	211	Development of Theatre I *(Core)*	3
		or	
THE	212	Development of Theatre II *(Core)*	
			27

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3
			9

Mathematics (any course from the following) 3
MAT160, 171, 175, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 111, 112, 211, 212

Social and Behavioral Sciences (courses from two different disciplines)
ANT 101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 9

Electives **11**
Electives must be selected from college-level transfer courses. No more than three credits in physical education may be counted.

Total Required Credits **60**

HVAC/R

(See Construction Technology)

Journeyman
Laborer
Maintenance
Masonry

(See Construction Technology)

Management
Marketing

(See Business Administration)

Mathematics

Degree: Associate of Science

The completion of the following courses is appropriate for those of you who plan to transfer to a four-year college or university to complete a major in mathematics. This program provides basic preparation leading to science-related careers as well as to teaching mathematics.

You should consult with a Mathematics faculty advisor before beginning any program of study.

Suggested Sequence

This is a suggested sequence if you are a full-time student completing this degree program. If you are a part-time student it will take you longer to complete the sequence. Some courses might not be offered each session.

First Session *(Fall)*			**Credits**
ENG	121	English Composition I *(Core)*	3
MAT	201	Calculus I *(Core)*	5
Humanities Core Elective			3
Social/Behavioral Science Core Elective			3
			14

Second Session *(Spring)*			
ENG	122	English Composition II *(Core)*	3
MAT	202	Calculus II *(Core)*	5
Humanities Core Elective			3
Social/Behavioral Science Core Elective			3
			14

Third Session *(Fall)*			
SPE	115	Public Speaking	3
MAT	204	Calculus III with special topics	5
Computer Science Elective			4
Science Core Elective			5
			17

Fourth Session *(Spring)*	
MAT255 and/or MAT 265	3-7
Science Core Elective	5
Transferable Electives	3-8

Electives

Transferable Electives must be selected from college-level transfer courses. No more than three credits in physical education will count towards the degree.

Total Required Credits **60**

If you are planning to major in mathematics at a four-year college or university, you will find MAT201 Calculus I is the first (lowest level) mathematics course in which the credits earned will count toward a B.A. or a B.S. degree. If you are a student just entering and are not prepared to take MAT201, you will need to take the pre-requisitecourse(s) (Do not expect the credits earned in the pre-requisite course(s) to count toward a B.A. or a B.S. degree.)

Medical Office Technology

The Medical Office programs are designed to prepare the student for a career as an allied health professional, assisting physicians in ambulatory settings. Contact the Program Coordinator at the Health Careers Campus for information regarding skills necessary for this profession. Prior to enrollment, official documentation of reading level at or above 11th grade must be obtained by taking the COMPASS test at the LARC. Please call the LARC to determine if you are exempt from this process or to schedule a time to take this test. Aminimum grade of a "C" must be achieved for all MOT courses and the successful completion of an Enternship at the end of the academic portion in order to receive a certificate or degree. The TOEFL test is required for international applicants whose primary language is other than English. Proof of immunizations, a letter from a physician stating the student is physically and mentally able to participate in this program and CPR certification is required prior to participating in this program.
For more information call: **303.940.9690**.

Medical Assisting

Certificate: 44 Credits

Degree: Associate of Applied Science 60 Credits

The Medical Assisting program is designed to prepare the student for a career as a multi-skilled professional in the allied health field performing front and back office procedures. The student will be trained in a full range of administrative and clinical duties. This program is accredited by the Commission on Accreditation of Allied health Education Programs (CAAHEP) and all students that successfully complete the program are eligible to sit for the national certification exam to become a Certified Medical Assistant. Interested students must apply to the Medical Office Technology Program.

Certificate: Medical Assisting

Required Major Courses			**Credits**
Fall			
MOT	114	Introduction to Medical Terminology	2
MOT	104	Anatomy and Physiology for Health Professions	4
MOT	140	Medical Office I*	4
MOT	141	Medical Office II*	4
BTE	102	Keyboarding Applications (must be able to type 25 WPM)	4
Spring			
MOT	220	Pharmacology for Health Occupations*	3
CIS	118	Introduction to PC Applications	4
MOT	117	Introduction to Clinical Skills*	2
MOT	118	Advanced Clinical Skills*	2
MOT	207	Laboratory Skills*	4
MOT	120	Psychology for the Health Professionals*	1

Summer

MOT	205	Insurance and Billing*	3
MOT	297	Medical Assisting Enternship	6
EMS	100	CPR for the Health Care Provider	1
		or	
CEN	185	Basic Life Support	(1)

* These courses are only offered during the session shown above.

Total Required Credits **44**

Associate of Applied Science

To earn an Associate of Applied Science degree in Medical Assisting you must complete all the courses in the certificate program as well as the courses listed below.

General Education Requirements			**Credits**
ENG	*121*	*English Composition I*	*3*
		or	
SPE	*115*	*Public Speaking*	*(3)*
MAT	*130*	*Intermediate Algebra (or higher)*	*4*

Nine (9) Credits from any two of the following three areas:

Humanities (ART, FOL, HUM, LIT, MUS, PHI, THE)

Science (AST, BIO, CHE, GEY, PHY)

Social and Behavioral Sciences (ANT, ECO, GEO, HIS, POS, PSY, SOC) *9*

Suggested electives: CEN 247, CEN 185, MOT160, MOT110

Total Required Credits **60**

Medical Office (Front Office)

Certificate: 33 Credits

Degree: Associate of Applied Science 60 Credits

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.

Certificate: Medical Office

Fall

MOT	114	Introduction to Medical Terminology	2
MOT	104	Anatomy and Physiology for Health Professions	4
MOT	140	Medical Office I*	4
MOT	141	Medical Office II*	4

Spring

BTE	102	Keyboarding Applications (must be able to type 25 WPM)	4
CIS	118	Introduction to PC Applications	4
BUS	217	Business Communications and Report Writing	3
ACC	101	Fundamentals of Accounting	3
MAN	116	Principles of Supervision	3
		or	
BUS	115	Introduction to Business	(3)

Summer

MOT	205	Insurance and Billing*	3
MOT	297	Medical Office Enternship**	3
EMS	100	CPR for the Health Care Provider	1
or			
CEN	185	Basic Life Support	(1)

* These courses are only offered during the semester shown above.

**A TB test is required before student is qualified to begin an Internship

Total Required Credits **38**

Associate of Applied Science

To earn an Associate of Applied Science degree in Medical Office you must complete all the courses in the certificate program as well as the courses listed below.

*Elective 6

General Education Requirements

ENG	121	English Composition I	3
		or	
SPE	115	Public Speaking	(3)
MAT	130	Intermediate Algebra (or higher)	4

Nine (9) Credits from any two of the following three areas:

Humanities (ART, FOL, HUM, LIT, MUS, PHI, THE)

Science (AST, BIO, CHE, GEY, PHY)

Social and Behavioral Sciences
(ANT, ECO, GEO, HIS, POS, PSY, SOC) 9

*Suggest Electives: MOT160, MOT165, BTE 135, CEN 185

Total Required Credits **60**

Medical Transcription Certificate: 26

Medical transcriptionists are specialists in medical language and healthcare documentation who interpret and transcribe dictation by physicians and other healthcare professionals regarding patient assessment, workup, therapeutic procedures, clinical course, diagnosis, prognosis, etc., editing dictated material for grammar and clarity as necessary and appropriate.

Fall

MOT	114	Introduction to Medical Terminology	2
MOT	104	Anatomy & Physiology for the Health Professional	4
MOT	150	Disease Processes	2
BTE	102	Keyboarding (must be able to type 25 wpm)	4

Spring			
MOT	220	Pharmacology Applications for Health Occupations	3
MOT	160	Medical Transcription I	4
MOT	165	Medical Transcription II	4
Summer			
MOT	297	Medical Transcription Externship	3
		Total Required Credits	**26**

Nurse Aide

Certificate: 5 Credits

Proof of immunizations and a letter from a physician stating you are physically and mentally able to participate in this course is required prior to participating in clinicals.
For more information call: **303.940.9690**.

Required Course			**Credits**
NUA	101	Nurse Aide Theory/Lab	4
NUA	102	Nurse Aide Clinical	1

Pre-Nursing

If you are interested in nursing, you may take courses which will transfer. Admission and course requirements vary among nursing programs; therefore, you are encouraged to work closely with an advisor in the college or university offering the program.

The following courses are suggested			**Credits**
ANT	101	Cultural Anthropology	3
BIO	201	Human Anatomy and Physiology I	4
BIO	202	Human Anatomy and Physiology II	4
BIO	205	Microbiology	4
CHE	101	Introduction to Chemistry I	5
CHE	102	Introduction to Chemistry II	5
ENG	121	English Composition I	3
ENG	122	English Composition II	3
MAT	175	Introduction to Statistics	3
NUA	101	Nurse Aide Theory/Lab	4
NUA	102	Nurse Aide Clinical	1
NUT	100	Fundamentals of Nutrition	3
PSY	101	General Psychology I	3
PSY	235	Human Growth and Development	3
SOC	101	Introduction to Sociology I	3

Electives

Electives must be selected from art, foreign languages, history, humanities, philosophy, political science, medical terminology, and ethics in health care.

Note: Completion of course work at Red Rocks does not guarantee acceptance into a nursing program.

Occupational Safety Technology

(In cooperation with Trinidad State Junior College)

Degree: Associate of Applied Science

Certificate: 30 Credits

The Occupational Safety Technology program is designed to provide occupational safety training to both pre-service students and in-service professionals. As a comprehensive industry-oriented program,this curriculum is established to provide knowledge and training skills in safety applications as they relate to the industrial field.

Note: Occupational Safety students cannot register through the Red Rocks phone registration system. You must meet and register directly with the Occupational Safety Department Coordinator.

General Education Requirements			**Credits**
ENG	121	English Composition I	3
ENG	131	Technical Writing	3
MAT	160	College Algebra	3
SPE	115	Principles of Speech	3
CHE	101	Intro to Chemistry I	5
PSY	101	General Psychology I	3

Occupational Safety Care Requirements			
OSH	112	Fire Protection and Analysis	3
OSH	131	OSHA General Industry Standards	5
OSH	134	OSHA Construction Industry Standards	3
OSH	196	Safety Program Planning	3
OSH	200	Hazardous Materials	2
OSH	201	Worker's Compensation	2
OSH	202	Accident Prevention	2
OSH	203	Ergonomics	3
OSH	207	Industrial Hygiene	3
OSH	240	Case Study Evaluation	5
OSH	250	Safety Training Methods	3
CIS	118	Microcomputer Applications	5
HEO	104	Intro to Anatomy and Physiology	4
OSH	XXX	Occupational Safety Electives	6
		Total Credits	**69**

(Occupational Safety Technology continues on page 89)

Multimedia Technology

Certificate with emphasis in Graphics & Animation Technology

Program Specific Courses (Minimum 30 Credits)

Major Courses for the degree in GAT

MTC	**100**	Intro. to Macintosh Graphics	___
MTC	**101**	Intro. to Design & Graphics	___
MTC	**106**	Adobe Illustrator	___
MTC	**115**	Color Theory	___
MTC	**120**	Adobe Photoshop	___
MTC	**125**	QuarkXpress	___
MTC	**127**	Electronic PrePress	___
MTC	**130**	Animation & Rending	___
MTC	**220**	Adv. Adobe Photoshop	___

Plus one elective selected from MTC ___

Total Credits (30 credits min.) ___

Certificate with emphasis in Production & Design

Program Specific Courses (Minimum 30 Credits)

Major Courses for the degree in PDT

MTC	**100**	Intro. to Macintosh Graphics	___
MTC	**102**	Multimedia Equip. & Tech.	___
MTC	**106**	Adobe Illustrator	___
MTC	**120**	Adobe Photoshop	___
MTC	**150**	Intro. to MM Authoring	___
MTC	**210**	Sound Design for MM	___
MTC	**254**	Intro. to Digital Editing	___
MTC	**240**	Adobe After Effects	___
MTC	**201**	Multimedia Production & Mgmt	___

Plus one elective selected from MTC ___

Total Credits (30 credits min.) ___

Certificate with emphasis in Motion Graphics Animation*

Program Specific Courses (Minimum 33 Credits)

Major Courses for the degree in MGA

ART	**132**	3-D Design	___
ART	**226****	Sculpture I	___
ART	**270**	Figure Drawing	___
MTC	**106**	Adobe Illustrator	___
MTC	**120**	Adobe Photoshop	___
MTC	**133**	Digital 3-D Design and Modeling	___
MTC	**136**	Lightwave	___
MTC	**233**	Adv. Digital 3-D Design and Modeling	___
MTC	**240**	Adobe AfterEffects	___
MTC	**236**	Adv. Lightwave	___
MTC	**260**	Animation Project	___

Total Credits (30 credits min.) ___

** Pending Approval ** Optional*

Certificate with emphasis in Web Page Design

Web Page Design

MTC	**100**	Intro. to Macintosh Graphics	___
MTC	**106**	Adobe Illustrator	___
MTC	**120**	Adobe Photoshop	___
MTC	**155**	Web Page Design	___
MTC	**159**	Web Site Development	___

Total Credits (15 credits min.) ___

Advanced Web Page Design

MTC	**255**	Adv. Web Page Design	___
MTC	**270**	QuickTime Technologies	___
MTC	**273**	Web Motion Graphics	___
MTC	**275**	Web Scripting	___
MTC	**277**	Web Data Base	___

Total Credits (15 credits min.) ___

Multimedia Technology

Associate of General Studies with emphasis in Graphics & Animation Technology

CORE CURRICULUM REQUIREMENTS (34- 40 SEMESTER CREDITS)

English/Speech - *(9 credits)*

ENG 121 English Composition I ___
ENG 122 English Composition II ___
SPE 115 Principles of Speech Comm ___

Arts and Humanities -
(9-13 credits) core only

ART, HUM, LIT, MUS, PHI, THE

_____ ___
_____ ___
_____ ___

Mathematics - (3-5 credits) core only

MAT 160 or above ___

_____ ___

Social and Behavioral Science -
(9 credits) core only

ANT, ECO, GEO, HIS, POS, PSY, SOC

_____ ___
_____ ___
_____ ___

Science - *(4-5 credits)* core only

AST, BIO, CHE, GEY, PHY

_____ ___

PROGRAM SPECIFIC COURSES (MINIMUM 26 SEMESTER CREDITS)

Major Courses for the degree in GAT

MTC 100 * Intro. to Macintosh Graphics ___
MTC 101 * Intro. to Design & Graphics ___
MTC 201 * Multimedia Production & Mgmt ___
MTC 106 Adobe Illustrator___
MTC 115 Color Theory ___
MTC 120 Adobe Photoshop ___
MTC 125 QuarkXpress ___

* *Required*

_____ ___
_____ ___

Articulation with Metropolitan State College of Denver: up to 66 semester hours of the Associate of General Studies Degree will be accepted toward MSCD's bachelor's degree in Technical Communication.

Alternative Courses for the degree in GAT

MTC 102 Multimedia Equip. & Tech. ___
MTC 127 Electronic PrePress ___
MTC 130 Animation & Rendering ___
MTC 150 Intro. to MM Authoring ___
MTC 205 Computer Art Studio ___
MTC 220 Adv. Adobe Photoshop ___
MTC 133 Digital 3D Design & Modeling ___
MTC 136 LightWave 3D ___
MTC 155 Web Page Design ___
MTC 159 Web Site Development ___
MTC 180 Graphic Hardware Solutions ___
MTC 210 Sound Design for MM ___
MTC 240 Adobe After Effects ___
MTC 245 Bryce ___
MTC 254 Intro. to Digital Editing ___
MTC 255 Adv. Web Page Design ___

Student _____ SS# _____

Advisor _____ Date _____

Dept. Head _____ Date _____

Dean _____ Date _____

Total General Education Credits ___
Total Program Specific
Required & Elective Credits ___

Total Credits (60 credits min.) ___

Multimedia Technology

Associate of Applied Studies with emphasis in Graphics & Animation Technology

General Education Requirements (15 Semester Credits)

English/Speech - *(3 credits)*

ENG 121 English Composition I ___

Mathematics - *(3 credits)*

MAT 114 or above

_____ ___

General Education Electives *(3 credits)*

_____ ___

Choose from any two of the following three areas:

Social and Behavioral Science - *(3 credits)*
ANT, ECO, GEO, HIS, POS, PSY, SOC

Humanities - *(3 credits)*
ART, HUM, LIT, MUS, PHI, THE

Science - AST, BIO, CHE, GEY, PHY *(3 credits)*

_____ ___

_____ ___

Program Specific Courses (Minimum 45 Semester Credits)

Major Courses for the degree in GAT

MTC	**100** *	Intro. to Macintosh Graphics	___
MTC	**101** *	Intro. to Design & Graphics	___
MTC	**102** *	Multimedia Equip. & Tech.	___
MTC	**201** *	Multimedia Production & Mgmt	___
MTC	**106**	Adobe Illustrator___	
MTC	**115**	Color Theory	___
MTC	**120**	Adobe Photoshop	___
MTC	**125**	QuarkXpress	___
MTC	**127**	Electronic PrePress	___
MTC	**130**	Animation & Rendering	___
MTC	**150**	Intro. to MM Authoring	___
MTC	**205**	Computer Art Studio	___
MTC	**220**	Adv. Adobe Photoshop	___

* *Required*

Plus **two** — 3 credit electives from the following:

Alternative Courses for the degree in GAT

ART	**121**	Drawing I	___
ART	**131**	Design I	___
ART	**151**	Photography	___
MTC	**133**	Digital 3D Design & Modeling	___
MTC	**136**	LightWave 3D ___	
MTC	**155**	Web Page Design	___
MTC	**159**	Web Site Design	___
MTC	**180**	Graphic Hardware Solutions	___
MTC	**182**	Electronic Portfolio	___
MTC	**210**	Sound Design for Multimedia	___
MTC	**211**	Adv. Sound Design for Multimedia	___
MTC	**233**	Adv. Digital 3D Design & Modeling	___
MTC	**236**	Adv. LightWave 3D	___
MTC	**240**	Adobe After Effects	___
MTC	**245**	Bryce	___
MTC	**250**	Adv. Multimedia Development	___
MTC	**254**	Intro. to Digital Editing	___
MTC	**255**	Adv. Web Page Design	___
MTC	**270**	QuickTime Technologies	___
MTC	**273**	Web Motion Graphics	___
MTC	**275**	Web Scripting ___	
MTC	**277**	Web Data Base ___	
MTC	**297**	Cooperative Education	___

Student _____ SS# _____

Advisor _____ Date _____

Dept. Head _____ Date _____

Dean _____ Date _____

Total General Education Credits ___

Total Program Specific Required & Elective Credits ___

Total Credits (60 credits min.) ___

Multimedia Technology

Associate of General Studies with emphasis in Production & Design Technology

Core Curriculum Requirements (34- 40 Semester Credits)

English/Speech - *(9 credits)*

ENG 121 English Composition I ___
ENG 122 English Composition II ___
SPE 115 Principles of Speech Comm ___

Arts and Humanities -
(9-13 credits) core only

ART, HUM, LIT, MUS, PHI, THE

_____ ___
_____ ___
_____ ___

Mathematics - (3-5 credits) core only

MAT 160 or above ___

_____ ___

Social and Behavioral Science -
(9 credits) core only

ANT, ECO, GEO, HIS, POS, PSY, SOC

_____ ___
_____ ___
_____ ___

Science - *(4-5 credits)* core only

AST, BIO, CHE, GEY, PHY

_____ ___

Program Specific Courses (Minimum 26 Semester Credits)

Major Courses for the degree in PDT

MTC 100 * Intro. to Macintosh Graphics ___
MTC 101 * Intro. to Design & Graphics ___
MTC 201 * Multimedia Production & Mgmt ___
MTC 106 Adobe Illustrator___
MTC 115 Color Theory ___
MTC 120 Adobe Photoshop ___
MTC 125 QuarkXpress ___
MTC 150 Intro. to MM Authoring ___

* *Required*

_____ ___

Articulation with Metropolitan State College of Denver: up to 66 semester hours of the Associate of General Studies Degree will be accepted toward MSCD's bachelor's degree in Technical Communication.

Alternative Courses for the degree in PDT

MTC 102 Multimedia Equip. & Tech. ___
MTC 127 Electronic PrePress ___
MTC 130 Animation & Rendering ___
MTC 150 Intro. to MM Authoring ___
MTC 205 Computer Art Studio ___
MTC 220 Adv. Adobe Photoshop ___
MTC 133 Digital 3D Design & Modeling ___
MTC 136 LightWave 3D ___
MTC 155 Web Page Design ___
MTC 159 Web Site Development ___
MTC 180 Graphic Hardware Solutions ___
MTC 210 Sound Design for MM ___
MTC 240 Adobe After Effects ___
MTC 245 Bryce ___
MTC 254 Intro. to Digital Editing ___
MTC 255 Adv. Web Page Design ___

Student _____ SS# _____

Advisor _____ Date _____

Dept. Head _____ Date _____

Dean _____ Date _____

Total General Education Credits ___
Total Program Specific
Required & Elective Credits ___

Total Credits (60 credits min.) ___

Multimedia Technology

Associate of Applied Studies with emphasis in Production & Design Technology

General Education Requirements (15 Semester Credits)

English/Speech - *(3 credits)*

ENG 121 English Composition I ___

Mathematics - *(3 credits)*

MAT 114 or above

_____ ___

General Education Electives *(3 credits)*

_____ ___

Choose from any two of the following three areas:

Social and Behavioral Science - *(3 credits)*

ANT, ECO, GEO, HIS, POS, PSY, SOC

Humanities - *(3 credits)*

ART, HUM, LIT, MUS, PHI, THE

Science - AST, BIO, CHE, GEY, PHY *(3 credits)*

_____ ___

_____ ___

Program Specific Courses (Minimum 45 Semester Credits)

Major Courses for the degree in MGA

ART	**121**	Drawing I	___
ART	**132**	3-D Design	___
ART	**226**	Sculpture I	___
ART	**270**	Figure Drawing	___
FVT	**150**	Development of Film Expression	___
FVT	**206**	Film/Video Lighting & Grip	___
MTC	**106**	Adobe Illustrator___	
MTC	**120**	Adobe Photoshop	___
MTC	**130**	Animation & Rendering	___
MTC	**133**	Digital 3-D Design & Modeling	___
MTC	**136**	LightWave 3D ___	
MTC	**220**	Adv. Adobe Photoshop	___
MTC	**233**	Adv. Digital 3-D Design & Modeling	___
MTC	**236**	Adv. LightWave 3D	___
MTC	**260**	Animation Project	___

* *Pending Approval*

Elective Courses for the degree in MGA

ART	**121**	Drawing I	___
ART	**131**	Design I	___
ART	**151**	Photography	___
MTC	**150**	Intro. to MM Authoring	___
MTC	**155**	Web Page Design	___
MTC	**159**	Web Site Design	___
MTC	**180**	Graphic Hardware Solutions	___
MTC	**182**	Electronic Portfolio	___
MTC	**210**	Sound Design for Multimedia	___
MTC	**211**	Adv. Sound Design for Multimedia	___
MTC	**240**	Adobe After Effects	___
MTC	**245**	Bryce	___
MTC	**250**	Adv. Multimedia Development	___
MTC	**254**	Intro. to Digital Editing	___
MTC	**255**	Adv. Web Page Design	___
MTC	**270**	QuickTime Technologies	___
MTC	**273**	Web Motion Graphics	___
MTC	**275**	Web Scripting ___	
MTC	**277**	Web Data Base ___	
MTC	**297**	Cooperative Education	___

Student _____ SS# _____

Advisor _____ Date _____

Dept. Head _____ Date _____

Dean _____ Date _____

Total General Education Credits ___

Total Program Specific Required & Elective Credits ___

Total Credits (60 credits min.) ___

Multimedia Technology

Associate of General Studies with emphasis in Motion Graphics Animation

Core Curriculum Requirements (34-40 Semester Credits)

English/Speech - *(9 credits)*

ENG 121 English Composition I ____
ENG 122 English Composition II ____
SPE 115 Principles of Speech Comm ____

Arts and Humanities -
(9-13 credits) core only

ART, HUM, LIT, MUS, PHI, THE

_____ ____
_____ ____
_____ ____

Mathematics - (3-5 credits) core only

MAT 160 or above ____

_____ ____

Social and Behavioral Science -
(9 credits) core only

ANT, ECO, GEO, HIS, POS, PSY, SOC

_____ ____
_____ ____
_____ ____

Science - *(4-5 credits)* core only

AST, BIO, CHE, GEY, PHY

_____ ____

Program Specific Courses (Minimum 26 Semester Credits)

Major Courses for the degree in MGA

ART 121 Drawing I ____
ART 132 3-D Design ____
ART 226 Sculpture I ____
ART 270 Figure Drawing ____
FVT 150 ** Development of Film Expression ____
FVT 206 Film/Video Lighting & Grip ____
MTC 106 Adobe Illustrator ____
MTC 120 Adobe Photoshop ____
MTC 130 Animation & Rendering ____
MTC 133 Digital 3-D Design and Modeling ____
MTC 136 LightWave 3D ____
MTC 220 Adv. Adobe Photoshop ____
MTC 233 Adv. Digital 3-D Design and Modeling ____
MTC 236 Adv. LightWave 3D ____
MTC 260 Animation Project ____

* *Pending Approval*
** *Optional*

Student SS#

Advisor _____ Date _____

Dept. Head _____ Date _____

Dean _____ Date _____

_____ _____

Total General Education Credits ____
Total Program Specific Required & Elective Credits ____

Total Credits (60 credits min.) ____

Multimedia Technology

Associate of Applied Studies with emphasis in Motion Graphics Animation

General Education Requirements (15 Semester Credits)

English/Speech - *(3 credits)*

ENG 121 English Composition I——

Mathematics - *(3 credits)*

MAT 115 or above

_____ —

General Education Electives *(3 credits)*

_____ —

Choose from any two of the following three areas:

Social and Behavioral Science - *(3 credits)*

ANT, ECO, GEO, HIS, POS, PSY, SOC

Humanities - *(3 credits)*

ART, HUM, LIT, MUS, PHI, THE

Science - AST, BIO, CHE, GEY, PHY *(3 credits)*

_____ —

_____ —

Program Specific Courses (Minimum 45 Semester Credits)

Major Courses for the degree in MGA

ART	**121**	Drawing I	——
ART	**132**	3-D Design	——
ART	**226**	Sculpture I	——
ART	**270**	Figure Drawing	——
FVT	**150**	Development of Film Expression	——
FVT	**206**	Film/Video Lighting & Grip	——
MTC	**106**	Adobe Illustrator——	
MTC	**120**	Adobe Photoshop	——
MTC	**130**	Animation & Rendering	——
MTC	**133**	Digital 3-D Design & Modeling	——
MTC	**136**	LightWave 3D ——	
MTC	**220**	Adv. Adobe Photoshop	——
MTC	**233**	Adv. Digital 3-D Design & Modeling	——
MTC	**236**	Adv. LightWave 3D	——
MTC	**260**	Animation Project	——

* *Pending Approval*

Elective Courses for the degree in MGA

ART	**121**	Drawing I	——
ART	**131**	Design I	——
ART	**151**	Photography	——
MTC	**150**	Intro. to MM Authoring	——
MTC	**155**	Web Page Design	——
MTC	**159**	Web Site Design	——
MTC	**180**	Graphic Hardware Solutions	——
MTC	**182**	Electronic Portfolio	——
MTC	**210**	Sound Design for Multimedia	——
MTC	**211**	Adv. Sound Design for Multimedia	——
TC	**240**	Adobe After Effects	——
MTC	**245**	Bryce	——
MTC	**250**	Adv. Multimedia Development	——
MTC	**254**	Intro. to Digital Editing	——
MTC	**255**	Adv. Web Page Design	——
MTC	**270**	QuickTime Technologies	——
MTC	**273**	Web Motion Graphics	——
MTC	**275**	Web Scripting ——	
MTC	**277**	Web Data Base ——	
MTC	**297**	Cooperative Education	——

Student _____ SS# _____

Advisor _____ Date _____

Dept. Head _____ Date _____

Dean _____ Date _____

Total General Education Credits ——

Total Program Specific Required & Elective Credits ——

Total Credits (60 credits min.) ——

Certificate:
Occupational Safety Technology

The Occupational Safety Technology Certificate program is designed to provide you with knowledge and training skills in industrial safety applications. It is recommended that you obtain an Occupational Safety Certificate have five or more years of working experience in the safety field.

Required Major Courses			Credits
OSH	112	Fire Prevention and Analysis	3
OSH	131	General Industry Standards	5
OSH	134	Construction Standards	3
OSH	196	Safety Program Planning	3
OSH	200	Hazardous Material Control	2
OSH	202	Accident Prevention	2
OSH	240	Case Study Evaluation	5
OSH	250	Safety Training Methods	3
OSH	XXX	Elective chosen from degree program electives.	4
		Total Required Credits	**30**

Painting

(See Construction Technology)

Park Ranger Technology

The Park Ranger Training Program provides training for those of you 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) certficate programs of concentration 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 PRTCertificate 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 PRTprogram 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. Consult with the PRTprogram advisor **303.914.6238**.

Certificate:

Law Enforcement Concentration

The Law Enforcement Certificate is for those students wishing to increase their job opportunities by being qualified for full law enforcement responsibilities in the field.

			Credits
CRJ	XXX	Post Law Enforcement Academy	24
PAR	102	Introduction to Park Ranger Technology	3
PAR	297	Park Ranger Internship	3
		Total Required Credits	**30**

Certificate:
Outdoor Recreation Concentration

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.

			Credits
PAR	102	Introduction to Park Ranger Technology	3
PAR	205	Resource Interpretation	3
PAR	297	Park Ranger Internship	3
Credit from the following areas:			**21**
PHE	170	Cross Country Skiing	2
PHE	180	Mountaineering I	3
PHE	181	Basic Rock Climbing	2
PHE	182	Intermediate Rock Climbing	2
PHE	183	Basic Ice Climbing	2
PHE	185	Snow and Glacier Climbing	3
PHE	186	Orienteering	3
PHE	187	Map and Compass for the Outdoors	3
PHE	188	Backpacking	3
PHE	190	Snowshoeing	1
PAR	218	Outdoor Leadership	3
PHE	220	Wilderness Equipment and Facilities	3
PHE	225	Routefinding	1
PHE	227	Basic Mountaineering II	3
PHE	228	Wilderness Ethics	3
PHE	229	Wilderness Survival I	3
PHE	259	Wilderness Survival II	3
PHE	237	Paddle Sports	2
		Total Required Credits	**32**

Certificate:
Public Safety Concentration

The Public Safety Certificate provides necessary training for those students wanting to work for agencies providing fire, EMS, rescue,hazardous materials or other response/mitigation services.

			Credits
PAR	102	Introduction to Park Ranger Technology	3
PAR	297	Park Ranger Internship	3
EMS	227	Emergency Medical Technician *(Basic)*	10
FST	121	Rope Rescue	3
FST	152	Intro to Wildland Firefighting	3
FST	236	Fire Operations in the Urban Interface	2
		Total Required Credits	**24**

Certificate: Resource Interpretation Concentration

The Resource Interpretation Certificate is for those working with resource interpretation, naturalist or other nature center work with the public.

			Credits
PAR	102	Introduction to Park Ranger Technology	3
PAR	203	Natural Resource Management	3
PAR	205	Resource Interpretation	3
PAR	297	Park Ranger Internship	3
		Total Required Credits	**12**

Philosophy

Degree: Associate of Arts

Philosophy is the study of basic concepts with which we constructmeaning in life. It examines reasoning processes, ways of knowing,concepts of right and wrong, interpretations of reality and views of the self. The following sequence of courses provides a broad introduction to the field and prepares you for further education.

You are encouraged to consult with a Red Rocks Philosophy faculty advisor before beginning any program of study.

Suggested Sequence for Full-time Students

This is a suggested sequence for completing the degree. If you are a part-time student, it will take you longer to complete the sequence. Some courses might not be offered each session.

First Session			**Credits**
PHI	111	Introduction to Philosophy	3
ENG	121	English Composition I	3
SPE	115	Public Speaking	3
SOC	101	Introduction to Sociology I	3
PSY	101	General Psychology I	3
			15
Second Session			
PHI	113	Logic	3
SPE	230	Argumentation and Debate	3
HIS	101	Western Civilization I	3
ENG	122	English Composition II	3
MAT	1XX	Mathematics Core Course	3-5
			15-17
Third Session			
HIS	102	Western Civilization II	3
PHI	112	Ethics	3
PHI	115	Comparative Religion	3
ANT	101	Cultural Anthropology	3
Science Core Course			4-5
			16-17
Fourth Session			
POS	105	Introduction to Political Science	3
Humanities Core Course *(except Philosophy)*			3
Transferrable Electives			8
			14

Electives

Electives must be selected from college-level transfer courses. No more than three semester credits in physical education may be counted.

Total Required Credits *(minimum)* **60**

Physical Education - Outdoor Education

Degree: Associate of Arts -Emphasis in Outdoor Physical Education

The completion of the following recommended course of study is appropriate if you intend to transfer to the University of Northern Colorado in order to complete a bachelor's degree in Physical Education with an emphasis in Outdoor Education, or to prepare yourself to apply to the Professional Teacher Education Program (PTEP). Please consult with your academic advisor and the Outdoor Physical Education faculty advisor **(303.914.6238)** before beginning this program.

The Associate of Arts Degree with an emphasis in Outdoor Physical Education is also designed as a stand-alone program to allow the student to enter a career as an outdoor educator, wilderness guide, or to work in the outdoor retail industry.

Required Major Courses			**Credits**
ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3
PHE	181*	Basic Rock Climbing	2
PHE	182*	Intermediate Rock Climbing	2
PHE	218	Outdoor Leadership	2
PHE	229	Wilderness Skills I	3
PHE	237	Paddle Sports	2
PHE	259	Winter Wilderness Skills	3
PHE	297	Cooperative Ed.-Internship	3
			26

Required General Education Courses

Mathematics (complete one course) **(3)**
MAT160, 170, 171, 175, 201

Physical Activity **(complete one course)** **(1)**
PHE 100, 133, 134, 136, 150, 151, 190

Arts and Humanities **(9)**
(Complete three courses from two different disciplines)
ART110, 211, 212; MUS 120, 221, 222; LIT201, 202, 211, 212; PHI 111, 112; THE 105, 211, 212; Foreign Language 111, 112, 211, 212, HUM 121, 122

Social and Behavioral Sciences **(9)**
(Complete three courses from at least two different disciplines)
ANT 101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; PSY101*, 102*; SOC 101, 102

Science **(12)**
(Complete the following two courses)

GEY	111	Physical Geology	4
ENV	101	Introduction to Environmental Science	4

(Complete one course from the following)
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111; PHY 105, 111, 211

Total Required Credits **60-62**

****transfer to UNC as one course***

Outdoor Education Department Certificate Programs

(Pending Final Approval)

Certificate: Ski Area Safety

This program will prepare students for work in the ski industry. Students will train for work in all traditional areas of safety as it relates to ski areas, such as working as a ski patroller or ski instructor, lift operator, retail/rental shop, trail groomer, construction, in-area hospitality guide, backcountry guide, and other matters pertaining to client safety.

(Suggested Course of Study)

Fall Semester	***Spring Semester***
Introduction to the National Ski Patrol	Outdoor Leadership
Outdoor Emergency Care & CPR	Avalanche Safety
Fitness I	Winter Wilderness
Basic Mountaineering	Skills II
Ski Equipment and Area Facilities	Snowshoe Touring
Ski Area Internship	Nordic Ski Touring
	Snowmobile Safety

Certificate: Colorado River Guide

This program of study and experience will prepare the student to qualify as a professional river guide in the State of Colorado. Students will train to work in the Whitewater Rafting industry by meeting the qualifications as required by Colorado Statute 33-32-105.5 for Professional River Guides. In addition to the minimum qualifications, students will also prepare to be future trip leaders by completing this Certificate Program which includes course work in: Outdoor Recreation Leadership, Geology, Wilderness Ethics, and Outdoor Emergency Care.

(Suggested Course of Study)

Fall Semester	**Spring/Summer Semesters**
Fitness for Outdoor Leaders	Paddle Sports
Wilderness Ethics	Geology
Backcountry Cooking	Outdoor Leadership
Map & Compass	Whitewater Rafting/Guide
Wilderness Survival I	Flyfishing
Outdoor Emergency Care & CPR	Outfitter Internship

NOTE: Students completing one of the above certificate programs will have a well-rounded outdoor education experience and a high degree of training specific to working for an outdoor outfitter, alpine/cross country ski area, fly-fishing guide service, or as a whitewater rafting guide. Students earning a Certificate of Completion in Ski Area Safety will be sought after by ski resort companies or a winter guide service. Students earning a Certificate of Completion in the Colorado River Guide Program may be able to secure employment as a whitewater rafting guide from one of the many members of the Colorado River Outfitters Association. Graduates of either program can look forward to working with a company looking to make an investment in their future and wanting to make the best possible choices for a healthy, active, intelligent, safety conscious, and well-trained employee. Prior to beginning either of the above Certificate Programs students will need to consult with the Program Coordinator. **Call 303-914-6238 for more information.**

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 completea major in physics.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			**Credits**
CHE	111	General College Chemistry I *(Core)*	5
CHE	112	General College Chemistry II *(Core)*	5
CSC	160	Computer Science I *(Required Lab)*	5
MAT	201	Calculus I *(Core)*	5
MAT	202	Calculus II *(Core)*	5
MAT	204	Calculus III with special topics	5
PHY	211	Physics: Calculus-based I *(Core)*	5
PHY	212	Physics: Calculus-based II *(Core)*	5

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

**Humanities* (any two courses from the following) 6-10
ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 211, 212

Social and Behavioral Sciences (courses from two different disciplines) ANT101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 6

Electives **3**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **61**

** Students are encouraged to complete GER 111 and 112 to satisfy the Arts and Humanities requirement.*

Physician Assistant

Certificate: 75 Credits
Master's Degree Option

Physician assistants (PAs) are health care providers who are authorized to practice medicine under the supervision of a licensed physician. Many PAs have already enjoyed careers as allied health personnel.

Aprimary mission of the Red Rocks PAProgram is to prepare PAs to work in communities and patient populations deemed to be medically underserved.

The program is a rigorous, year-round, full-time 24 month curriculum leading to a certificate that qualifies its graduates to sit for the Physician Assistant National Certifying Examination (PANCE).

The first 12 months is devoted to classroom, laboratory and small group work, most of which is on campus. The second 12 months is devoted to a series of off-campus clinical rotations, some of which may be scheduled at sites outside of metropolitan Denver. Qualified students may seek to co-register at an affiliate institution to obtain a master's degree, to be completed at the same time as the certificate.

Program Application and Prerequisites

Candidates must submit an application through the Centralized Application Service for Physician Assistants (CASPA) and a supplemental Red Rocks PA application. Apersonal interview is required. The annual application deadline is January 15, for admission the following August of each year.

At the time of application, candidates must have completed a minimum of 90 credit semester credit hours at a regionally accredited institution of higher education with a minimum grade point of 2.75. At the time of application, the following courses must have been completed with a grade of C or better:

Minimum Course Credits

College algebra or higher math	4
English electives	6
Human anatomy and physiology	6
Microbiology	3
Introduction to Statistics	3
Chemistry (with either organic or biochemistry)	10
Psychology or social science electives	6

Competence in medical terminology and computer literacy must be demonstrated, either by coursework or through letters of reference.

At the time of application, candidates must have had at least 2,000 hours of direct human patient care in a formal health care setting. The many professions that meet this requirements include: pharmacist, EMT, nurse, respiratory therapist, nurse's aide, medical office assistant with direct patient care duties, x-ray or surgical technologist or exercise physiologist.

One class of 25 students is admitted in August of each year. Advanced placement and credit for prior learning are not available. Tuition is currently $236.65/credit hour for Colorado residents and $319.00/credit hour for non-residents. Student fees average $150 per semester for all students. Tuition and fees are subject to change.

Prior to matriculation, successful applicants must undergo health screening and produce evidence of current CPR certification, and of immunization or immunity to diphtheria, tetanus, measles, mumps, rubella, varicella and hepatitis B (positive titer or immunization series), or sign a declination form.

Required Courses

First Year		**Credits**
PAP200	Biochemistry and Cell Biology	3
PAP203	Health Care Issues	1
PAP205	Human Anatomy and Development	3
PAP207	Health Promotion	1
PAP210	Human Physiology	3
PAP218	Evaluating the Medical Literature	1
PAP219	Medical Interviewing Skills	1
PAP220	Physical Examination Techniques	1
PAP221	Clinical Medicine I	3
PAP222	Clinical Medicine II	3
PAP223	Pediatrics	2
PAP224	Surgery and Emergency Medicine	2
PAP225	Women's Health Care	1
PAP226	Clinical Procedures /Laboratory Medicine	1
PAP228	Problem-Based Learning	1
PAP230	Drug Therapy I	1
PAP231	Drug Therapy II	3
PAP235	Human Pathology, with Laboratory	5
PAP240	Behavioral Science in Primary Care	3

Second Year

PAP 260 - 268 36

Clinical Rotations in Family Medicine, Internal Medicine, Pediatrics, Emergency Medicine, Surgery, Women's Health, Orthopedics, Geriatrics and Psychiatry.

Total Certificate Credits 75

International transcripts must be evaluated by an agency acceptable to Red Rocks. ATOEFL test with a paper-based score of at least 600 is required of international candidates whose primary language is other than English or whose transcripts reflect course work not taught in English. An essential packet of materials, including CASPAinformation, is available online at www.rrcc.cccoes.edu, or by calling **303.914.6386**.

Pipefitting/Pipe Trade Plumbing

(See Construction Technology)

Political Science

Degree: Associate of Arts

Political science is the study of how political systems are created, the nature of the social contracts between people and governments,political parties, political behavior and the evolution of political institutions. The completion of the following courses is appropriatefor those who plan to transfer to a four-year college or university to complete a major in political science.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			Credits
ECO	201	Principles of Macroeconomics *(Core)*	3
ECO	202	Principles of Microeconomics *(Core)*	3
HIS	137	Contemporary World History	3
HIS	201	U. S. History I *(Core)*	3
HIS	202	U. S. History II *(Core)*	3
POS	105	Introduction to Political Science *(Core)*	3
POS	115	American Government	3

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (courses from two different disciplines) 9
ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 211, 212

Mathematics (any course from the following) 3
MAT160, 171, 175, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 111, 112, 211, 212

Electives **14**
Electives must be selected from college-level transfer courses. No more than three credits in physical education may be counted.

Total Required Credits **60**

Production and Design Technology

(See Multimedia Technology)

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. 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 psychology.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			Credits
PSY	101	General Psychology I	3
PSY	102	General Psychology II	3
Choose from <u>one</u> of the following advanced classes:			
PSY	215	Psychology of Adjustment	3
PSY	226	Social Psychology	3
PSY	235	Human Growth and Development	3
PSY	238	Child Development	3
PSY	249	Abnormal Psychology	3

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (courses from two different disciplines) 9
ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113; THE 211, 212

Mathematics (any course from the following) 3
MAT160, 171, 175, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 111, 112, 211, 212

Social and Behavioral Sciences (any course from the following) 3
ANT 101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; SOC 101, 102, 255

Electives **23**
Biology and Chemistry are highly recommended for Psychology majors transferring to the university level. All Psychology majors should check with the Transfer Center on campus to help determine the best electives to choose for the university they will be attending. All electives must be chosen from transfer courses. No more than three credits in physical education may be counted.

Total Required Credits **60**

Public Administration

Degree: Associate of Arts

(offered through CCConline only) For more information go to www.ccconline.org

Required Major Courses:

ACC	121	Principles of Accounting	4
BUS	158	Human Resource Management	3
MAN	226	Principles of Management	3
POS	121	Introduction to Public Administration	3
POS	125	State and Local Government	3
POS	211	Introduction to Public Finance	3
POS	215	Current Political Issues in Government	3
POS	221	Community Development and Planning	3

General Education

ENG	121	English Composition I	3
ENG	122	English Composition II	3
MAT	160	College Algebra	4
SPE	115	Speech Communications	3
POS	105	Introduction to Political Science	3
POS	111	American Government	3
SOC	101	Introduction to Sociology	3
PHI	112	Ethics	3
	Total	**25**	

Humanities (select two of the following)

ART	110	Art Appreciation	3
HUM	121	Survery of Humanities I	3
LIT	115	Introduction to Literature	3
MUS	221	Development of Music I	3
PHI	111	Introduction to Philosophy	3
SPA	111	First-Year Spanish I	5
SPA	112	First-Year Spanish II	5
	Total	**25**	

Physical and Biological Sciences

(select one of the following)

AST	101	Astronomy I	4
AST	102	Astronomy II	4
BIO	105	Science of Biology	4
BIO	111	General College Biology I	5
CHE	111	General College Chemistry I	5
CHE	112	General College Chemistry II	5
PHY	111	Physics: Algebra Based I	5
PHY	211	Physics: Calculus-Based I	5
		Total	**4-5**

Total Required Credits **60-61**

Public Safety Communications

Certificate Program: 16-20 credits

Completion of this program will prepare individuals for:

• Entry into a career of Emergency Dispatch and Communications for Fire, Police, Medical, and Private related fields

• Promotion within Emergency Dispatch divisions in Public and Private work places

The Public Safety Communications Safety Certificate Program is designed to provide a comprehensive program that will build and maintain high performance standards associated with dispatching of Public Safety Emergency Services and allied professionals. The Communications Center for any Public Safety Agency and those of allied professions serves as a clearing house for information, assistance and support. Emergencies are a fact of life. Agencies that actually handle emergencies are well established, and public awareness of the agencies and their activities is common. How these agencies learn of emergencies,–what the emergency is, where, who, and what are involved, and the details specific to each emergency, –is the responsibility of the Communication Specialist.

Public Safety Emergency Services includes Fire, Law Enforcement, Emergency Medical Services, Security, and more. Some of the allied professions include Park Service, Search and Rescue, Ski Patrol, etc. The personnel who actually dispatch these agencies must be prepared to receive, assimilate, and prioritize, then appropriately disseminate information from a variety of people, utilizing an assortment of resources and sophisticated equipment. These are professional Communication Specialists. This program provides the training that enables them to effectively handle emergencies, as well as routine situations, effectively and efficiently. The program also includes training for those who manage the Communication Centers and the technical staff who maintain the equipment.

The program goals provide:

- Professional program standards and materials geared toward the needs of area Communication Centers
- Compresensive introduction to and fundamental skills for Communication Specialists
- Student preparation for potential employment in Public Safety Communications
- Development of a pool of employable candidates for Public Safety Communications Centers
- Introductory and Ongoing courses for Communication Center administrators and trainers
- Introduction to Communications Center equipment and its maintenance

Required Major Courses

			Credits
PSC	100	Intro to Public Safety Communications	3
PSC	103	Telephone-Radio Techniques	3
PSC	104	Law Liability and S & Safety	3
PSC	107	Emergency Medical Dispatch	3
ENG	121	English Composition I	3
PSC	297	Internship, Coop	2-6
		Total Required Credits	**16-20**

Radiologic Technology

(In cooperation with Exempla Lutheran Medical Center)

Degree: Associate of Applied Science

The Radiologic Technology program is designed to provide medical diagnostic radiography training 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, these positions may allow the technologist to participate in advanced level examinations as well as computed tomography, magnetic resonance imaging or mammography.
For more information call: **303.420.6879**.

Required Major Courses			Credits
First Session *(Fall)*			
RTE	112	Radiographic Procedures I	3
RTE	116	Imaging Equipment I	3
RTE	118	Patient Care I	3
RTE	114	Clinical Education I	5
			14
Second Session *(Spring)*			
RTE	122	Radiographic Procedures II	3
RTE	126	Imaging Equipment II	3
RTE	128	Patient Care II	2
RTE	124	Clinical Education II	5
			13
Third Session *(Summer)*			
RTE	134	Clinical Education III	7
			7
Fourth Session *(Fall)*			
RTE	212	Radiographic Procedures III	3
RTE	217	Radiation Biology & Radiation Protection	2
RTE	214	Clinical Education IV	8
			13
Fifth Session *(Spring)*			
RTE	229	Registry Review	2
RTE	224	Clinical Education V	11
			13
		Total Required Credits	**60**

Program Totals

Prerequisites	14
Professional	60
Total Credit Hours 74	
Clinical Contact Hours	1640

Prior to beginning the Radiologic Technology Program, interested students are required to apply to both the college and the Program. There are five General Education Core courses that must be completed before beginning the radiography program.

General Education Courses			Credits
MAT	130	Intermediate Algebra	4
PSY	101	General Psychology	
		or	3
SOC	101	Introduction to Sociology	
MOT	104	Anatomy & Physiology for Health Professions	4
		or	
BIO	201	Human Anatomy & Physiology I	4
		and	
BIO	202	Human Anatomy & Physiology II	4
ENG	121	English Composition I	3

Interested students should apply to the Radiologic Technology program in the Fall of the year preceding the year in which they wish to begin. Other admission requirements are available upon request. All of the clinical experiences are conducted at Exempla Health facilities.

Refrigeration
Roofing Sheetmetal
Solar

(See Construction Technology)

Sociology

Degree: Associate of Arts

Sociology is the systematic and scientific study of the cultural, institutional, and interactional forces that shape the everyday life of individuals.The completion of the following courses is appropriate for those who plan to transfer to a four-year college or university to completea major in sociology.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses			Credits
SOC	101	Introduction to Sociology I *(Core)*	3
SOC	102	Introduction to Sociology II *(Core)*	3
SOC	215	Contemporary Social Problems	3
SOC	XXX		6
Approved electives to be selected from the sociology curriculum			

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (courses from two different disciplines) 9
ART110, 211, 212; Foreign Language 111, 112, 211, 212;
HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222;
PHI 111, 112, 113; THE 211, 212

Mathematics (any course from the following) 3
MAT160, 171, 175, 201, 202
Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112;
GEY 111, 121; PHY105, 111, 112, 211, 212
Social and Behavioral Sciences (any course from the following) ANT 101, 111;
ECO 201, 202; GEO 105; HIS 101, 102,
201, 202; POS 105, 115; PSY101, 102 3

Electives **17**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **60**

Real Estate Small Business Management

(See Business Administration)

Speech Communication

Degree: Associate of Arts

The completion of the following courses is appropriate for those of you who plan to transfer to a four-year college or university to complete a major in communications. This program provides basic preparation leading to communication-related careers, such as sales, journalism, public relations, personnel, service and politicalcareers, teaching and broadcasting.

You are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses

			Credits
COM	181	Sign Language I	3
COM	182	Sign Language II	3
SPE	111	Survey of Communication	3
		or	
SPE	125	Interpersonal Communication	
		or	
SPE	211	Advanced Public Speaking	
SPE	217	Group Communication	3
SPE	220	Intercultural Communication	3
SPE	230	Argumentation and Debate	1-3
		or	
SPE	275	Forensics and Speech Competition	1-3

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Principles of Speech Communication	3

Humanities (courses from two different disciplines) 9
ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 121, 122; PHI 111, 112, 113; THE 211, 212

Mathematics (any course from the following) 3
MAT121, 125, 135, 201, 202

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 111, 112, 211, 212

Social and Behavioral Sciences (courses from two different disciplines) ANT 101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 111; PSY101, 102; SOC 101, 102 9

Electives **14**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **60**

Theatre Arts

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 theatre arts. This program provides basic preparation leading to theatre-related careers as well as to the teaching of theatre. Students are urged to consult with a faculty advisor before beginning any program of study.

Recommended Courses

			Credits
THE	105	Introduction to Theatre Arts	3
THE	111	Acting I	3
		or	
THE	116	Technical Theatre	3
THE	211	Development of Theatre I *(Core)*	3
		or	
THE	212	Development of Theatre II *(Core)*	3
Choose one course from the following for a total of 3 credits:			
THE	170	Dance and Stage Movement	3
		or	
THE	271	Dance for the Musical Theatre	3
		or	
THE	210	Singing for Actors	3
		or	
THE	215	Playwriting	3
Choose two courses from the following for a total of 6 credits:			
THE	131	Theatre Production I	3
		or	
THE	132	Theatre Production II	3
		or	
THE	231	Theatre Production III	3
		or	
THE	232	Theatre Production IV	3

Core Curriculum Requirements

English/Speech

ENG	121	English Composition I	3
ENG	122	English Composition II	3
SPE	115	Public Speaking	3

Humanities (any course from the following) 3
ART110, 211, 212; Foreign Language 111, 112, 211, 212; HUM 121, 122, 123; LIT115, 201, 202; MUS 120, 221, 222; PHI 111, 112, 113

Mathematics (any course from the following)
MAT160, 171, 175, 201, 202 3

Science (any course from the following) 4
AST 101, 102; BIO 105, 111, 112; CHE 101, 102, 111, 112; GEY 111, 121; PHY105, 111, 112, 211, 212

Social and Behavioral Sciences (courses from two different disciplines)ANT 101, 111; ECO 201, 202; GEO 105; HIS 101, 102, 201, 202; POS 105, 115; PSY101, 102; SOC 101, 102 9

Electives **8**
Electives must be selected from college-level transfer courses.
No more than three credits in physical education may be counted.

Total Required Credits **60**

Theatre Technology

ASSOCIATE OF ARTS DEGREE WITH AN EMPHASIS IN MUSICAL THEATRE

The completion of the following courses prepares students for musical stage performance or are appropriate for those who plan to transfer to a four-year college or university to complete a major in Musical Theatre performance. Required for the Associate of Arts are 28 credits in the Core Curriculum and 8 credits in General Electives. To complete the Emphasis in Musical Theatre, 24 credits in Theatre Arts are required. These 24 credits are as follows:

THE	105 -	Introduction to Theatre Arts	3
THE	111 -	Acting I	3
THE	112 -	Acting II	3
THE	125 -	Auditioning for Musical Theatre	1
THE	135 -	Stage Makeup I	2
THE	170 -	Dance and Stage Movement	3
THE	205 -	Voice Practicum	3
THE	240 -	Voice and Diction	3
THE	271 -	Dance for Musical Theatre	3

Certificate: Costume and Fashion Design

Students who earn this certificate will be prepared for entry-level employment in costume and fashion-design careers as stitchers, wardrobe managers, costume shop managers, workers in alterations and tailoring, makeup artists, window dressers, and other fashion and entertainment-related positions. This certificate also prepares students interested in pursuing an advanced degree in costume design and in the fashion industry.

First Semester			**Credits**
THE	105	Introduction to Theatre Arts	3
THE	106	Basic Costume and Apparel Construction	3
THE	108	Basics of Pattern Drafting	3
THE	135	Stage Makeup I	2
THE	165	The Costume and Fashion Industry	2
THE	237	History of Costumes and Fashion	3

Second Semester			**Credits**
THE	132	Theatre Production II	3
THE	136	Stage Makeup II	2
THE	245	Basic Costume Design and Construction	3
THE	230	Costume Shop Organization	2
THE	297	Theatre Technology Internship (Field Education)	1-4 (variable)
		Total Required Credits	**27-30**

Certificate: Stage Carpentry

This course of study is designed to train students for entry-level positions as backstage technicians, running crew members, shop assistents, crew leaders, properties assistants, and set builders. Related professions that students might consider after earning this certificate are carpentry, cabinet making, and careers requiring construction skills.

First Semester			**Credits**
THE	105	Introduction to Theatre Arts	3
THE	116	Technical Theatre	3
THE	130	Safety: Tools and Materials	3
THE	151	Stagecraft I	2
SPE	125	Interpersonal Communications	2

Second Semester			**Credits**
THE	132	Theatre Production II	3
THE	216	Theatre Lighting and Design	2
THE	221	Set Design	3
THE	241	Stage Properties	2
THE	297	Theatre Technology Internship (Field Education)	1-4 (variable)
		Total Required Credits	**24-27**

Degree: Associate of Applied Science Certificate: Variable Credits

This program, a two-year course of study, will prepare students 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 for students who want to pursue advanced degrees at four-year institutions in Theater Design and Technology.

First Session - Fall			**Credits**
THE	105	Introduction to Theatre Arts	3
THE	116	Technical Theatre	3
THE	130	Safety: Tools and Materials	2
THE	131	Theatre Production I	3
THE	135	Stage Makeup I	2
General Education			3
			16

Second Session - Spring			**Credits**
THE	120	Drafting for the Performing Arts	3
THE	136	Stage Makeup II	2
THE	151	Stagecraft I	3
THE	216	Theatre Lighting and Design	3
General Education			3
General Education			3
			17

Third Session - Fall			**Credits**
THE	211	Development of Theatre I	3
THE	152	Stage Management	3
THE	132	Theatre Production I	3
THE	221	Set Design	3
General Education			3
			15

Fourth Session - Spring			Credits
THE	212	Development of Theatre II	3
THE	241	Stage Properties	3
THE	245	Basic Costume Design and Construction	3
THE	270	Resume and Portfolio Development	1
THE	297	Theatre Technology Internship (Field Education)	1-4
General Education			3
			14-17
		Total Required Credits	**60**

Water Quality Management Technology

Degree: Associate of Applied Science

The Water Quality Management Technology Program is a comprehensive study for all levels and areas of operations in the water and wastewater industry. In the Program, students who are entering the industry can be introduced to the many functions and career opportunities within the field. They can then establish an educational program that best fits their goals and interests. Students who are working in the industry can obtain higher education and skill levels for higher operator certification by attending specific courses offered. ADegree in Water Quality Management Technology will give a student all the instruction necessary for Supervision and Management level positions.

For more information call: **303.914.6325.**

Required Major 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
			34

General Education Requirements

English/Speech (COM, ENG, SPE)	3
Mathematics (056 or above)	3
Credit from any two of the following three areas:	**6**
Humanities (ART, FRE, GER, HUM, LIT, MUS, PHI, SPA, THE)	
Science (AST, BIO, CHE, GEY, PHY)	
Social and Behavioral Sciences (ANT, ECO, GEO, HIS, POS, PSY, SOC)	

Other Required Courses

CIS	118	Introduction to PC Applications	4

Courses Electives

16

Student must take 12 credits from the following courses or other courses as approved

WQM	106	Mechanical-Physical Treatment	3
WQM	107	Biological Treatment	3
WQM	108	Sludge Treatment	3
WQM	109	Water Distribution	3
WQM	115	Water Sources and Supply	3
WQM	116	Water Pre-treatment	3
WQM	117	Domestic Water Treatment Process	3
WQM	118	Wastewater Collection Systems	3
WQM	121	Environmental Sampling and Volume Measurement	3
WQM	122	Basic Electricity for Water Quality Systems	4
WQM	124	Water Certification Review for Class C & D	2
WQM	125	Water-Wastewater Certification Review for Class C & D	2
WQM	207	Operations and Control of Activated Sludge Systems	4
WQM	208	Advanced Wastewater Treatment	3
WQM	230	Industrial Monitoring and Treatment	3
WQM	299	Independent Study	1-6
		Total Required Credits	**63**

Welding Fabrication Technology

Degree: Associate of Applied Science
Certificate: Variable Credits

Welding has become a very sophisticated and technical science, requiring not only mental application, but also hands-on abilities. This program provides job-entry skills in the welding trade and upgrading for those in the field who need to acquire more skill.

Demonstrated mastery of these skills is required. Programs are open-entry and open exit. You may complete some of the courses, enter the work force, and then return at any time either to complete some of the courses, enter to complete the program for a certificate, or to upgrade specific skills. This program meets American Welding Society standards.
Offered at Heat Center: **303.340.7001.**

First Year			**Credits**
WFT	100	Overview	1
WFT	102	Oxyfuel Gas Cutting	4
WFT	103	Plasma Arc Cutting	1
WFT	107	Blueprint Reading	4
WFT	108	Shielded Metal Arc Welding	4
WFT	109	Gas Metal Arc Welding	4
WFT	115	Special Applications in Arc Welding	4

Second Year			**Credits**
WFT	200	Gas Tungsten Arc Welding	12
WFT	209	Gas Metal Arc Welding (MP)	3
WFT	209	Pipe Joint Fabrication	3
WFT	220	Structural Shapes and Joint Design	1-4
			44

General Education Requirements

MAT	114	Career Mathematics	4
ENG	131	Technical Writing	3
COM	125	Communication in the Workplace	3
PHY	105	Conceptual Physics	4
Elective			1 or more credits
			15

Certificates

American Welding Society Level One			**Credits**
WFT	100	Overview	1
WFT	102	Oxyfuel Gas Cutting	4
WFT	103	Plasma Arc Cutting	1
WFT	107	Blueprint Reading	4
WFT	108	Shielded Metal Arc Welding	4
WFT	109	Gas Metal Arc Welding	4
WFT	115	Plate Code Testing I	4
		Total Required Credits	**22**

American Welding Society Advanced Level Welding			**Credits**
WFT	116	Plate Code Testing II	4
WFT	200	Gas Tungsten Arc Welding	12
WFT	209	Gas Metal Arc Welding	3
WFT	210	Pipe Joint Fabrication	3
		Total Required Credits	**22**

Gas Tungsten Welding			**Credits**
WFT	200	Gas Tungsten Arc Welding	12
		Total Required Credits	**12**

Plate Code Testing			**Credits**
WFT	115	Plate Code Testing I	4
WFT	116	Plate Code Testing II	4
		Total Required Credits	**8**

Woodworking

(See Construction Technology)

Course Descriptions

Attention: Course numbers and descriptions are subject to changes. The Community Colleges of Colorado launched a common course numbering and common competency project to improve student transfer and to ensure curriculum quality across our system. The project is scheduled to be fully implemented in fall 2001. The project will not jeopardize student credit and transfer. The system will provide an electronic addendum at www.rightchoice.com and www.cterc.cccoes.edu/cccns as course numbers and course competencies are completed.

Course Descriptions

Course descriptions are listed in alphabetical order by program. Please refer to the current ***Class Schedule*** for the list of courses offered each semester. Unless otherwise indicated, courses are normally offered each semester. The courses listed on the following pages are an indication of college course offerings; courses and programs are subject to modification at any time.

Co-requisite

Aco-requisite is a course that must be taken in conjunction with another course during the same session, i.e. a laboratory is a co-requisite to some computer, math and science courses.

Prerequisite

Aprerequisite is a course that must be satisfactorily completed before taking the next higher level course. The prerequisite for a course may also be permission of instructor.

Special Topics Courses

Most program/course prefix areas offer special topics courses. These courses are numbered 290. Students should consult with their advisor regarding the applicability of these courses toward a degree or certificate. Descriptions are on file with the appropriate Instructional Vice President.

Independent Study

Cooperative Education

ACADEMIC ACHIEVEMENT

AAA090 Academic Achievement Strategies
3 Credits

Students will develop personalized approaches to learn and succeed as they transition into college. Topics include goal-setting, time management, textbook reading strategies, note-taking, test-taking, listening techniques, concentration and memory devices and critical thinking for student success.

AAA109 Advanced Academic Achievement
3 Credits

Students will examine theories and practices associated with successful learning and adopt those that enhance their college success. Critical areas for study include education and career planning; effective communication; personal management; critical and creative thinking; development of community and awareness of diversity; leadership and techniques for successful academic performance. This course is recommended for new and returning students.

ACCOUNTING

ACC Computer Lab Courses
Some accounting courses have a computer lab accompanying them. The lab is added to the credits for its related course.

ACC 101 Fundamentals of Accounting
3 Credits

This course presents the basic elements and concepts of accounting, with emphasis on the procedures used for maintaining journals, ledgers and other related records, and for completion of end-of-period reports for small service and merchandising businesses.

ACC 121 Accounting Principles I
4 Credits

This course introduces the study of accounting principles and the theory and logic that underlie procedures and practices.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 asset and intangible asset accounting and depreciation methods and practices.

ACC 122 Accounting Principles II
4 Credits

Prerequisite: ACC 121 or equivalent with a grade of C or better

This course is a continuation of ACC 121 and covers accounting principles as they apply to partnerships and corporations. Topics include stocks and bonds, investments, cash flow statements, financial analysis, budgeting and cost and managerial accounting.

ACC 125 Computerized Accounting
3 Credits (4 with lab)

Co-requisite: Computer Lab
Prerequisite: ACC 101 or 121

This course introduces data entry procedures on the computer in accounting applications. You will study theory and application of general ledger, accounts receivable, accounts payable and payroll functions of accounting as performed on a typical microcomputer system.
Additional topics discussed are internal control and selection of a computerized accounting system. This course gives students hands-on experience on the microcomputer culminating with a computerized practice set.

ACC 131 Income Tax I
3 Credits

Prerequisite: None, although ACC 121 is recommended

This course is the study of basic concepts of federal income taxation, including gross income, deductions, accounting periods and methods and property transactions, with emphasis on taxation of individuals and sole proprietorships.

ACC 135 Spreadsheets/Accounting
3 Credits

Co-requisite: Computer Lab
Prerequisite: ACC 101 or 121, CIS 118

This course introduces spreadsheets as an accounting tool. Using an accounting perspective, the student will apply fundamental spreadsheet concepts. The spreadsheet will be used as a problem solving and decision-making tool.

ACC 138 Payroll and Sales Tax
3 Credits

Co-requisite: ACC 101 or 121 or equivalent knowledge is required as either a co-requisite or a prerequisite

Prerequisite: see course co-requisites

This course acquaints students with laws pertaining to payroll and sales taxes including recordkeeping rules. Students will prepare various federal, state and local forms for reporting payroll taxes and sales taxes. A computerized payroll simulation is included in the course.

ACC 190 Financial Investigations
3 Credits

This course introduces the current perspectives dominant in the field of financial investigations. This course also discusses concepts of law and evidence, sources of information including financial institutions, business financial record keeping, and tracing funds, using a variety of methods and interviewing as they apply to detecting and resolving financial crimes. Emphasis is placed on theoretical principlesand applications of financial investigative techniques.

ACC 211 Intermediate Accounting I
4 Credits

Prerequisites: ACC 122, MAT065 or equivalent

This course studies the conceptual framework of financial accounting and advanced theory and practice applicable to the following major topics: time value of money; current assets; current liabilities and operational assets.

ACC 212 Intermediate Accounting II
4 Credits
Prerequisite: ACC 211

This course is a continuation of ACC 211. It focuses on the theoretical and practical aspects of accounting for long-term liabilities, stockholders'equity, investments, pensions and leases. Income tax allocation, cash flow statements, revenue recognition, full disclosure and accounting methods changes are also covered.

ACC 216 Governmental Accounting
3 Credits
Prerequisite: ACC 122

This course studies the hands-on approach to accounting for local, state and federal governments as prescribed in the law and in generally accepted governmental accounting practices. It includes the study of fund accounting, budgeting, revenues, appropriations and expenditure controls.

ACC 226 Cost Accounting I
3 Credits
Prerequisite: ACC 122, MAT065 or equivalent

This course studies cost accumulation methods and management reports. The concepts and procedures of job order, process, standard and direct cost systemsare covered; budgeting, planning and control of costs are included.

ACC 227 Cost Accounting II
3 Credits
Prerequisite: ACC 226

This course is a continuation of ACC 226and focuses on the decision-making aspects of managerial accounting using microcomputer spreadsheet applicationsfor assigned problems. Topics include product pricing strategy, capital budgeting, statement of cash flows and application of linear programming.

AIR CONDITIONING, HEATING AND REFRIGERATION

(See Construction Technology)

AMERICAN SIGN LANGUAGE

ASL111 American Sign Language I
5 Credits

This course examines communication systems used by deaf communities. Students will build receptive American Sign Language skills through vocabulary building and application of American Sign Language grammar. Students will also be familiar with current issues faced by the deaf community.

ASL112 American Sign Language II
5 Credits

Prerequisite: ASL111 or equivalent; permission of instructor

This course continues to examine communication systems used by Deaf communities. Students will develop expressive skills in American Sign Language. Emphasis will be placed on semantics and American Sign Language idioms. Students will explore Deaf culture in more detail.

ANTHROPOLOGY

ANT 101 Cultural Anthropology (Core)
3 Credits

This course studies human cultural patterns and learned behavior. The course includes linguistics, social and political organization,religion, culture and personality, culture change and applied anthropology. Culturalanthropology deals with issues of cultural diversity, pluralism and relativism as a component of multi-cultural studies.

ANT 111 Physical Anthropology (Core)
3 Credits

This course studies human biology and its effects on behavior. It includes principles of genetics and evolution, vertebrates and primates, human origins, human variation and ecology.

ANT 209 Culture in the World Today: Latin America
3 Credits

Students will gain an appreciation of the history and archaeology of Mexico and Guatemala through an up-to-date study of the following cultural areas: (1) Western Mexico, (2) The Basin of Mexico, (3) Peubla-Oaxaca Highlands, (4) Oaxaca Valley, (5) Gulf Coast Veracruz, (6) Tehuantepec Isthmus and the Guatemalan Pacific Plain, (7) The Maya Lowlands and (8) The Maya Highlands: Chiapas and Guatemala.

ANT 271 History of Middle America
3 Credits

This course traces the history of the indigenous people of Mexico from the first inhabitants through the conquest by the Spanish in 1521 A.D. Special emphasisis placed on such cultures as the Olmec, Maya, Toltec, Totonac, Teotihuccan and Aztec. The course presents the daily life, religion, art, social and political organizationand other historical characteristics.

APPRENTICE-RELATED CARPENTRY

(See Construction Technology)

APPRENTICE-RELATED DRYWALL

(See Construction Technology)

APPRENTICE-RELATED ELECTRICITY

(See Construction Technology)

APPRENTICE-RELATED LABORER

(See Construction Technology)

APPRENTICE-RELATED MASONRY

(See Construction Technology)

ARB 111 & 112 Painting I (Year I)
4 Credits Each
This course covers safety, math, hand and power tools, blueprints, rigging, careers, ladders, scaffold, lifts, fall protection, materials and conditions, preparation, sealants and fillers, paints and coatings, and brushing and rolling paints and coatings.

ARB 121 & 122 Painting II (Year II)
4 Credits Each

Topics for this course include job planning, stains, coatings, water and chemical cleaning, spray painting, remedies, wall coverings, wood finishing, graphics and glazing and antiquing.

ARB 131 & 132 Painting III (Year III)
4 Credits Each

This course covers trade history, math and measurement, color and sheen, spraying special devices, wall covering failures and remedies, surface preparation, adhesives and installation, stenciling, gliding, lining and striping, texturing, caulks, roof coatings, finishing, waterproofing and floor coatings.

APPRENTICE-RELATED PLUMBING

(See Construction Technology)

APPRENTICE-RELATED SHEET METAL

(See Construction Technology)

ART

ART 110 Art Appreciation (Core)
3 Credits

This course is an introduction to the visual arts including language, concepts, process and history.

ART 121 Drawing I
3 Credits

This course is an investigation of various approaches and media designed to develop drawing skills and visual awareness.

ART 122 Drawing II
3 Credits

This course studies expressive drawing techniques and development of individual expressive style.

ART 131 Design I
3 Credits

This course studies the basic design elements and principles of composition, form and visual perception. It focuses on becoming familiar with the formal elements used in two dimensional art and then using the principles of design to create compositions.

ART 132 Design II
3 Credits

This course studies the basic design elements and principles of composition, form and visual perception as they relate to three dimensional art. Utilizing the elements and principles of design, three dimensional projects are produced and analyzed.

ART 151 Photography I
1-3 Credits

This course is an introduction to black and white photography as a fine art medium and it develops skills necessary for basic camera and lab operations.

ART 152 Photography II
1-3 Credits

This course further explores camera and lab operations with and emphasizesindividual creativity. It includes thedevelopment of a comprehensive portfolio.

ART 156 Fundamentals of Ceramics
1 Credit

This course is an introduction and comprehensive study of low fire ceramics. It introduces handbuilding techniques such as slab, coil and pinch and throwing on the wheel. There is discussion of technical and esthetics concerns. Offered at the Arvada Center for the Arts and Humanities only.

ART 157 Advanced Wheel Throwing
1 Credit

Prerequisite: Permission of instructor

This course is a comprehensive study of wheel thrown work. Using the wheel as a tool and learning to finish the work, glazing and firing are also discussed. There are discussions of technical and esthetics concerns. Offered at the Arvada Center for the Arts and Humanities only.

ART 158 Advanced Handbuilding
1 Credit
Prerequisite: Permission of instructor

This course is a comprehensive study of handbuilding. Basic handbuilding techniques such as slab, coil and pinch; learning advanced handbuilding techniques; working on a large scale and combining techniques and including the wheel are covered. There are discussions of technical and esthetics concerns. Offered at the Arvada Center for the Arts and Humanities only.

ART 160 Fundamentals of Ceramics I
3 Credits

This is an art methods course concerned with developing the student's ability to produce and appreciate ceramic art objects,including utilitarian pottery, decorative vessels and sculpture. The fundamental topics covered are wheel throwing and handbuilding techniques, the physical and chemical properties of clay and glazes,surface decoration techniques and firing techniques.

ART 162 Fundamentals of Ceramics II
3 Credits

Prerequisite: ART 160

This is an art methods course concerned with the continued development of the students ability to produce and appreciateceramic art objects including utilitarian pottery, decorative vessels and sculpture. In this course the basic skills of wheel throwing, handbuilding, clay and glaze science, decorative techniques and firing processes will be further developed.

ART 211 Art History I (Core)
3 Credits

This course provides the knowledge base to understand the visual arts, especially as related to Western culture. It surveys the visual arts from the Ancient through the Medieval periods.

ART 212 Art History II (Core)
3 Credits

This course provides the knowledge base to understand the visual arts, especially as it relates to Western culture. It surveys the visual arts from the Renaissance through the Modern periods.

ART 216 Painting I
3 Credits

This course covers color, composition, materials and techniques of painting. Oil or acrylic may be used.

ART 217 Painting II
3 Credits

This course emphasizes experimentation with materials, composition and color.

ART 218 Painting III
3 Credits

This course provides continuing investigation of subject, color composition and individual forms of expression.

ART 219 Painting IV
3 Credits

This course provides advanced work with theme development, sophisticated color relationships, experimentation in conceptualforms and consistent progression of subject matter.

ART 221 Drawing III
3 Credits

This course provides further exploration of expressive drawing techniques and style.

ART 222 Drawing IV
3 Credits

This course covers advanced drawing problems with emphasis on individual style, subject and content.

ART 224 Sculpture I
3 Credits

This course introduces the fundamentals of sculpture such as modeling, casting, carving and assemblage processes.

ART 225 Sculpture II
3 Credits

This course provides a development of the understanding and manipulation of three-dimensional form, with greaterconcentration on individual creativity and style.

ART 228 Printmaking I
3 Credits

This course introduces the basic techniques and skills of printmaking as fine art media. Instruction includes an understandingof the visual concepts as they relate to print.

ART 231 Watercolor I
3 Credits

This course introduces the basic techniques and unique aspects of materials involved with using transparent and/or opaque water media.

ART 232 Watercolor II
3 Credits

Prerequisite: ART 231

This course provides advanced study of subject development, form, color and theme.

ART 233 Watercolor III
3 Credits

Prerequisite: ART231 and ART 232

This course provides continuing study of watercolor techniques with an emphasis on original compositions and experimentation with materials.

ART 234 Watercolor IV
3 Credits

Prerequisite: ART 233

This course provides advanced study of techniques, individual style or expression and consistency of compositional problem- solving.

ART 255 Color Photography
3 Credits

This course covers the fundamentals of color photography such as color theory and light, production, processing and printing of color negatives.

ART 261 Second Year Pottery I
3 Credits

Prerequisites: ART162 or permission of instructor

Intermediate wheelwork with advanced throwing problems is covered in this courseand there is continuing involvement in glazing and firing techniques.

ART 262 Second Year Pottery II
3 Credits

Prerequisites: ART261 or permission of instructor

This course is a continuation of ART261. This course covers more advanced throwingproblems in one of three areas: (1) tableware, (2) other functional forms and (3) art forms.

ART 263 Ceramic Design
3 Credits

Prerequisites: One semester of handbuilding and/or throwing

This course covers design and the decorationof pottery forms. You may work in one or more areas of throwing, extruding, handbuilding, casting or any combination of forming techniques in clay. This course includes various glazing, firing and fabricating processes that aid or result in pottery decoration.

ART 265 Handbuilt Clay III
3 Credits

This course covers advanced problems that are investigated with emphasis placed on large-scale pieces that promote creativity with techniques and combinations of different textures.

ART 266 Intermediate Wheel Throwing
1 Credit

This course is an introduction and comprehensive study of wheel-thrown work and starts with using the wheel as a tool. The course covers finishing the work, glazing and firing. There are discussions of technical and esthetics concerns, including construction techniques,design problems, glazing, decoration technique and firing. Glazing includes slips, englobe and terra sigillata. Firing techniques concentrate on high fire and salt. Along with direct experience, this course also includes keeping a sketchbook, visiting studios or museums and learning a new clay vocabulary.

ART 270 Figure Drawing I
3 Credits

This course is an introduction to the basic techniques of drawing the human figure.

ART 271 Figure Drawing II
3 Credits

This course provides a continuing study of the various methods of drawing the human figure, with emphasis on anatomy,description of form and individual style.

ART 280 Jewelry and Metalsmithing
3 Credits

This course is designed for the student who has a desire to learn basic jewelry making. Techniques such as sawing, piercing, soldering, texturing, buffing, wire twisting, and simple bezel setting of stones, will be taught. Possible projects include, rings, bracelets, earrings, pins, necklaces and belt buckles.

ART 281 Jewelry and Metalsmithing II
3 Credits

Prerequisite: ART 280

Acontinuation of ART280, introducing jewelry techniques such as shell forming, cold folding, forging, centrifugal casting, repousse and chasing and prong and channel setting of faceted stones. Emphasis on individual design will be stressed.

ART 290 Special Topics: Raku
Variable Credits

This course is an introduction and comprehensive study of Raku fired ceramics. Building techniques, including slab, pinchand coil are introduced as well as using the wheel as a tool. Learning to finishthe work, glazing and firing are also covered.The technical and aesthetic aspects of ceramics are discussed. Discussions include construction techniques, design problems and decoration techniques. This course also explores slips, englobe and raku glazes. You are required to keep sketch books, attend studio or museum visits and learn new clay vocabulary.

ASTRONOMY

AST 101 Astronomy I (Core)
4 Credits
Co-requisite: AST 101 LAB

This course studies the history of astronomy, the tools of the astronomer and the contentsof the solar system: planets, moons, asteroids, meteoroids and comets. This course also includes laboratory experience.

AST 102 Astronomy II (Core)
4 Credits
Co-requisite: AST 102 LAB

This course studies the structure and life cycle of the sun, stars, galaxies and the universe as a whole, including cosmology and relativity. This course also includes laboratory experience.

AUTO COLLISION TECHNOLOGY

(In cooperation with and held at Warren Tech)

ACT 101 Preparation
2 Credits

This course enables students to: (1) Understand safety practices related to personal protection, shop and equipment usage. (2) Interpret damage report information and plan a repair sequence. (3) Remove exterior dirt, grease, wax and corrosion protection from repair areas. (4) Protect panels and parts adjacent to repair area.

ACT 111 Panel Replacement and Alignment
3 Credits

Explore how to remove and replace Non-Structural parts of an automobile.

ACT 121 GMAW (MIG) Welding
3 Credits

Develops the skills needed to analyze factors such as current, voltage, gun angle, shielding gasses, wire speed and their effects on MIG welding.

ACT 131 Metal Straightening
2 Credits

This course enables the student to select and understand how to use metal straightening tools and apply proven methods to straighten damaged metal.

ACT 141 Plastic Filler
1 Credit

This course enables the student to select and understand the tools and materials, prepare surfaces, apply and finish body fillers that are used to repair collision damage.

ACT 145 Glass and Miscellaneous
1 Credit

This course enables the student to remove, reinstall and adjust moveable glass. Students also diagnose and repair air and water leaks.

ACT 151 Safety Precautions
1 Credit

This course introduces students to all safety devices, State and Federal regulations and the proper handling of hazardous materials commonly used in refinishing.

ACT 160 Surface Preparation
4 Credits

This course inspects types of finishes and surface conditions. The course also covers terminology, including materials, finishes, surface preparation and masking.

ACT 165 Spray Gun and Related Equipment Operation
2 Credits

This course covers the principles of spray gun operation, as well as how to set up, adjust, clean and maintain all equipment common in refinishing.

ACT 170 Paint Mixing, Matching and Applying
5 Credits

This course covers types/colors of paint on vehicles, correctly mixing materials to manufacturer's recommendations, selecting spray equipment, adjusting air pressure and spraying technique.

ACT 185 Solving Paint Application Problems
3 Credits

This course enables students to identify paint problems that happen during the spraying operation, drying and curing of the paint finish.

ACT 190 Finish Defects, Causes and Cures
3 Credits

This course enables students to identify paint film defects and determine corrective actions for them.

ACT 195 Final Detail
0.5 Credit

This course enables students to understand the importance of thoroughly cleaning the vehicle before and after repairs. The students will also be able to select and use proper cleaning products and tools to clean the entire vehicle.

ACT 201 Identification and Repair Decisions
0.5 Credit

This course introduces the identification of automotive plastic parts, reinforced fiber glass parts and molds and study adhesive repairs of all types of plastics.

ACT 205 Adhesive Repair
1 Credit

This course studies the selection and understanding of adhesive repair methods, tools and materials. Students will repair interior and exterior automotive plastic parts with two part adhesives, with and without reinforcement.

ACT 209 Welding Repairs
1 Credit

This course studies the selection, and understanding of how to use plastic welding methods, tools, and materials. Students will repair interior and exterior automotive plastic parts using airless welding methods.

ACT 213 SMC (fiber glass) Repairs
1 Credit

This course covers SMC repair tools and materials. Students repair and replace SMC fiber glass automotive parts.

ACT 217 Refinishing Plastics
1 Credit

This course studies automotive plastic parts refinishing materials and methods. Students refinish and retexture repaired automotive plastic parts.

ACT 222 Measurement
3 Credits

This course enables students to measure a damaged unibody vehicle using a universal measuring system and interpret body dimension information and key location reference points. The use of a dedicated (fixture) system, tape measure, tram bar and a self-centering gauge are also used.

ACT 224 Damage Analysis
4 Credits

This course develops students'skills needed to identify and diagnose various types of body damage, including twist, mash, sag, and side sway, and explains how the datum plane and center line concepts relate to body repair.

ACT 232 Straighten Structural Parts
4 Credits

This enables students to identify and set up various types of straightening equipment and explains how they are used. This course also plans and executes a pulling sequence using multiple-pull approach and performs basic stress relieving techniques.

ACT 234 Straighten Structural Parts
4 Credits

This course enables the student to first understand the principles of full or partial panel replacement and the various types of joints used in sectioning. Frame rails, rocker panels, Aand B pillars, floor pans and trunk floors. Full body sectioning will also be addressed.

ACT 261 Suspension and Steering
3 Credits

This course covers the theory, operation, identification, terminology, diagnosing problems and the use of specialty tools related to suspension and steering work.

ACT 265 Electrical
4 Credits

This course gives the students a basic understanding of automotive electrical systems using wiring diagrams, meter use, electrical theory, removal and replacement of electrical components.

ACT 270 Heating and Air Conditioning
2 Credits

This course studies the theory of operation and defines related terms. It identifies components, specialty tools and equipment. The student will be able to recover refrigerant, evacuate, recharge and leak test an automobile air conditioning system.

ACT 275 Drive Train
2 Credits

This course covers the removal, replacement and adjustment of linkages. The student will be able to remove, protect and reinstall various drivetrain system lines, tubes, connectors, driveshafts, drivetrain mounts, engines, transaxles, transmissions and transfer case assemblies.

ACT 280 Active Restraint Systems Passive Restraint Systems Supplemental Restraint Systems
1 Credit

These courses cover inspection, removal, replacement of seat belts, inspecting and repairing damaged restraint system mounting points. Also covered will be the diagnosing and repairing of air bag systems.

ACT 290 Brakes
3 Credits

This course covers basic terminology, theory of operation and troubleshooting of automotive braking systems.

AUTOMOTIVE TECHNOLOGY

(In cooperation with and held at Warren Tech)

AUM 101 Basic Mechanics/Safety
1 Credit

This course introduces to you the Automotive Technology program held at the Warren Tech Auto Shop. It covers orientation, grading systems and shop safety. It is a required course if you are new to the Automotive Technology program and is a prerequisite for any of the other courses within the program.

AUM 102 Brakes I
2 Credits

Prerequisite: AUM 101

This course covers basic terminology, theory of operation and service of drum and disc brakes, including lathe operation. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 103 Brakes II
3 Credits

Prerequisite: AUM 102

This course covers complete trouble-shooting and service of automotive braking systems, including drum and disc brakes, complete overhaul and ABS systems. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 104 Suspension I
2 Credits

Prerequisite: AUM 101

This course covers the theory and operation of the various automotive suspension systems. Identification, terminology and simple repairs are studied. Skills are evidenced by practical application and unit tests. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 105 Suspension II
3 Credits

Prerequisite: AUM 104

This course training on how to diagnose suspension problems, make repairs and use special tools related to suspension work. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 106 Alignment I
3 Credits

Prerequisite: AUM 101

This course introduces you to the principles of wheel alignment, tire and wheel service and wheel balancing. Required adjustments, theory and necessary repairs are included. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 107 Alignment II
1 Credit

Prerequisite: AUM 106

This course enables you to use 4-wheel alignment equipment, make necessary repairs and adjustments to a vehicle and restore it to factory alignment specifications. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 108 Heating and A/C II
7 Credits

Prerequisites: AUM 101 & 128

This course studies the theory of operation and defines related terms. It identifies various components and matches them to their function and identifies special tools and equipment. Students will be able to recover refrigerant, repair, evacuate, recharge and leak check an automotive air conditioning system. Completion of the federally required certification test is covered as well. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 109 Manual Drive Train I
3 Credits

Prerequisite: AUM 101

This course covers the theory and operation of drive shafts, CV joints, clutches and manual transmission servicing. Students will diagnose, remove, repair drive shafts and FWD drive axles. Terminology of associated parts, clutch servicing (on car) and basic services (on car) are also studied. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 110 Manual Drive Train II
6 Credits

Prerequisite: AUM 109

This course studies the theory and operation of manual transmissions, transfer cases and differentials. Emphasis on diagnosis, removal and repair of clutches, transmissions, differentials and transfer cases are emphasized. Special tools, tool usage and lifting equipment are also covered. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 114 Automatic Transmission I
3 Credits

Prerequisite: AUM 101

This course covers the theory of operation, terminology, diagnosis and testing of automatic transmissions. On car repairs, pressure testing and servicing are covered as well. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 115 Automatic Transmission II
4 Credits

Prerequisite: AUM 114

This course is intended to train students in the techniques used in the rebuilding of automatic transmissions. Use of service manuals is stressed in returning transmissions to serviceable condition. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 118 Tune-Up I
3 Credits

Prerequisite: AUM 101

This course identifies the components, their operation and terminology related to automotive engine tune-up. Theory of 4-stroke engines, principles of magnetism, spark timing and related tools and test equipment are covered. You will use test equipment to make adjustments and return engine settings to manufacturer specifications. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 119 Tune-Up II
3 Credits

Prerequisite: AUM 118

This course is a continuation of Tune-Up I.You will learn terminology, operation and repair of electronic ignition systems. The use of test equipment, oscilloscopes, hand-held scanners and other special tools are taught. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 120 Emissions
2 Credits

Prerequisites: AUM 119 & 126

This course is intended to train students in the theory, diagnosis and repair of emission control systems. Knowledge of ignition and fuel systems is important prior to undertaking this course. Students will learn the interaction of different system failures that cause high tailpipe emissions. Students will diagnose emissions failures and repair them. Use and calibration of the 4-gas emission analyzer and IM240 testing is covered. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 123 Fuel Systems I
2 Credits

Prerequisite: AUM 101

This course gives students a basic knowledge in the theory, purpose and operation of fuel delivery systems. Carburetor circuitry, fuel and basic testing procedures are covered as well. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 125 Fuel Systems II
1 Credit

Prerequisite: AUM 123

This course gives students practical knowledge in diagnosis, disassembly and repair of carburetors. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 126 Fuel Injection
1 Credit

Prerequisite: AUM 125

This course covers the theory, terminology and operation of various fuel injection systems. GM port fuel injection, and Bosch systems are covered. You will diagnose and test fuel injection systems. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 127 Basic Electrical I
6 Credits

Prerequisite: AUM 101

This course gives students a basic understanding of automotive electrical systems. Utilizing wiring diagrams, meter use, electrical theory and removal and replacement of electrical components are covered. Testing of starting and charging systems are emphasized. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 131 Basic Engines I
3 Credits

Prerequisite: AUM 101

This course gives students an introduction to the various engine designs, operating principles and testing procedures. Students will learn related terminology, perform diagnostic testing on engine condition and prepare to remove, disassemble and rebuild an engine. Knowledge and skill improvements are measured by manipulative and written assessments.

AUM 132 Engine Overhaul II
5 Credits

Prerequisite: AUM 131

This course gives students advanced knowledge in the procedures used to disassemble, measure, diagnose and reassemble an automotive engine. That are done on engines that belong to the school/college. Various cleaning procedures are covered. Measurement and proper disassembly and reassemble procedures are stressed. Knowledge and skill improvements are measured by manipulative and written assessments.

BIOLOGY

Agrade of C or better is required in all prerequisite courses

BIO 105 Science of Biology (Core)
4 Credits

Co-requisite: BIO 105 Lab

This course is designed for non-science students. Students examine the basis of biology in the modern world and survey the current knowledge and conceptual framework of the discipline. Biology as a science is explored as is the impact of biological science on society.

BIO 111 General College Biology I (Core)
5 Credits

Co-requisite: BIO 111 Lab

This course examines the fundamental molecular, cellular and genetic principles characterizing plants and animals. Cell structure, function and the metabolic processes of respiration and photosynthesis are included as well as cell reproduction and basic concepts of heredity.

BIO 112 General College Biology II (Core)
5 Credits

Co-requisite: BIO 112 Lab
Prerequisite: BIO 111

This course is a continuation of BIO 111;. Students study evolution,genetics, development, classification, structure, andfunction of plants and animals and ecology.

BIO 201 Human Anatomy/Physiology I
4 Credits

Co-requisite: BIO 201 Lab
Prerequisite: Recent coursework in

Biology or Chemistry recommended
This course is an integrated study of the human body in which the histology, anatomy and physiology of each system is covered. The first part of this two semestercourse includes molecular, cellular and tissue levels of organization; followed by intergumentary, skeletal, muscular and nervous systems and senses. Mandatorylab work includes microscope work, observations and dissection.

BIO 202 Human Anatomy and Physiology II
4 Credits

Co-requisite: BIO 202 Lab
Prerequisite: BIO 201

This course is an integrated study of the human body in which the histology, anatomy and physiology of each system is covered. The second part of this two- semester course includes study of thefollowing systems: endocrine, cardiovascular with hematology, lymphatic, immune, respiratory, digestive, urinary with fluid and electrolyte balance, and reproductive. Mandatory lab work includes microscope work, observations and dissection.

BIO 205 Microbiology
4 Credits

Co-requisite: BIO 205 Lab
Prerequisite: BIO 111 or 201 or permission of the instructor

This course is a survey of the biology of microorganisms. Major topics include microbial diversity, functional anatomy, biochemistry, genetics, ecology and disease.The laboratory allows students the opportunity toexamine, culture and identify microbes and to conduct experiments on microorganisms.

BIO 211 Cellular Biology
4 Credits

Co-requisite: BIO 211 Lab
Prerequisite: BIO 111 or permission of instructor

This course introduces the major topics and techniques of modern cell biology. Lecture topics include chemistry of carbohydrates,lipids, proteins and nucleic acids; structureand function of prokaryotic and eukaryoticcells; protein synthesis; biochemistry of cellular respiration; enzymes; cell motility; and cell cycle. The lab emphasizes microscopy, cell fractionation, cytochemistry, immunochemistry and gel electrophoresis. The scientific method is emphasized as the approach to problem solving, data collection and analysis. *(Fall only)*

BIO 212 Molecular Biology
4 Credits

Co-requisite: BIO 212 LAB
Prerequisites: BIO 111, 211 or permission of instructor

This course introduces the theory and techniques of modern molecular biology. Lecture topics include DNA/RNA structure and function; DNA replication; gene expression and regulation; and recombinant DNAtechnology. Both eukaryotic and prokaryotic models are used. The laboratory emphasizes bacteriology, isolation and purification of DNA, cloning with phage and plasmid vectors, restriction enzyme digests and agarose gel electrophoresis. The scientific method is emphasized as the approach to problem solving, data collection and analysis. *(Spring only)*

BIO 225 General Zoology
5 Credits

Co-requisite: BIO 225 Lab
Prerequisites: BIO 105, 111 or permission of instructor

This course introduces a variety of zoological topics using a comparative approach to investigate animal structure, physiology, reproduction, development, ecology, evolution, and zoogeography, Asurvey of zoological diversity emphasizes the characteristics, zoological contributions and classification of animal phyla and major classes. *This course may require some hiking.*

BIO 226 Botany
5 Credits

Co-requisite: BIO 226 Lab
Prerequisites: BIO 111, 112 or permission of instructor

This course studies both vascular and nonvascular plants. It emphasizes photosynthetic pathways, form and function, reproduction, physiology, genetics, diversity,evolution and ecology. *This course also involves field experiences and may require some hiking.*

BIO 228 Field Biology
2-3 Credits

Prerequisites: BIO 111, 112 or permission of instructor

This course involves in-depth field studies of natural environments within and outsideof Colorado. The course varies from 7-10 days in length. It involves identification of plant and animal organisms as well as an examination of ecological concepts and principles. *This course involves extensive hiking.*

BUSINESS

BUS 110 Mathematics of Business/ Personal Finance
3 Credits

Prerequisite: Minimum of high school algebra or equivalent

This course emphasizes the development and understanding of concepts regarding various business applications. Students learn mathematical problem solving in the areasof merchandising, financial accounting,general business and personal finance.

BUS 115 Introduction to Business
3 Credits

This course surveys the operation of the American business system, including the fundamentals of the economy, careers and opportunities, marketing, management, production, governmental regulations, tools of business and social responsibilities.

BUS 205 Introduction to E-Business
3 Credits

This course is an overview of the use of information technology in businesses. Topics include using technology for customer relations management, accounting and financial applications, purchasing and production tools, sales and marketing functions and human resources management. There will be discussion of the Internet, the World Wide web and sophisticated multi-function software tools. Students will gain a heightened awareness of emerging technologies and trends in e-business.

BUS 210 E-Commerce
3 Credits

This course introduces the many aspects of the emerging field of e-commerce: the use of electronic media to engage in the exchange of products and services. Topics covered include definitions, history and trends of e-commerce; social, legal and ethical implications; electronic retailing and advertising; service industry and business-to-business applications; electronic payment systems and an introduction to economic and global issues in e-commerce.

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. This course will teach how to approach and maximize the business opportunity. Topics include global e-marketing and promotion, import and export management, legal issues and language and cultural issues.

BUS 216 Legal Environment of Business
3 Credits

This course explores the government regulation of business. The course discussesthe origins, development and sources of law. The legal system *(legislature, courts, administrative agencies, etc.)* is described,emphasizing the areas relating to theregulation of business. This course corresponds to public law affecting business,not traditional private law.This law concerns matters with which a business manager must deal including government, stockholders, competitors, employees and the public.

BUS 217 Business Communication and Report Writing
3 Credits

Prerequisite: Successful completion of a minimum of 3 credit hours of a 100-level English course or equivalent.

This course emphasizes effective business writing, including letters, memoranda, reports, application letters and resumes. The fundamentals of business communication and international communication are introduced. This course is co-scheduled with ENG 217 and may be taken as BUS 217 or ENG 217, but not both.

BUS 226 Business Statistics
3 Credits

Prerequisite: MAT130 or permission of instructor

This course is intended for business majors and covers statistical study, descriptive statistics, probability and binomial distribution, index numbers, time series, decision theory, confidence intervals, hypothesis testing, testing of two-sample means, chi-square and ANOVA, linear regression and correlation.

BUSINESS TECHNOLOGY

BTE 100 Touch Keyboarding
3 Credits

Co-requisite: Computer Lab

This course is an introduction to touch keyboarding for those who have minimal or no keyboarding skills. The course emphasizes learning the alphanumeric keyboard, proper technique, and speed and control.

BTE 102 Keyboarding Applications
3 Credits

Co-requisite: Computer Lab
Prerequisite: BTE 100 or minimum typing speed of 25 wam

This course is designed for those who already have some keyboarding skills. Basic word processing functions are introduced so that students are able to produce letters, tables, memos and reports. Speed and accuracy are emphasized.

BTE 103 Keyboarding Skillbuilding I
3 Credits

Co-requisite: Computer Lab
Prerequisite: BTE 102

This course is designed to increase speed and improve accuracy in keyboarding on the PC through the use of proper techniques and concentrated effort.

BTE 104 Keyboarding Skillbuilding II
3 Credits

Co-requisite: Computer Lab
Prerequisite: BTE 103

This is a skillbuilding course designed to increase speed and improve accuracy in keyboarding on the PC through the use of proper techniques and concentrated effort.

BTE 108 Ten-Key by Touch
(PC 10-Key Pad)
1 Credit

Co-requisite: Computer Lab

This course introduces touch control of the PC ten-key pad, and it emphasizes the development of speed and accuracy using proper techniques.

BTE 125 Procedures for Workplace 2000
3 Credits

Co-requisite: Computer Lab

This course prepares you for successful employment in today's business office. The course focuses on communication skills, organizational skills, proper telephone technique, prioritization, resume writing, human relations, business ethics and professional growth.

BTE 126 Intermediate Office Procedures
3 Credits

Co-requisite: Computer Lab
Prerequisite: BTE 102, 125; CIS 125 and 155

This course is a continuation of BTE 125, providing you with additional practice in creating and revising word processing and electronic spreadsheet documents commonly found in the workplace. The course focuses on advanced procedures and computer skills needed for successful performance in the workplace. Topics include advanced document creation and editing, communication skills, machine transcription, resume writing and job interview preparation.

BTE 135 Office Correspondence
3 Credits

Prerequisite: BTE 100 or equivalent

This course teaches language arts through the use of written communications. Emphasis is on grammar, spelling, formatting, proofreading and editing of business documents. Work in verbal communications for the office is included.

BTE 161 Filing and Records Management
2 Credits

This course provides instruction in alphabetic, numeric, subject, chronological and geographic systems of filing. This course also covers principles, organization and procedures for records management.

BTE 162 Electronic Filing
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 118 and BTE 100 or equivalent

This course provides exercises and application problems that review and enhance the fundamental concepts of database management tasks. Students will design and create a database, edit data, organize data in various ways, search for particular data and design custom data-entry reports and labels.

BTE 225 Advanced Office Procedures
3 Credits

Co-requisite: Computer Lab
Prerequisites: BTE 104, 126 and 162

This course is a capstone course for the Business Technology Associate of Applied Science degree. The course provides students with an opportunity to demonstrate and perfect the computer skills, organizational skills and communication skills required to secure employment and/or advancement.

BTE 297 Cooperative Education/Internship
3 Credits

Prerequisite: Permission of instructor

This course allows students to gain work experience from on-the-job training.

CARPENTRY

(See Construction Technology)

CHEMISTRY

Agrade of C or better is required in all prerequisite courses.

CHE 101 Introduction to Chemistry I (Core)
5 Credits

Co-requisites: CHE 101 LAB
Prerequisite: MAT 105

This course is for non-science majors, those in occupational and health programsor those lacking any chemistry background. The course includes measurements, atomic theory, chemical bondings, nomenclature, stoichiometry, solutions, acid and base, gas laws and condensed states. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively.

CHE 102 Introduction to Chemistry II (Core)
5 Credits

Prerequisite: CHE 101 or permission of instructor

This course includes hybridization of atomic orbitals for carbon; nomenclature of organic compounds; properties of different functional groups; nomenclature of various biologically important compounds,their properties and their biological pathways. Laboratory experiments demonstrate the above concepts qualitatively and quantitatively.

CHE 111 General College Chemistry I (Core)
5 Credits

Co-requisite: CHE 111 LAB
Prerequisite: MAT 160

This course reviews basic chemistry: matter, chemical formulas, reactions and equations and stoichiometry. Development of atomic theory is discussed, culminating in the use of quantum numbers to determine electron configuration of atoms and the relationship of electron configuration to chemical properties of elements. Chemical bonding is covered, including valence bond theory and molecular orbital theory. The course concludes with gases, liquids and solids.

CHE 112 General College Chemistry II (Core)
5 Credits

Co-requisite: CHE 111 LAB
Prerequisites: MAT121, CHE 111

General College Chemistry II emphasizes calculations and problem solving. Solutions and colligative properties are studied. Chemical systems introduce dynamic equilibrium. Acid/base systems continue this topic, leading to strong & weak acids, pH, buffers and slightly soluble salts. Kinetics introduces a unit on nonequilibrium systems. Study of the three laws of thermodynamics follows, emphasizing spontaneity of reactions. Voltaic and electrolytic cells are covered. The course concludes with a short study of nuclear chemistry.

CHE 211 Organic Chemistry I
5 Credits

Co-requisite: CHE 211 Lab
Prerequisites: CHE 111 and 112

This course covers structure and reactions of aliphatic hydrocarbons and selected functional group families. Nomenclature of organic compounds, stereochemistry, reaction mechanisms are also covered. Laboratory demonstrates the above concepts and techniques.

CHE 212 Organic Chemistry II
5 Credits

Co-requisite: CHE 212 LAB
Prerequisite: CHE 211

This course covers structure, reactions and reaction mechanisms of aromatic compounds and continuation of functional group families from CHE 211. The chemistryof heterocycles and biologically related compounds is introduced if time permits. Lab demonstrates the above concepts and lab techniques.

COMMUNICATION

COM 125 Communication in the Workplace
3 Credits

This course introduces communication skills needed in business and professional contexts. The focus is on developing a working knowledge of theory and skills for interpersonal communication, group communication and public presentations. Concepts include language, nonverbal communication, culture, listening, interviewing, conflict management and researching, writing and delivering presentations.

COMPUTER INFORMATION SYSTEMS

Most of these courses require concurrent enrollment in computer lab sections.

CIS Computer Lab
1/3-1 Credit

Most computer courses have a lab accompanying them. You must register for the accompanying lab. Computer courses having an accompanying lab are designated with a co-requisite of lab.

CIS 091 Learning Windows
1.33 Credit

This course is designed to provide foundational skills in Windows for employment/personal development.

CIS 092 Learning Email and the Internet
1.33 Credit

This course is designed to provide foundational skills in email and the Internet for employment/personal development.

CIS 094 Learning Word
1.33 Credit

This course is designed to provide foundational skills in word processing for employment/personal development.

CIS 095 Computers and You
3 Credits

Co-requisite:Computer Lab

This course familiarizes you with the computer and its application in today's home. You work with the computer using prewritten programs and learn the basics in the logic used in programming a computer. Applications covered include money and resource management, consumer affairs and the use of computers for entertainment.

CIS 098 Learning Excel
1.33 Credit

This course is designed to provide foundational skills in spreadsheets for employment/personal development.

CIS 115 Introduction to Computer Information Systems
3 Credits

Co-requisite:Computer Lab
This is an overview of the needs for and roles of computer information systems. Emphasis is on computer requirements in organizations, history, hardware functions, programming, systems development, and computer operations. Hands-on experience with applications and programming will be included.

CIS 116 Logic and Program Design
3 Credits

Co-requisite: Computer Lab, CIS 115 is recommended

This course is an introduction to the development of computer program design using the concepts of structured programming and logic. Topics include pseudo-code, and/or flowcharts, structure charts, and other current structured design tools.

CIS 118 Introduction to PC Applications
3 Credits

Co-requisite: Computer Lab

This course introduces computer concepts and components as well as coverage of application suite software and the Internet. Included are descriptions of and hands-on experiences with word processors, spreadsheets, databases, operating environments and other common PC applications packages.

CIS 119 Introduction to Programming
3 Credits

Co-requisite: Computer Lab

This course introduces major programming concepts including numbering systems, program documentation, and design tools. Programming languages will be used to implement program designs.

CIS 120 Introduction to PC Operating Systems: (DOS)
1 Credit

Co-requisite: Computer Lab

This course introduces concepts, terminology, and skills in the use of an operating system. The emphasis will be on understanding and using an operating system in a practical way in order to complement the student's use of application software on the microcomputer.

CIS 121 Advanced PC Operating Systems: (DOS)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 120

This course builds on skills from CIS 120. Topics include advanced features of the microcomputer operating system commands and application of these features to create an efficient environment for microcomputer operations covered.

CIS 122 Introduction to Windows: (Win 98)
1 Credit

Co-requisite: Computer Lab

This course introduces the functions and capabilities of Microsoft Windows. Topics include using, configuring, and modifying the operating environment. The student who has taken CIS 118, Introduction to PC Applications, should not take this course.

CIS 123 Advanced Windows: (Win 98)
1 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 122 or equivalent experience or permission of the instructor.

This course, a continuation of CIS 122, explores advanced power-user topics.

CIS 124 Introduction to the Macintosh Computer
3 Credits
Co-requisite: Computer Lab

This course introduces the use and operating of the Macintosh computer. You are introduced to various Macintosh configurations as well as hands-on usage of the system and its applications.

CIS 130 Introduction to PC Word Processing: (Word 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course introduces the features of word processing software. The skills needed to create, edit, format, and print documents are covered. Topics include character, paragraph, and page formats, and the use of spelling checkers and the thesaurus feature. The student who has taken CIS 118, Introduction to PC Applications, should not take this course.

CIS 131 Intermediate PC Word Processing: (Word 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 130

This course continues to build on the skills introduced in CIS 130. Practice emphasizes hands-on exercise skills such as hyphenation, column format layout, document design, mail merge, tables, forms, and graphics.

CIS 132 Advanced PC Word Processing: (Word 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 131

This course covers advanced word processing skills. Topics include outlines, style sheets, macros, and large document formatting.

CIS 135 Complete PC Word Processing: (Word 2000)
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course uses state-of-the-art software to study the features of word processors including types, strengths, and weaknesses, keyboard skills, creating editing, formatting, and printing documents. Students practice hands-on exercise skills such as hyphenation, columns, format layout, document design, and graphics. This course is the equivalent of CIS 130, CIS 131, and CIS 132 taken separately.

CIS 139 Advanced Internet Research
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB 100 or equivalent experience or permission of the instructor.

Advanced Internet Research introduces the student to conducting information research via the World Wide Web and telnet through the use of appropriate online resources and advanced searching techniques. Emphasis is placed on using online library catalogs, periodical indexes, search engines and directories, subscription information databases, and on subject specific information sites.

CIS 140 Introduction to PC Database: (Access 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course introduces the functions of databases. It includes skills such as file creation, searches, sorts, editing, and indexing. The student who has taken CIS 118, Introduction to PC Applications, should not take this course.

CIS 141 Intermediate PC Database: (Access 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 140

This course continues to build on the skills introduced in CIS 140. Students practice through hands-on exercise skills, such as report writing and the creation of custom forms.

CIS 142 Advanced PC Database: (Access 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 141

This course continues to build on database skills learned in the previous course. Topics include creating a user interface, database, problem solving, and programming using macros to create automated user interfaces. Visual Basic is not covered.

CIS 145 Complete PC Database: (Access 2000)
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course explores a complete array of database skills. Topics include database design, table operations, searches, sorts, edits, queries, forms, and reports. Interfacing with other packages and creating a user interface are covered. This course is the equivalent of CIS 140, CIS 141, and CIS 142 taken separately.

CIS 150 Introduction to PC Spreadsheet: (Excel 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course introduces the student to concepts and applications of an electronic spreadsheet. Topics include calculations, built-in functions, spreadsheet design, and presentation graphics. The student who has taken CIS 118, Introduction to PC Applications, should not take this course.

CIS 151 Intermediate PC Spreadsheet: (Excel 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 150

This course continues to build on spreadsheet skills introduced in CIS 150. Topics include design and report writing, filters, sorts, and special calculations.

CIS 152 Advanced PC Spreadsheet: (Excel 2000)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 151

This course continues to explore spreadsheet topics introduced in previous courses. Topics include 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.

CIS 155 Complete PC Spreadsheet: (Excel 2000)
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course covers the complete array of spreadsheet user skills. Topics include spreadsheet design, formatting, formulas, functions, charts, databases, macros, statistical and "what-if" analysis and macros. This course is the equivalent of CIS 150, CIS 151, and CIS 152 taken separately.

CIS 165 Complete Presentation Graphics: (PowerPoint 2000)
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course focuses on the development of presentation graphics including graphs, charts, illustrations and diagrams. Emphasis is on effective communication. Automated presentation with sound, video, and animation will also be covered.

CIS 175 Complete Desktop Publishing: (PowerPoint 2000)
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 122 or a working knowledge of Windows

This course is a hands-on course that introduces the concepts and techniques of desktop publishing. You learn how to merge text and graphics files to create flyers, brochures and newsletters.

CIS 200 Automated Project Management: (Project 2000)
3 Credits

Co-requisite: Computer Lab

Provides an in-depth exploration of project management techniques. This course emphasizes project management strategies, goal setting, communication, tracking and reporting, and critical thinking. Discussion and real world projects will be used as tools to explore the creating of task lists, resource assignment and leveling, use of milestones, Critical Path Methodology, PERT, project tracking, and communication.

CIS 218 Advanced PC Applications
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 118

This course covers the advanced capabilities of a microcomputer applications suite.

CIS 220 UNIX
3 Credits

Co-requisite: Computer Lab
Prerequisite: One programming language

This course 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, memory management, text processing, and communications.

CIS 221 Advanced UNIX
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 220

This course continues building upon skills and commands covered in CIS 220. The course emphasized scripting topics including utilizing pipelines, filters, grep, awk, sed, and text processing.

CIS 222 UNIX Systems Administrator
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 220

This course covers the fundamental essential tasks of administering and managing a UNIX system. Topics include startup/shutdown procedures, managing devices, managing users, checking and managing the file system and managing local and remote terminals.

CIS 240 Database Management Systems
3 Credits

Co-requisite: Computer Lab

Prerequisites: CIS 115 or CSC 160 and CIS 118 or CIS 140 or CIS 145

This course introduces the principles of database storage. Topic include relational, hierarchical, and network database structures, query commands, and command level programs. Students will examine current issues including model selection, database design, usage, implementation, and maintenance

CIS 270 Systems Analysis And Design
5 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 115 or one programming language

This course introduces the student 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. (Spring only)

CIS 280 Project Development
3 Credits

Co-requisite: Computer Lab

The purpose of this course is to allow students to complete computerized projects demonstrating their software and programming skills. Projects will be provided by industry and vary widely as to the time and skill required to successfully complete. Each student's specific outcomes will depend on the the skills that they bring to the course, the type of project that they participate in, and the roll they play on the project team.

CIS 281 Ethics in Computer Technology
1 Credit

Prerequisite: 8 Credits of Computer Technologies coursework.

This course explores the social, ethical, and legal implications related to the widespread use of computers in our society. Topics include the codes of behavior expected of the computer professional and the broader issues that affect society as a whole. These issues will be explored through readings, class discussions, Internet research, guest lecturers and case studies. College-level writing is expected.

CIS 288 Computer Information Center Usage
.5.-5 Credits

This course is for those desiring to use the Computer Information Center of the college for independent pursuit of educational goals. The amount of credit hours applied is determined by the instructor after the student's educational goals have been assessed. In no case is the course to be less than _ credit. If you are interested in CIS 288, you must meet with the course instructor before registering. The course does not apply toward any degree.

COMPUTER NETWORKING

Most of these courses require concurrent enrollment in computer lab sections.

CNT Computer Lab
1/3-1 Credit

CNT 100 Networking Hardware I: A+
4 Credits

Co-requisite: Network Hardware II: A+

This course prepares the student for certification tests used by the Computing Technology Industry Association. Red Rocks Community College has no control over changes made by this agency to its A+ Certification Program. This course includes repair, upgrading, installation and maintenance of computers and software.

CNT 101 Networking Hardware II: A+
4 Credits

Co-requisite: Network Hardware I: A+

This course prepares the student for certification tests used by the Computing Technology Industry Association. Red Rocks Community College has no control over changes made by this agency to its A+ Certification Program. This course includes repair, upgrading, installation and maintenance of computers and software.

CNT 120 Network Cabling I
2 Credits

Co-requisite: Computer Lab

CNT 121 Network Cabling II
2 Credits

Co-requisite: Computer Lab

CNT 200 Introduction to Networking
3 Credits

Co-requisite: Computer Lab

This course introduces the student to the underlying concepts of data communications, telecommunications and networking. It focuses on the terminology and technologies in current networking environments and is meant to provide a general overview of the field of networking as a basis for continued study in the field.

CNT 201 Local Area Networks
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT200

This course builds upon networking fundamentals. It provides a detailed overview of LANs (Local Area Networks), the client/server model, and common networking systems.

CNT 202 Wide Area Networks
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT200

This course covers networking topics related to Wide Area Networks (WANs). These topics include the telecommunications components and concepts used to build WANs, as well as the protocols used to transport voice and data over a wide area. Topics include point-to-point services, integrated digital network, frame relay, cell relay, ATM, SMDS and SONET.

CNT 203 TCP/IP and Networking Architectures
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT200

This course outlines four important networking architectures in corporate environments today: TCP/IP, SNA, AppleTalk, and DNA. The major components and functions of each of these architectures are discussed as well as methods used to connect different architectures. This course provides students with concepts that are important to the field of systems integration, as well as a conceptual basis for understanding network architectures.

CNT 204 Introduction to Internet Technologies
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT200

This course outlines the important Internet technologies in use today. The major components and functions of each of these technologies are discussed as well as methods used to connect different technologies. This course provides the students with concepts that are important to the field of systems integration with the Internet, as well as a conceptual basis for understanding Internet technologies.

CNT 205 Internetworking
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT200

This is an advanced course intended for networking professionals and students who already grasp the general concepts of data communications and networking, but would like a more detailed understanding of internetworking. Techniques and components for managing network growth and connecting disparate network architectures will be presented and solutions to internetworking problems will be developed.

CNT 206 Processes and Protocols
3 Credits

Co-requisite:Computer Lab
Prerequisite: CNT200

This is an advanced course intended for networking professionals and students who already grasp the general concepts of data communications and networking, but would like a more detailed understanding of the processing and protocols of internetworking. Techniques and components of processing and protocols for managing networks and connecting disparate network architectures will be presented and solutions to processing and protocol problems will be developed. 4

CNT 207 Network Analysis and Design
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT200

This is an advanced course intended for networking professionals and students who grasp the basic concepts of networking but would like to understand methods used to analyze, design, and manage LANs and point-to-point networks. Exercises are geared toward learning techniques used to design and analyze networks.

CNT 231 Microsoft MCSE I: Microsoft Windows 2000 Professional
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 115 or equivalent experience or permission of the instructor.

This course is first in a series that is designed to prepare students for the MCSE Windows 2000 certification. Students learn to install, configure, implement, administer and troubleshoot Windows 2000 Professional. The course focuses on implementing, managing and troubleshooting file and print resources, hardware devices and drivers, network Protocols and Services. The course includes monitoring and optimizing system performance and reliability, configuring the desktop and implementing, managing and troubleshooting security 4

CNT 232 Microsoft MCSE II: Microsoft Windows 2000 Server
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT231

This course is second in a series designed to prepare students for the MCSE Windows 2000 certification. Students learn to perform an attended and unattended installation of Windows 2000 Server. The course incorporates installing, configuring and troubleshooting access to resources, hardware devices and drivers. The course focuses on managing, monitoring and optimizing system performance, reliability and availability, managing, configuring and troubleshooting storage use, configuring Windows 2000 network connections, and implementing, monitoring and troubleshooting security.

CNT 233 Microsoft MCSE III: Microsoft Windows 2000 Network Infrastructure
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT232

This course is third in a series designed to prepare students for the MCSE Windows 2000 certification. Students learn to install, manage, monitor, configure and troubleshoot DNS, DHCP, Remove Access, Network Protocols, IP Routing and WINS in a Windows 2000 network infrastructure. The course includes managing, monitoring, and troubleshooting Network Address Translation and Certificate Services.

CNT 234 Microsoft MCSE IV: Microsoft Windows 2000 Director Services Infrastructure
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT233

This course is fourth in a series designed to prepare students for the MCSE Windows 2000 certification. Students learn to install, configure and troubleshoot Windows 2000 Active Directory components, DNS for Active Directory and Active Directory Security solutions. The course includes installing, configuring, managing, monitoring, optimizing and troubleshooting Change and Configuration management by using Group Policy

CNT 235 Microsoft MCSE V: Designing a Microsoft Windows 2000 Directory Service Infrastructure and a Security Network.
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT234

This course is fifth in a series designed to prepare students for the MCSE Windows 2000 certification. Students learn to design a Windows 2000 directory services infrastructure in an enterprise network. Students will identify the information technology needs of an organization, and design an Active Directory structure that meets those needs. Students learn to design a security framework for small, medium, and enterprise networks by using Windows 2000 technologies.

CNT 236 Microsoft MCSE VI: Designing Microsoft Windows 2000 Network Infrastructure
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT235

This course is the sixth in a series designed to prepare students for the MCSE Windows 2000 certification. Students learn to analyze the business requirements for a network infrastructure and design a network infrastructure that meets business requirements. Network infrastructure elements include Network topology, routing, IPaddressing, name resolution, virtual private networks, remote access and telephony solutions.

CNT 260 CISCO Network Associate I:
5 Credits

Co-requisite: Computer Lab

Prerequisite: CIS 115 and CWB 100 or equivalent knowledge or experience

The first in a series of four semesters, this course focuses on Networking Fundamentals including the OSI model and industry standards. Network topologies, IPaddressing (including subnet masks), and basic network design. Upon successful completion of all four semester, students will be qualified to take the Cisco Certified Network Associate (CCNA) exam.

CNT 261 CISCO Network Associate II:
5 Credits

Co-requisite: Computer Lab
Prerequisite: CNT260

The second in a series of four semesters, this course focuses on Router Theory and Router Technologies including beginning router configurations, routed and routing protocols, and an introduction to LAN (local area network) switching. Upon successful completion of all four semesters, students will be qualified to take the Cisco Certified Network Associate (CCNA) exam.

CNT 262 CISCO Network Associate III:
5 Credits

Co-requisite: Computer Lab
Prerequisite: CNT261

The third in a series of four semesters, this course focuses on Advanced Routing and Switching including advanced router configurations, LAN switching, network management, and advanced network design. Upon successful completion of all four semesters, students will be qualified to take the Cisco Certified Network Associate (CCNA) exam.

CNT 263 CISCO Network Associate IV
3 Credits

Co-requisite: Computer Lab
Prerequisite: CNT262

The fourth in a series of four semesters, this course focuses on Project Based Learning including advanced network design projects and advanced network management projects. Upon successful completion of all four semesters, students will be qualified to take the Cisco Certified Network Associate (CCNA) exam.

CNT 280 Fiber Optic Levels 1,2,3
2 Credits

Co-requisite: Computer Lab

CNT 281 ELE Considerations for Telecommunication
0.5 Credit

Co-requisite: Computer Lab

CNT 283 Cabling Distribution Certificate
1.5 Credits

Co-requisite: Computer Lab

CNT 289 RCDD Pre-Study Course 2
2 Credits

Co-requisite: Computer Lab

CNT 291 Estimating for Voice/Data
1.5 Credits

Co-requisite: Computer Lab

CNT 291 Estimating Voice/Data Low Volt Integration
1.5 Credits

Co-requisite: Computer Lab

CNT 293 Voice/Data Engineering Design
2 Credits

Co-requisite: Computer Lab

CNT 294 Specifications Analysis
0.5 Credit

Co-requisite: Computer Lab

CNT 295 Spec Writing for Engineers
1 Credit

Co-requisite: Computer Lab

CNT 296 Grounding and Bonding
1 Credit

Co-requisite: Computer Lab

COMPUTER SCIENCE

Most of these courses require concurrent enrollment in computer lab sections.

CSC Computer Lab
1/3-1 Credit

Most computer courses have a lab accompanying them. You must register for the accompanying lab. Computer courses having an accompanying lab are designated with a co-requisite of lab.

CSC 130 COBOL Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 115 or equivalent experience or permission of the instructor.

This is a computer programming course in which elements of the COBOLlanguage are taught. Students will design, code, debug and document solutions to a variety of business-oriented problems.

CSC 131 Advanced COBOL Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 130

This course is a continuation of the study of COBOL programming language. Emphasis will be placed on teaching students the more sophisticated capabilities of COBOL.

CSC 133 CICS/COBOL Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: Any programming language.

Description: This course introduces the student to the basics of CICS Command-Level programming. Topics covered will include a overview of what a CICS on-line system actually does, what the CICS language provides, terminal device concepts, and programming techniques to mapping the terminal screen.

CSC 150 Visual Basic Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: CIS 115 or equivalent experience or permission of the instructor.

This course introduces programming and applications development for the Microsoft Windows Programming environment using Visual Basic for Windows. You learn the use of objects, controls, properties, events and methods to develop applications that provide a graphical user interface for the use. You also learn to develop functions and subroutines using structured Visual Basic and build complete Windows executables and applications.

CSC 151 Advanced Visual Basic Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 150

Description: This course is a continuation of CSC 150. You will develop more involved applications, work with more advanced controls, and deal with more advanced topics such as data structures, Dynamic Data Exchange and Object Linking and Embedding. To provide a more suitable interface to the Windows user, error trapping and error handling are implemented as well as providing customized help topics.

CSC 160 Computer Science I: (language)
4 Credits

Co-requisite: Computer Lab
Prerequisite: MAT130 Intermediate Algebra or equivalent experience or permission of instructor

This course will introduce students to the discipline of computer science. Topics covered will include algorithm development, data representation, arithmetic and logical expressions, sub-programs and input/output operations using a structured programming language. Intensive computer laboratory activities are required. Object-oriented techniques will also be emphasized.

CSC 161 Computer Science II: (language)
4 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 160 or permission of instructor.

This course continues the structured algorithm development and problem solving techniques begun in Computer Science I. Students gain experience in the use of data structures and design of larger software projects. Intensive computer laboratory experience required. Object-oriented techniques will also be emphasized.

CSC 165 Discrete Structures
3 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 160 or permission of instructor.

This course prepares students for a fundamental understanding of computing and computer science. Topics covered will include set theory, Boolean algebra, relations, functions, graph theory and techniques for formal reasoning.

CSC 225 Computer Organization
4 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 160 or permission of instructor.

This course introduces the student to the organization of a computer at the logic level. Topics covered will include numbering systems, digital logic, digital systems, machine level representation of data, assembly language programming, machine organization and memory system organization.

CSC 230 "C" Language Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: MAT121 College Algebra and any programming language.

Students are introduced to the C programming language, which is a "mid-level" language whose economy of expression and data manipulation features allow a programmer to deal with the computer at a "low level."

CSC 231 Advanced "C" Language Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 230

This course continues the study of C begun in CSC 230. Topics include pointers, arrays, linked lists, stacks and queues, trees and advanced user interfaces such as menus, windows and cursor control.

CSC 233 Object-Oriented Programming in C++
3 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 230.

This is an advanced level computer programming course. Although it teaches C++ as a complete language, it presumes knowledge of at least one similar language such as C or Pascal. Prior knowledge of C at an advanced level as well as fundamental concepts of algorithms and data structures is highly recommended. Encapsulation, inheritance, polymorphism, information hiding, reusable components and OOPprinciples are thoroughly explored.

CSC 235 Microsoft Visual C++
3 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 161 or CSC 233.

This course introduces the use of the Microsoft Foundation Class Library for Microsoft Windows programming. The Visual C++ AppWizard is used to create complete Windows applications employing the document/view architecture. The Visual C++ resource editor is also explored in creating menus, toolbars, controls and dialogs and use Class Wizard to handle Windows messages.

240 Java Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: C++ or equivalent experience.

This course is an introduction the Java programming language and will cover basic graphics, threads, events/procedures, user interface, and libraries. The student will write and execute a variety of Java programs. Java Applets will be incorporated into HTMLpages, allowing for the use of real-time sound, graphics, animation, and user interaction.

CSC 255 Computer Programming Languages
3 Credits

Co-requisite: Computer Lab
Prerequisite: CSC 161 and CSC 225

This course is an overview of contemporary programming paradigms and their related languages. Topics covered will include procedural, functional, logic, object-oriented and parallel processing.

CSC 265 Assembly Language Programming
3 Credits

Co-requisite: Computer Lab
Prerequisite: One programming course other than BASIC and MAT 160

This course is designed to teach assembly language programming on the (platform). Topics covered will include executable files, screen processing, string instructions, arithmetic (Binary/ASCII/BCD) operations, table processing and macros.

COMPUTER WEB

Most of these courses require concurrent enrollment in computer lab sections.

CWB Computer Lab
1/3-1 Credit

Most computer courses have a lab accompanying them. You must register for the accompanying lab. Computer courses having an accompanying lab are designated with a co-requisite of lab.

CWB 100 Introduction to the Internet
1 Credit

Co-requisite: Computer Lab
Prerequisite: Aworking knowledge of Windows

This course introduces the Internet, the global network of computer networks. The Internet's resources and tools are explored. Topics include history, topology, email, Listserv, telnet, ftp, World Wide Web, and various search engines.

CWB 110 Web Layout and Design Concepts
3 Credits

Co-requisite: Computer Lab
Prerequisite: CWB 100

This course is an introduction to the development of web pages using structured design to layout pages. Topics may include text manipulation, cross-platform calibration, graphics formats, data tables, and file downloading requirements.

CWB 130 Web Editing Tools I: (application name)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB 100 and a working knowledge of Windows

This course introduces the use of web editing tools to create simple web pages with links, backgrounds, and graphics for delivery on the World Wide Web.

CWB 131 Web Editing Tools II: (application name)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB 130

This course expands on the skills learned in the previous class using intermediate web editing techniques to control text and graphic placement, create image maps, and develop tables.

CWB 132 CWB 132 Web Editing Tools III: (application name)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB 131

This course continues to build on the skills learned in the previous course using advanced web editing techniques to control Web page layout. Topics include frames and Web forms.

CWB 135 Complete Web Editing: (application name)
3 Credits

Co-requisite: Computer Lab
Prerequisite: CWB 100 and a working knowledge of Windows

This course 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. This course is the equivalent of CWB 130, CWB 131, and CWB 132 taken separately.

CWB 140 Introduction to Multimedia
3 Credits

Co-requisite: Computer Lab
Prerequisite: None

This course introduces the hardware and software used to develop multimedia and computer-based training applications.

CWB 141 Multimedia Software Modeling Development:Director
3 Credits

Co-requisites: Computer Lab, CWB 142 suggested
Prerequisite: CWB 140

This course introduces the basic tools and techniques of multimedia modeling and animation. The course contains topics on using tool palettes, interacting with a model, views/perspectives, text objects and freeform/surface editing.

CWB 142 Multimedia Authorship:Authorware
3 Credits

Co-requisites: Computer Lab, CWB 141 suggested
Prerequisite: CWB 140

This course introduces the basic tools and techniques of multimedia authorship. The course includes such topics as using functions with movable objects, paging with interactive decision and data collection.

CWB 143 Multimedia Software Design/ Development: (application name)
3 Credits

Co-requisite: Computer Lab
Prerequisites: CWB 141 or CWB 142

This course introduces the development of a project through the use of a lingo language. Topics include parent scripts and child objects; development of a production; special effects; color cycling and color theory; interactive objects; and perpetual interaction and movable objects.

CWB 161 Image Editing I: (application name)
3 Credits

Co-requisite: Computer Lab
Prerequisite: Aworking knowledge of Windows

This course provides an introduction to digital graphics prepress. The course emphasizes image processing and special effects. Chemical free darkroom and illustration techniques are studied along with graphics/text integration.

CWB 175 Complete Web Authoring: HTML
3 Credit

Co-requisite: Computer Lab
Prerequisites: CWB 100 and a working knowledge of Windows

This course explores the complete set of web authoring skills using HTMLand/or other scripting languages. Topics include links, backgrounds, controlling text and graphic placement, tables, image maps, frames, and forms

CWB 200 Web Scripting I: (scripting language)
1 Credit

Co-requisite: Computer Lab
Prerequisites: CIS 115, CWB 175, and one programming language or permission of the instructor

This is an introductory course in using a Web Scripting language for developing Web Applications. Topics include variables, data types, arithmetic operations, logical operations, and looping.

CWB 201 Web Scripting II: (scripting language)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB 200

This course expands on the skills learned in Web Scripting I. Topics include creating and reading cookies, creating an array, displaying data based on a cookie value, and setting flags.

CWB 202 Web Scripting III: (scripting language)
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB 201

This course continues to build on the skills learned in Web Scripting II. Topics include working with frames, creating objects in a hidden frame, using the History Object, writing HTMLto another window, determining browser and detecting keystrokes.

CWB 230 Web Animation I: Flash
1 Credit

Co-requisite: Computer Lab
Prerequisite: CIS 115 and CWB 110, or equivalent experience.

This is an introductory course in creating Flash animations. The course covers Flash basics, drawing tools, fills and gradients, layers, artwork, animations.

CWB 231 Web Animation II: Flash
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB230

This is a continuation of CWB 230.

CWB 232 Web Animation III: Flash
1 Credit

Co-requisite: Computer Lab
Prerequisite: CWB231

This is a continuation of CWB 231.

CONSTRUCTION TECHNOLOGY

(See Air Conditioning, Heating, Refrigeration and Ventilation; Carpentry; Electricity, Facility Management; Fine Woodworking and Plumbing)

CON 100 Computers for Construction Mac/PC
2-12 Credits

This course introduces the use of computers in the construction trades. The emphasis is using computers for estimating construction projects and drawing and designing buildings with CAD programs.

CON 105 Blueprint Reading
4 Credits

This course introduces students to reading and interpreting blueprints for residential, commercial and industrial construction.

CON 151 Construction Process
4 Credits

This course covers the entire construction process including liens, contracts, bids, specifications, building permits and licensing, inspections and the Uniform Building Code. Intratrade coordination, remodeling and additions, construction practices, management and supervision, scheduling, solar building techniques, insulation concerns and multi-unit construction are introduced.

CON 228 Cost Estimation
1-5 Credits

This course 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.

AIR CONDITIONING, HEATING AND REFRIGERATION

AHR 103 Fundamentals of Gas Heating
4 Credits

This course introduces students to the fundamentals of gas heating. Students 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.

AHR 104 Sizing: Heating, Venting & Combustion Air Systems
4 Credits

Prerequisite: AHR 103

Offered fall semester only

This course gives students the opportunity to learn how to design a complete heating system. This includes sizing the furnace or boiler, designing the venting and combustion air systems. Students learn how to properly complete a heat loss calculation. This course also studies how to apply code requirements for combustion air and venting systems.

AHR 105 Electricity for HVAC/R
4 Credits

This combination lab/lecture course covers fundamentals of electricity, measuring instruments and electrical safety practices. Students will learn Ohm's Law and its practical application. Students will work with electric motors, basic electrical components and learn their application to the HVAC/R trade.

AHR 110 Refrigeration Fundamentals
4 Credits

Co-requisite: AHR 105

This course covers basic refrigeration theory and practice, safety, hermetic systems, refrigerants and tools and equipment used in refrigeration servicing.

AHR 122 Air Conditioning Systems
4 Credits

This course studies the basics of air conditioning system design, operation and installation. Students 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.

AHR 125 Refrigerant Recovery Training
1 Credit

This course explains the laws regarding refrigerant recovery. The course includes hands-on use of recovery equipment. Upon successful completion of this course students will be prepared to take the EPAcertification test. Test is offered following the class. Test fee is not included in course fee.

AHR 132 Air Conditioning and Refrigeration Controls
4 Credits

Prerequisite: AHR 105 or permission of instructor

This course is an extension of AHR 105. The course 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.

AHR 140 Residential Sheet Metal
4 Credits

Offered fall semester only

This course is designed for those who wish to enter the HVAC trade. Students learn basic skills and knowledge required to work on installation of residential forced-air systems. Information covered in this course includes: tools, safety, materials, installation standards and practices. Layout and fabrication of sheet metal planners, transitions and fittings is a large part of this class.

AHR 142 Servicing Forced Air Systems
4 Credits
Prerequisite: AHR 103 & 105

This course 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.

AHR 145 Residential Air System Installation and Design
4 Credits

Prerequisite: Completion of AHR 140 with a grade of "C" or above or permission of instructor

This course is presented in cooperation with the Denver Home Builders Association and Red Rocks. The focus of this course is on the installation, design and layout of residential forced air systems and accessories. Topics include reading blueprints, installation of equipment and application of national standards and local codes.

AHR 151 Low Pressure Steam Heating
4 Credits

Offered spring semester, even years
Prerequisites: AHR 103, 105

This course 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.

AHR 162 Heating Controls
4 Credits

Prerequisite: AHR 105 or permission of instructor

This course is an extension of AHR 105. The course 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.

AHR 190 AC Systems Service and Repair
4 Credits
Prerequisite: AHR 105, AHR 110 or permission of instructor

Offered spring semester only

This course emphasizes the service of HVAC systems. Students 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.

AHR 202 Pneumatic Controls
4 Credits

This course covers pneumatic controls and systems used in controlling commercial and industrial HVAC equipment. The course includes lab experimentation with pneumatic controls, rebuilding of valves and actuators and calibration of various types of controls. Students work with controls from most of the major manufacturers.

AHR 206 Hot Water Heating Systems
4 Credits

Prerequisites: AHR 103, 105

This course covers the theory of operation behind these systems, as well as installation, maintenance and repair. The course also examines air elimination, circulator pump and pipe sizing. Boiler and heat convector sizing are also discussed.

AHR 208 Radiant Heating Systems
4 Credits

This course is a 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. Upon successful completion, students are able to design, install, document, maintain and trouble-shoot all conventional residential warm water, radiant panel heating systems.

AHR 211 Stationary Engineer
AHR 212 Boiler Operator
AHR 213 Journeyman Steam Fitter
AHR 214 Journeyman Boiler Maker
AHR 215 Journeyman Heating and Ventilating
2-4 Credits

These courses cover the Uniform Mechanical Code and city codes where these certificates are required.

AHR 216 Uniform Mechanical Code
4 Credits

This course reviews in detail the Uniform Mechanical Code. The course is intended to give those entering the HVAC/R trade as well as those trades people taking certification examinations, a sound knowledge of this code.

AHR 217 Refrigeration Operator
AHR 218 Journeyman Refrigeration
2-4 Credits

The above two courses cover the Uniform Mechanical Code and city codes where these certificates are required.

AHR 222 Evaporative Cooling Systems and Water Treatment
4 Credits

This course covers aspects of commercial and residential evaporative cooling systems. Areas examined include maintenance to these systems, water treatment, sizing, pumps and piping.

AHR 225 Indoor Air Quality and Ventilation
4 Credits

Offered spring semester, odd years

This course is for the experienced HVAC contractor and service technician. The course informs students of problems associated with indoor air quality and methods for improvement of the indoor environment. The Uniform Mechanical Code and other national standards are covered as well.

AHR 239 Fundamental Heating for the Building Maintenance Person
4 Credits

This course is for the building maintenance person who possesses experience with electromechanical devices and applies the course to heating equipment. Forced air, hot water and steam systems are examined.

AHR 240 Commercial Heating Systems
4 Credits

Prerequisites: AHR 103, 162

This course covers the maintenance and repair of the typical heating systems used in commercial buildings and multi-family dwellings. This course includes study in warm air and hydronic systems. Flame safeguard systems are also studied. Those interested in this course must have previous experience with residential heating systems.

AHR 260 Bidding and Installing HVAC/R Systems
4 Credits

This course studies how to become profitable in bidding and installing HVAC/R systems. The cost of running a business and incorporating that cost in a bid is discussed. Topics include reading job specifications, completing a material take-off, estimating forms and programs, estimating labor and materials and subcontract agreements.

AHR 278 Advanced HVAC/R Study
3-12 Credits

Prerequisite: Permission of instructor

Enrollment in this course is limited to advanced HVAC/R students.

AHR 291 Honeywell Indoor Air Quality Training
.5 Credits

This lecture course introduces the student to common Indoor Air Quality problems. The students are given the opportunity to learn about solutions to these problems through proper application of mechanical equipment. Sizing and selling this equipment is also discussed. This course is taught in cooperation with Honeywell and Colorado Air Quality Products.

CARPENTRY

Most courses have no prerequisites and prior experience is not required.

CAR 107 Site Preparation
1-4 Credits

This course covers site characteristics including governmental and utilities regulation, plot plans, leveling tools, site selection, preparation and layout.

CAR 108 Foundation Systems
1-4 Credits

This course explores the different types of foundations used in construction, perimeter drainage, estimating materials, steel reinforcement, precast construction and forming techniques.

CAR 109 Floor Framing
1-4 Credits

This course presents types of wood framing, structural spans and loading, girders and beams, sills, estimation, subflooring, joist connections, openings and special framing situations.

CAR 110 Wall Framing
1-4 Credits

This course teaches exterior wall layout, assembly, erection, bracing, estimation, sheathing and partition construction.

CAR 111 Roof Framing
1-4 Credits

This course covers roof styles, terminology, rafters, trusses, roof sheeting, ceiling joists, layout and estimation and construction.

CAR 112 Stair Framing
1-4 Credits

This course covers stair design, estimation, layout and construction for a variety of different stair types.

CAR 113 Framing Labs
1-8 Credits

Prerequisites: CAR 109, 110, 111 or 112 and permission of instructor

This course covers construction of a variety of different structural frameworks of various complexities. Timber frames, domes, A-frame and log structures may be explained as well as specific framing problems such as different building shapes and unusual construction variations.

CAR 114 Formwork Lab
1-8 Credits

Prerequisites: CAR 108 and permission of instructor

This course covers construction of a great variety of form types; floating forms, edge forms on grade, wall forms, on grade curb forms, vertical piers and columns, horizontal beam forms, above grade slabs systems, fireproof encasement forms, stair forms, bridge deck forms and specialty forms.

CAR 150 Construction Materials
5 Credits

This course examines the qualities, uses and characteristics of wood, building materials, lumber grading and defects of hard and soft woods, estimating ordering, pricing, fasteners, adhesives, manufactured wood products, steels, vinyls and aluminum and their applications in construction process.

CAR 152 Tools: Hand and Power, Portable and Stationary
4 Credits

This course covers the safe use and care of hand and power, portable and stationary tools. Through tool utilization skills are developed to pass competency and safety tests for each tool.

CAR 200 Exterior Trim
1-4 Credits

This course teaches cornice and rake construction, corner, window and door trim, installation of soffit, frieze, fascia and similar trim items and includes estimation and proper selection.

CAR 202 Exterior Finishes Lab
1-8 Credits

Prerequisites: CAR 200, 205, 206 or 207 and permission of instructor

This course teaches the selection, construction and estimation of a variety of exterior finishes on all portions of a building exterior, including some unique Colorado finishes. Renovation, remodeling and energy rehab may be explored.

CAR 205 Exterior Doors and Windows
1-4 Credits

This course covers types of doors, operating and fixed windows, skylights, glazing methods, installation, estimation and construction. This course also includes discussion of chimneys, fireplaces and wood stoves.

CAR 206 Exterior Wall Coverings
1-4 Credits

This course covers all manner of materials used as exterior vertical finishes and their installation and estimating including thermal and sound insulation, vapor and fire barriers, siding types and methodologies.

CAR 207 Roof Coverings
1-4 Credits

This course covers application techniques and estimation of asphalt and wood roofing products and accessories including gutters and flashing.

CAR 208 Interior Finishes
1-4 Credits

This course covers interior trim materials including baseboard, casing, paneling, interior doors and shelving. This course also discusses drywall hanging, finishing and texturing, ceiling tile, suspended ceilings, plastering, finish flooring, hardware, railings, door hanging and estimation.

CAR 209 Cabinetmaking
1-4 Credits

Prerequisite: CAR 152 or FIW 100

This course covers cabinet types, kitchen and cabinet design, layout, construction, hardware installation, materials, power tool use, accessories and estimation.

CAR 211 Shop Carpentry
1-8 Credits

Prerequisite: Permission of instructor

This course is 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 millworkers.

CAR 213 Furniture Making
1-4 Credits

Prerequisite: CAR 152 or FIW 100

This course teaches furniture design, construction techniques, material selection, joinery, bending, laminating, veneer work and casework details.

CAR 215 Cabinet Installation, Countertops and Built-Ins
1-4 Credits

This course covers the selection and installation of factory built cabinets, countertops, built-ins and terminology, types, design, estimation and construction.

CAR 216 Drywall Construction
1-4 Credits

This course 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 217 Advanced Cabinetmaking
1-8 Credits

Prerequisite: CAR 152 or FIW 100

This course expands skills taught in CAR 209. The course includes a review of the types of joints, gluing and hardware used in cabinets. The course also familiarizes students with various types/ designs of cabinets used in residential/ commercial construction. Construction of shop-built cabinets including a variety of door styles and the proper use of power tools for creating various designs. The uses and application of plastic laminates are explored and students learn the proper installation of shop-built cabinets.

CAR 218 Commercial and Tenant Finishes
1-4 Credits

This course deals with dropped ceilings, steel stud partitions, estimating, scheduling and the interrelations of the mechanical trades associated in most commercial, retail and other leased spaces.

CAR 220 Remodeling, Renovation and Additions
1-4 Credits

This course covers conversions of attic and basement spaces to usable living spaces and additions or renovation to existing structures, including kitchens and baths. Materials scheduling, estimation and construction methods are investigated.

CAR 221 Building Maintenance
1-4 Credits

This course examines the maintenance of homes, apartments and commercial buildings—from the handyman to building superintendent, from fences and roofing repairs to plumbing and heating maintenance. This course enables students to be aware of what to expect in keeping buildings operating.

CAR 223 Owner-Built Homes and Owner Contracting
1-5 Credits

Prerequisite: CON 151

This course explores the areas of the owners/builders making a home for themselves from inception to certificate of occupancy, owner-built or the owner as a builder and selecting contractors to perform the actual construction. The problems and common pitfalls of the owner-built home are also examined.

CAR 224 Contracting and the Construction Business
1-5 Credits

This course is for those of students entering and/or those already in the construction industry and desire to know what the course entails. Job costing, overhead, insurance, when to subcontract, maintaining your own crews, cost estimation, bidding, contracts and liability are examined.

CAR 225 Building Codes
1-5 Credits

This course covers the governmental regulations concerning building and the process through which these regulations are enforced including whom to talk to, what to do, when to do the inspection process, how to obtain a building permit and the process of securing a variance.

CAR 227 Construction Coordination
1-5 Credits

This course covers the non-trade aspects of a construction project. Time, cost and labor management as well as construction techniques are included.

CAR 232 Carpentry Lab
1-8 Credits

Prerequisite: Permission of instructor

This course allows students to specialize in a chosen area of study requiring a written proposal, plans and specifications with a particular construction project as an outcome.

CAR 233 Technical Project for a Specialty Trade
1-8 Credits

Prerequisite: Permission of instructor

This course requires students to make a written proposal to explore an area of construction through research and a project. An example of a topic might be finish flooring with projects that resulted in installing ceramic tile, several types of carpet, sheet goods and wood strip and parquet floorings. Upholstery, plaster covering, log cabin construction, round windows, wood carving might all be appropriate projects.

ELECTRICITY—INDUSTRIAL/COMMERCIAL

EIC 100 Electrical Construction and Planning
4 Credits

This course teaches the planning of electrical system installations from blueprints to the completed job, preparation of material lists, job sheets and time schedules for various phases of construction. The National Electrical Code is emphasized in this course.

EIC 105 Basics of AC and DC Electricity
4 Credits

This course 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.

EIC 110 Electrical Installations I
4 Credits

This course covers residential building wiring in conformance with the current National Electrical Code and local codes using nonmetallic cable. The course emphasizes proper use of tools and safety.

EIC 120 Electrical Installations II
4 Credits

Prerequisite: EIC 110 or permission of instructor

This course 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.

EIC 130 National Electrical Code I
4 Credits

The National Electrical Code and local code requirements for electrical installation are taught in this course. Chapters one through four of the National Electrical Code are covered.

EIC 135 National Electrical Code II
4 Credits

This course is a continuation of EIC 130 and covers chapters five through nine of the National Electrical Code, including hazardous locations; special occupancies, conditions and equipment.

EIC 150 DC Circuit Fundamentals
4 Credits

Prerequisite: EIC 105, MAT105 or equivalent

This course 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. Common measuring instruments and safety are also discussed.

EIC 155 AC Circuit Fundamentals
4 Credits

Prerequisites: EIC 105, 150 or permission of instructor

This course 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 and stresses safety procedures.

EIC 160 Electrical Instruments and Measurements
4 Credits

Prerequisite: EIC 105 or permission of instructor

This course covers the proper techniques for using electrical instruments, including volt/ohm, amp, phase rotation, oscilloscopes and recording meters. Instrument transformers for journeymen and in-plant electricians are also discussed.

EIC 170 Solid State Devices and Circuits
4 Credits

Prerequisites: EIC 105, 150, 155 or permission of instructor

This course explores the basic properties of diodes, transistors, triacs, SCRs and other solid state devices. Applications of solid state devices in control and power conversion and the circuits in equipment likely to be encountered in power installations are covered.

EIC 180 Electrical Maintenance Techniques
4 Credits

This course introduces students to common electrical repairs, electrical systems, tools and test equipment. Topics include replacing or repairing such devices as receptacles, light fixtures and ballasts, circuit breakers, fuses and switches. Electrical safety and code applications are also discussed and practiced.

EIC 190 Electrical Code Calculations
4 Credits

This course discusses calculations used in the application of the National Electrical Code. Sizing of branch circuit and feeder conductors and calculating ratings of protective devices are emphasized.

EIC 205 Advanced Electrical Planning
4 Credits

This course explores the planning and layout of large commercial and industrial electrical installations.

EIC 210 Advanced National Electrical Code
4 Credits

Prerequisites: EIC 130, 135 or permission of instructor

This course is an Advanced National Electrical Code course for the in-plant technician. The course emphasizes interpreting 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.

EIC 215 Advanced Code Calculations
4 Credits

Prerequisite: EIC 190 or permission of instructor

This course is 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 are discussed as well.

EIC 217 Electrical Estimating/Costing
4 Credits

The fundamentals of electrical estimating, material takeoffs from prints, required labor hours, material loss allowances and scheduling to ensure orderly work progress are all discussed in this course.

EIC 220 Industrial Electrical Controls I
4 Credits

Prerequisites: EIC 105 or permission of instructor

This course studies the application of electrical and electromechanical sensing/ control devices; heating, ventilating and air conditioning applications, motor control, conveyor drives and other industrial applications. Students design control systems to meet assigned conditions, use principles of relay logic to prepare correct ladder diagrams and wire up, test and trouble-shoot their systems in the laboratory. The course stresses accuracy, safety and National Electric Code requirements.

EIC 225 Programmable Controllers
4 Credits

Prerequisite: EIC 105 and 220 or permission of instructor

This course studies the use of solid-state control equipment, primarily the programmable controller and associated solid-state sensors to control equipment, machinery or complete processes. Topics include 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. Students design, implement and test control systems in the laboratory to meet specifically-assigned control problems. This course emphasizes accuracy, safety and National Electrical Code requirements.

EIC 230 AC/DC Machines: Theory and Applications
4 Credits

Prerequisite: EIC 155 or permission of instructor

This course is a comprehensive study of the characteristics of DC, polyphase and single phase motors and generators and their industrial applications. Laboratory work includes parallel operation of generators, speed torque relationship in shunt, compound and series motors and operation of variable speed drives. This course stresses National Electrical Code requirements, maintenance and safety.

EIC 235 Transformers and Power Distribution
4 Credits

Prerequisite: EIC 155 or permission of instructor

This course studies the theory of operating power and instrument transformers; modem methods of delivering electrical energy from point of generation to point of use. Single and polyphase, circuit connections, voltage regulation and short circuit calculations are verified in the laboratory. This course stresses safety, National Electrical Code requirements; installation and maintenance considerations.

EIC 240 Fire Alarm Fundamentals
4 Credits

This course covers terminology, symbols, diagrams, devices, circuits and wiring. Basic layouts and principles involved in fire alarm system design and construction.

EIC 241 Advanced Fire Alarm Systems
4 Credits

Prerequisite: EIC 240

This course covers design, installation, documentation, testing and codes. Advanced layout and principles involved in fire alarm system design and construction are covered. Students testing for NICETII certification can benefit from this class.

EIC 279 Comprehensive Structured Cabling
3 Credits
Special course fees

This course combines the Fiber Optics Certification and Structured Cabling Certification classes into a comprehensive study of cabling systems in one course.

EIC 280 Fiber Optics Certification
2 Credits
Special course fees

This course on the introduction and theory of fiber optics includes standards, installation, connectorization, mechanical/fusion splicing and testing through advanced procedures in troubleshooting, repair and certification. Many variations of equipment and materials make this a non-vendor dependent certification course for levels 1,2 & 3. Building real world fiber networks with extensive hands on certification and written exams prepare students for the versatility of actual work environments.

EIC 281 Electrical Issues for Telecommunications
0.5 Credit
Special course fees

This course examines the Telecom/Data com system's installation with electrical systems including pathways, distribution and supply, grounding and bonding, UPS and lighting. Besides exploring improvements and new technologies this course will assist telecom/data com professional to assess and secure an overview of the communication's industry convergence with the electrical field.

EIC 283 Structured Cabling Systems Distribution Certification
1.5 Credits
This course offers hands-on and theoretical training in fiber optic cable layout for residential and commercial, single occupant, multi-occupant/apartment and campus structured cabling systems.

EIC 284 Certification for Residential Voice/Data System Network
1.5 Credits
Special course fees

This course trains the contractor/installer in design, estimation, installation, troubleshooting and certification of complex residential structured cabling sytems. This course is helpful to those interested in home automation, complex office electrical systems and A/V contractors. Training includes the use of network simulators.

EIC 285 Voice Data CAT Distribution
1 Credit
Special course fees

This course involves voice/data coaxial distribution certification for residential, multi-occupant, commercial and campus structured cabling systems.

EIC 286 LAN Certification/ Repair/Troubleshooting
1 Credit
Special course fees

This course will explore the testing, repair, certifying and troubleshooting of LAN using network distribution simulators to diagnose twisted repairs, coax and fiber.

EIC 289 RCDD Exam Prep Course
2 Credits
Special course fees

This RCDD exam preparation course should be taken prior to the BICSI RCDD exam. The course is a detailed study of the BICSI TDM manual using the laboratory equipment to facilitate understanding as well as exam success. The TDM manual and study guide must be purchased separately.

EIC 292 Project Management
1 Credit
Special course fees

This course covers the critically important but often overlooked component of construction, project management. Topics include: Project scope of work, estimator/project manager alliance, specification analysis, analyzing contractual documents, management documentation, successful meetings, critical path management, prospective on project milestones, creation and evaluation of cost coding, employee/company quality control, supervisor/foreman relations, project documentation, change orders, project evaluation, billing final inspection and project close out.

EIC 294 Specification Analysis for Cabling Systems
0.5 Credit
Special course fees

This course is intended to avoid problems and unanticipated expenses on cabling projects for estimators, contractors and suppliers through an organized analysis of the project specifications.

EIC 295 Specification Writing for Structured Cabling Systems
1 Credit
Special course fees

This course teaches the writing of specifications for structured cabling systems. The job layout, products used and execution of the project will be examined. Relationships with customer, installation contractor and product supplier will be examined in detail.

EIC 296 Cabling System Grounding and Bonding
1 Credit
Special course fees

This course will prepare students in the latest technology and techniques available for a code and standards'compliant grounding and bonding systems. Due to the sensitivity and expense of equipment transmitting and receiving signals and data through structured cabling systems, students will learn that the correct procedures must be followed to comply with applicable codes and standards.

FACILITY MANAGEMENT

FMS 100 Basic Power and Hand Tools
2 Credits

This course introduces students to application and safe use of common power and hand tools used in facilities maintenance. Power tools such as reciprocating and circular saws, screw guns and electric and cordless drills are also discussed.

FMS 102 Facilities Job Skills I
2 Credits

This course is the first of a series that allows students to become successful in the facilities maintenance industry. An overview of the facilities maintenance industry and licensing, regulations, jurisdiction and certification are addressed. Other topics include goal setting, entry-level job skills, acceptable workplace behavior, interview skills, workplace ethics, sexual harassment, customer service and resume writing.

FMS 105 Building Systems I
4 Credits

This course familiarizes students with the structure of buildings and the systems contained within them. The building envelope; and the electrical, piping, HVAC and control systems as well as how these systems work together are covered. The Uniform Building Code is introduced. In addition, this course includes field trips.

FMS 108 Building Systems II
4 Credits

This course is a continuation of FMS 105. This course helps to bring all the building systems together. The course introduces advanced control systems such as DDC and pneumatic controls. The Uniform Building Code is studied further. Other topics covered are indoor air quality, energy management and the importance of preventive maintenance.

FINE WOODWORKING

FIW 100 Fundamentals of Woodworking
4 Credits

This introductory course presents the manipulation of materials, drawings, hand and power tools, sharpening, joinery, assembly and preparation for and finishing to accomplish woodworking.

FIW 106 Plane Making
1-4 Credits

Prerequisite: FIW 100 or permission of instructor

This course explores the tradition of craftsmen making their own tools and offers an explanation of that ideal within the creation of hand planes. Students determine what type of construction techniques to use in building your project through researching old methods and examining current practices. The final outcome is demonstrated by using the new plane.

FIW 108 Toolmaking and Jigs
1-8 Credits

Prerequisite: FIW 100

This course is intended to broaden the capabilities, speed and accuracy of the woodworker through the use of jigs and specialty tools. Students are expected to construct several projects of progressing difficulty. Examples might be a box joint jig, a router table, a mock dovetail jig and spring pole lathe. Instructor involvement is required for selection of projects.

FIW 116 Cabroile Leg and Queen Anne Furniture
1-8 Credits

Prerequisites: FIW 100 & 201

This course uses the Queen Anne style to force the furniture maker to depart from rectilinear form and create curves and bends in wood. Patternmaking and building from drawings to create a chair, table, cabinet or similar piece is expected.

FIW 118 Lathe Turnings
1-4 Credits

This course 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 explored.

FIW 120 Advanced Furniture and Cabinet Construction
1-8 Credits

Prerequisites: FIW 100, 108 or 209, & 201

After completion of this course students should have produced a finished piece of salable quality with a demonstrated understanding of the materials available, their sources, shop drawings, various construction and finishing methods and reasonable design and technical skills.

FIW 122 Wood Carving
1-4 Credits

This course allows students to experiment with knife and gouge to discover the many possibilities of wood decoration through carving and the qualities of numerous materials. Ultimately students are expected to produce samples of chip and relief carvings to demonstrate what's been learned.

FIW 125 Finishing Wood
1-4 Credits

This course allows students to research the wide variety of finishes available from the oldest formulations to the bewildering array of modern films and stains. The course experiments with a representative sampling of colorations and surface finishes on a various types of woods using a selection of application techniques.

FIW 128 Doormaking
1-8 Credits

Prerequisites: FIW 100, 108 or 209, & 201

This course involves the planning, design, selection and purchase of materials, construction, finishing and hanging of a door students have made. Assorted styles of door construction, joinery, glues and fabrication technique are examined.

FIW 150 Period Furniture Reproduction
1-8 Credits

Prerequisites: FIW 100, 108, 122 or 209, & 201

This course involves researching and selecting a period and style of furnituremaking from the biblical era to contemporary times and building a reproduction piece. Students 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 students become involved in their research.

FIW 200 Veneering and Marquetry
1-4 Credits

Prerequisite: FIW 100

This course covers the surface decoration of wood, both edge and face treatments through the use of thin, often expensive, exotic or figured woods. Man-made and solid substrates for veneering are examined as well as available patterns, styles, marquetry techniques and creating multiple layer banding for a project.

FIW 201 Joinery
1-4 Credits

Prerequisite: FIW 100

This course explores different types of wood connections using both hand and power tool techniques in frame and carcass joinery. Students are expected to cut, fit and assemble projects to demonstrate their knowledge.

FIW 205 Tablemaking
1-8 Credits

Prerequisite: FIW 100

This course involves the study and construction of flat surface using gone of the wide variety of potential styles, sizes, materials and techniques available. Solid and sheet goods are examined as will alternative construction methods and their various qualities. Fastenings, edging and movement concerns are explored.

FIW 206 Chairmaking
1-8 Credits

Prerequisites: FIW 100 & 201

This course 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 examples. Spindle turnings, spokeshave 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.

FIW 208 Furniture Repair
1-4 Credits

Prerequisite: FIW 100

This course recognizes the need to repair and restore furniture and allows students to explore jigs, veneer repair, replacing broken pieces and reassembling reconditioned furniture. Students are expected to provide furniture of sufficient complexity to challenge your abilities. Joinery, carving, stripping and refinishing are other topics covered in this course.

FIW 209 Cabinetmaking
1-4 Credits

Prerequisite: FIW 100

This course covers cabinet types, kitchen and cabinet design, layout, construction, hardware installation, materials, power tool use, accessories and estimation.

FIW 210 Bending and Laminations
1-4 Credits

Prerequisite: FIW 100

This course involves the process of curving natural and man-made panels through a variety of methods including spaced kerfs, cold lamination and steambending. Form construction, various qualities of different wood species and adhesive selection are studied.

FIW 211 Shop Carpentry
1-8 Credits

Prerequisite: Permission of instructor

This course is 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 millworkers.

FIW 213 Furniture Making
1-4 Credits

Prerequisites: FIW 100 & 201

This course teaches furniture design, construction techniques, material selection, joinery, bending, laminating, veneer work and casework details.

FIW 215 Advanced Joinery
1-4 Credits

Prerequisites: FIW 100, 108 or 209, & 201

This course examines all types of joinery from decorative to the most complex of hand and machine cutting techniques and learn their respective qualities in regards to strength, material and adhesive selection, wood movement and the properties of different joints. Aproject incorporating many of these joints will be expected.

FIW 217 Advanced Cabinetmaking
1-8 Credits

This course expands the basic skills taught in FIW 209. The course includes a review of the types of joints, gluing and hardware used in cabinets. Students become familiar with various types and designs of cabinets used in residential and commercial construction. Construction of shop-built cabinets may include a variety of door styles and include the proper use of power tools for creating various designs. The uses and application of plastic laminates are explored and students learn the proper installation of shop-built cabinets.

FIW 219 Woodworking Lab
1-8 Credits

Prerequisite: FIW 100 or CAR 152, & FIW 201

This course provides the opportunity for the experienced woodworker to expand his/her woodworking skills through the design and construction of a carefully selected woodworking project. In collaboration with the instructor, the student will create drawings, choose materials, resolve joinery techniques and 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.

PLUMBING

PLU 101 Introduction to Plumbing
4Credits

This course 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.

PLU 105 Piping Skills
4 Credits

This course 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.

PLU 110 Waste & Vent/Code Requirements
4Credits

Offered spring semester only

Prerequisite: PLU 101 and CON 105 or permission of the instructor

This course gives the student the opportunity to learn how to design drain, waste and vent systems. Chapters 7,8,9 and 10 of the plumbing code will be discussed in the classroom and applied in the shop. Other topics include DWV materials, sizing systems, terminology, practical application of code tables, traps and interceptors. Students will design DWV systems in the classroom and build the system in the shop, thereby developing their isometric drawing skills.

PLU 112 Residential Plumbing
4Credits

Offered fall semester only

Prerequisite: PLU 101, 105, 110 or permission of the instructor

The student will learn how to design and install residential plumbing systems. (Course does not cover DWV systems: see PLU 110.) Students will work in the shop installing systems and in the classroom designing systems. Topics include the application of code requirements, fuel piping systems, water piping systems, rough-in measurements and installation practices. Students will also learn to install components, such as water heaters, tub/shower valves, a variety of shower enclosures and other fixtures.

PLU 116 Soldering and Brazing Skill
0.5 Credit

This course allows the student 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. The skills learned in this course are helpful to plumbers preparing to take the Colorado practical plumbing test.

PLU 118 Plumbing Service
4Credits

Offered fall semester only

This course is designed to allow the student 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 200 Backflow Prevention Certification
3 Credits

This course is designed to prepare students with information and procedures for the development, implementation, maintenance and enforcement of backflow prevention practices pursuant to federal and state regulation pertaining to cross-connection control. The information in this course also prepares students to take the backflow, cross-connection test.

PLU 202 Backflow Prevention Re-Certification
1Credits

Prerequisite: Students must have a current Colorado CrossConnection ControlTechnician Certification

This course is 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.

PLU 206 Hot Water Heating Systems
4Credits

Prerequisite: PLU 105; AHR 103, 105 or permission of the instructor

This course 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 convertor sizing are discussed.

PLU 207 Basic Solar Energy
3 Credits

Prerequisites: PLU 105 and 206

This course includes drawing and installation of domestic solar water heating systems.

PLU 208 Advanced Solar Energy
3Credits

This course includes solar panel construction, installing complete solar heating or domestic hot water systems, with the study of the variables and flexibility of the system.

PLU 212 Commercial and Multi-Story Projects
3Credits

Prerequisite: PLU 110

This course introduces students to commercial and multi-story projects. Installations in commercial work and code applications for these structures are reviewed.

PLU 216 Uniform Plumbing Code
4 Credits

Prerequisite: PLU 110 or permission of instructor

The information in this course is designed to assist 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.

PLU225 Technical Project
3-12Credits

This course enables students to participates in individual study on a special project which is related to the plumbing program. This technical project consists of: a written and approved proposal andscheduled progress reports.

PLU 255 Medical Gas
2-3 Credits

This course pursues medical gas certification and brazing testing. Specialty training includes anesthesia, respiratory and inhalation therapies. Medical gas system components, medical gas compressors and NFPAstandards are examined. This course includes the training time required to meet the Colorado Examining Board of Plumbers requirements.

ENERGY TECHNOLOGIES

ENT 101 Introduction to Energy Technologies
3 Credits

This course introduces the energy technologies in use today and those that are in the research stage as possible alternatives. Among the technologies presented are active solar heating, passive solar heating, wind energy systems, biomass, photovoltaics, co-generation, low and high head hydro, hydrogen, geothermal, power towers and energy storage systems.

ENT 125 Basic Solar Design/Layout
3 Credits

Prerequisite: ENT 101

This course presents students with a practical design approach to solar energy systems and collector piping and ducting layouts as they apply to buildings.This course also explores construction techniques for new and retrofit applications.

ENT 126 Solar Collectors
3 Credits

Prerequisite: ENT101

This course introduces the principles of design and operation of solar panel arrays, material analysis and construction features of flat plate collectors, mounting techniques and construction of a basic air and liquid collector array. The course also covers distribution from collectors to storage and building, mechanical and plumbing codes as they apply to the solar industry.

ENT 141 Passive Solar Systems I
3 Credits

Prerequisite: ENT 101

This course presents a state-of-the-art study on the design and installation techniques of passive/natural solar energy systems.

ENT 145 Passive Solar Retrofit
3 Credits

Prerequisites: ENT101, 141

This course explores the principles and primary features behind a wide range of passive solar options for existing homes. The course also provides instructionconcerning the site survey and energy conservation measures prior to installing retrofit design and construction details on various passive retrofit projects. Analysis of performance of each type of retrofit are also taught.

ENT 153 Renewable Energy Construction
4 Credits

This course introduces solar construction techniques, terminology and construction materials in detail. Moisture and air qualityin tight construction are also covered, as well as an overview of the building shell and interior walls.

ENT 225 Solar Domestic Hot Water Systems
3 Credits

Prerequisites: ENT101; PLU 107

This course provides a working knowledgeof sizing, installation, maintenance of solardomestic hot water systems, residential applications, components, parts and cost efficiency analysis.

ENT 226 Solar Panel Installation
4 Credits

Prerequisites: ENT101, 126; PLU 100

This course presents the installation of all types of panels on all types of roofs. Vertical wall mounting techniques are also covered.

ENT 295 Passive Solar Design Project
5 Credits

Prerequisite: Permission of instructor

This course is a technical project includinga written and approved proposal, scheduled progress reports and a finalized set of drawings.

ENT 298 Solar Lab
3-12 Credits

Prerequisite: Limited to second-year students, permission of instructor

This course enables students to improve your basic solar construction skills, such as soldering, brazing, use of power tools, panel design and construction.

APPRENTICE-RELATED CARPENTRY

All apprentice-related courses are taught in cooperation with the Construction Industry Training Council. Students must have the approval of the Chairperson of Construction Technology.

ARC 111 & 112 Carpenter I
4 Credits Each

This course explores safety-crane and rigging traffic, carpentry math, nails, fasteners and adhesives, wood building materials, hand tools and stationary and portable power tools. In addition, this course studies site layout, reading plans and elevations, concrete and reinforced concrete, concrete handling and placement and forming foundations and flatwork.

ARC121 & 122 Carpenter II
4 Credits Each

This course explores sketching and visualization, field engineering principles and supervision. In addition, reinforcing concrete, patented forms/heavy formwork, wall systems, tilt up, structural steel, shoring and formwork are discussed.

ARC 131 & 132 Carpenter III
4 Credits Each

This course presents floor, wall and roof systems, as well as stair construction, interior finish, exterior finish and roofing application.

ARC 141 & 142 Carpenter IV
4 Credits Each

This course presents advanced supervision, laser instruments and introduces the Uniform Building Code. In addition, this course covers water and damp proofing, finish stairs, supplement to ceiling systems, metal studs and drywall, interior finish, wall and floor specialties and cabinetry.

APPRENTICE-RELATED DRYWALL

ARD 111 & 112 Drywall Applicator (Year One)
4 Credits Each

This course introduces to the trade, tools and materials of the trade, drywall systems and blueprints. Topics include safety, human relations, trade math, material handling and storage, framing materials and fasteners, basic non-load bearing wall framing, ceiling framing, furring, hanging materials and fasteners and wallboard hanging on wood.

ARD 121 & 122 Drywall Applicator (Year Two)
4 Credits Each

This course presents thermal insulation and sound control, trim installation, safety, advanced trade math and layout. The course also includes load-bearing framing, installing hollow metal, demountable partitions, special framing conditions and pre-finished gypsum board, wallboard hanging on metal walls and ceilings, laminated applications, angles and curves, laser instruments, interior finish (ceiling systems), supplement to ceiling systems and finishing procedures.

APPRENTICE-RELATED ELECTRICITY

ARE 111 & 112 Electrical I
4 Credits Each

This course presents general safety, tools of the electrical trade, contractor owned tools, trade history and introduces electrical theory, conduit outlet boxes and the National Electrical Code. This course also explores the sources of electricity, trade math, laws of electricity, series circuits, parallel circuits and series parallel circuits. Other topics include organization of the National Electrical Code, magnetism laws, wire devices, service boxes, connectors, conduit bending, conductors and insulators, insulation and pulling large and small wires.

ARE 121 & 122 Electrical II
4 Credits Each

This course covers blueprint symbols, blueprint reading, schedules and specifications, instruments and meters, characteristics of induction and AC capacitance. Other topics include series circuits (AC), parallel circuits (AC), overcurrent protection, fuses, circuit breakers, ducting, installing cable tray, wireways and surface metal raceways, main service equipment subpanels, grounding conductors, metallic sheathed cable and special wires and cords. In addition, this course introduces alternating current, Ohm's Law for Alternating Current, the theory of grounding and the general requirements of wiring.

ARE 131 & 132 Electrical III
4 Credits Each

This course presents hazardous locations, electrical safety, reading diagrams, lighting fundamentals, fluorescent lighting, high intensity discharge lighting, fundamentals of DC motors, DC motors and generators, fixed generators and portable generators. This course also explores residential calculations, fixed electric space heating, fundamentals of AC motors, control of motor starting, single phase motors and polyphase motors. In addition, this course covers the general requirements for commercial wiring and bussways, as well as motor circuit: code, types of motors, wire sizing, overload protection, motor connections and overcurrent protection.

ARE 141 & 142 Electrical IV
4 Credits Each

This course explores tool and material takeoffs, electrical safety, reading diagrams, journey person responsibilities, low voltage lighting control, emergency lighting, special systems, transformer connections, solid state fundamentals and advanced meter applications. This course also covers high voltage fundamentals, special occupancies and equipment, resistive heating cables and special terminations.

APPRENTICE-RELATED LABORER

ARL104 Basic Measuring and Layout
0.5 Credit

This course teaches students to read and use a tape measure and apply fractions. Students are introduced to an automatic level and its functions and study the most common layout mistakes. Students are also introduced to the uses and care of the "chain".

ARL105 Crane Setup, Rigging and Signaling
0.5 Credit

This course studies how to recognize when a crane is properly setup as well as proper rigging. Basic rigging techniques, hand signals, rigging, inspection and site preparation are covered. In addition, students will receive a handbook on rigging with a wallet card of hand signals.

ARL107 Scaffold Setup and Safety Certification
0.5 Credit

This course covers basic equipment terminology. How to erect and dismantle single-tier and multi-tier scaffold and the proper use of hoisting equipment during erection is studied. Fall protection is also discussed and demonstrated.

ARL112 Basic Blueprint Reading
0.5 Credit

This course introduces the organization of project plans and specifications. Discussions are held regarding the basics of site organization and building orientation including access to the project site. Floor plans and details are covered.

ARL113 Concrete Consolidation/Patching
0.5 Credit

This course studies the basics of concrete placement and consolidation. Topics include ready mix types, strength, admixtures; weather and types of pours; height and width of wall; concrete vibrators and other tools; safe and effective pour set-up; tie hole patching basics, rubbing walls and other post pour activities. The use of patching materials; scaffold erection safety; flat work tools; patching materials; ceiling work; grinders, chipping hammers and brushing machines; concrete curing; and safety measures are also covered in detail.

ARL114 Forklift and Bobcat Training
0.5 Credit

This course studies the basics of operation, safety features, daily inspections, maintenance schedules and attachments. Students are expected to identify and understand safety features, daily inspection points and safe operating procedures upon completion of this course.

ARL115 Scissor Lift/Boom Lift Training
0.5 Credit

This course covers the basic operation and safety of different types of lifts. The proper use of fall protection systems on boom lifts, daily inspections and maintenance schedules are studied.

ARL116 Hand, Power and Pneumatic Tools/Compaction Operations
0.5 Credit

This course studies how to identify and properly use basic hand, power and pneumatic tools. The use of hand tools versus power tools or pneumatic tools, care and maintenance, visual inspections, safety (including GFCI requirements) and the retirement tools are explored. OSHA standards required for operation of pneumatic tools and proper startup methods are covered. This course also teaches how to identify hand compaction equipment and choose the correct equipment for the job; fueling procedures; visual inspection of equipment, as well as what personal protective gear to wear. Proper compaction techniques are also reviewed.

APPRENTICE-RELATED MASONRY

ARM 111 & 112 Masonry I (Year I)
4 Credits Each

This course introduces students to the masonry trade. The course covers the history of the trade, safety, tools and equipment, masonry math, mortar joints and applications, and brick materials layout. The ability to lift 80 pounds and climb a 25-foot ladder is required.

ARM 121 & 122 Masonry II (Year II)
4 Credits Each

Prerequisite: Successful completion of ARM 111/112 or permission of coordinator

This course covers materials handling and storage, advanced laying techniques, control joints, corners and poles, flashing and lintels, elevated masonry, commercial and residential drawings, all-weather masonry, wall insulation, openings, columns, sample panels and prisms. Evaluation ends the second year of Masonry.

ARM 131 & 132 Masonry III (Year III)
4 Credits Each

Prerequisite: Successful completion of ARM 121/122 or permission of coordinator

This course covers safety panels and prisms, brick creativity, stone work, residential masonry, glass block, acid brick and refractories, structured glazed tile, repair and restoration, panel construction, welding and brick paving.

APPRENTICE-RELATED PLUMBING

ARP 111 & 112 Plumber and Pipefitter (Year I)
4 Credits Each

This course is an introduction to the plumbing trade and covers topics including plumbing careers, trade regulations and safe and effective use of tools. First aid, OSHA, plumbing math, related science and installation practices are studied as well. Beginning blueprint reading completes year one of Plumbing and Pipefitting. The ability to lift 80 pounds and climb a 25 foot ladder is required.

ARP 121 & 122 Plumber and Pipefitter (Year II)
4 Credits Each

Prerequisite: Successful completion of ARP 111/112 or permission of coordinator

This course teaches the specific aspects of water piping materials, additional plumbing math, sewage disposal, blueprint reading, shielded welding and water properties. Safety and rigging concepts ends the second year of this course.

ARP 131 & 132 Plumber and Pipefitter (Year III)
4 Credits Each

Prerequisite: Successful completion of ARP 121/122 or permission of coordinator

This course covers additional installation practices and trade math, and explores fuel piping, gas codes studies and energy and temperature transfer. Aspects of water treatment and further blueprint reading completes this course.

ARP 141 & 142 Plumber and Pipefitter (Year IV)
4 Credits Each

Prerequisite: Successful completion of ARP 131/132 or permission of coordinator

This course covers aspects of drainage, fuel gas piping, sizing, waste systems, one- and two-pipe systems and hydraulics. Shop drawings, plumbing code definitions and portable water systems completes this course.

ARP 151 & 152 Plumber and Pipefitter (Year V)
4 Credits Each

Prerequisite: Successful completion of ARP 141/142 or permission of coordinator

This course teaches written and verbal communication, modern materials, advanced blueprint reading, code problems, code differences, code interpretation, contracts, tools, safety, inventory, medical gas, cross connection and leadership. American Disabilities Act (ADA) and how to apply OSHA standards completes this course.

APPRENTICE-RELATED PAINTING
(See Construction Technology)

APPRENTICE-RELATED SHEET METAL

ARS 111 & 112 Sheet Metal I
4 Credits Each

This course introduces safety, shop/trade mathematics, the principles of layout, the elements of blueprint reading and fabrication. This course also covers the various tools, fasteners, metals and sheet metal processes.

ARS 121 & 122 Sheet Metal II
4 Credits Each

This course introduces parallel line development, triangulation, radial line development and expands your knowledge of trade mathematics. This course also presents soldering and brazing, hangers and supports, insulation, gutters and downspouts, flashing and hoods and ventilators.

ARS 131 & 132 Sheet Metal III
4 Credits Each

This course introduces welding, brazing and cutting. The principles of air flow, equipment, fiber glass and PVC ducts, blueprint specifications and field measuring and fitting are also explored in this course.

ARS 141 & 142 Sheet Metal IV
4 Credits Each

This course explores shop production and organization, air balance, duct design fundamentals and duct standards. This course also covers carbon arc welding; bend allowances; louvers, dampers and access doors; rigging and hoisting; fume and exhaust systems design and the principles of refrigeration.

CONTINUING EDUCATION FOR HEALTH CAREERS

CEN 104 The Healing Mind
0.5 Credit

Unleash the power of your mind for healing, mental focus and improved memory! This course will explore scientific research as well as enhance mind/body communication skills.

CEN 106 Case Management
0.5 Credit

This course is a basic information course that explains case management in hospitals, insurance, home care and private companies.This course includes negotiating contracts,developing care plans, reports and dealingwith conflicts. This is another alternative in nursing.

CEN 107 Camp Health Care
0.5 Credit

This course is open to RNs, LPNs, EMTs and Advanced Red Cross First Aid carriers. The course presents health issues and health responsibilities for camp. Social service regulations,medications, protocols, first aid equipment, immunizations, communicable diseases, care of chronic health conditions and the role of the health person with camp staff are discussed.

CEN 110 Neurolinguistic Programming I
0.5 Credit

This course presents a practical set of skills that enhance and expand a person's ability to build verbal and nonverbal rapport rapidly with others. Neurolinguistic programming can increase the effectiveness of healing interventions by developing a clear, individualized communication pattern allowing for a desired change to occur. This course also includes a learning process called "anchoring," which is a gentle and respectful method of change.

CEN 125 Feldenkrasis Awareness Through Movement ®
0.5 Credit

Awareness Through Movement is a series of lessons in how your body functions and how students can learn to use it more intelligently. Through gentle and exploratory movements, students can retrain your central nervous system and free yourself from habitual patterns of moving, thinking and feeling that contribute to stress and disease. Through increased bodily awareness, students can learn to move more easily during any activity from vigorous sports to the way students breathe, stand and walk.

CEN 130 First Degree Reiki
0.5 Credit

This class provides understanding of the traditional Usui use of Reiki. The history and development of Reiki work, beginning in Japan, then Hawaii, the U.S., and later Europe is reviewed. Discussion of the fundamental beliefs and the dynamics of the Reiki process are included. Each participant receives four Reiki atunements in this class to prepare themselves for the Reiki energy work. Each class member gives and receives a Reiki hands-on treatment session.

CEN 185 Basic Life Support (BLS) Provider C
0.5 Credit

This is the American Geart Association's Healthcare Provider C course. This course will cover adult, child and infant CPR, foreign body obstruction removal, and rescue breathing. Certification is good for two years.

CEN 190 Introduction to Crystals and Minerals
0.5 Credit

The student will be introduced to crystals, their properties and how to clear, clean and use for personal use or with clients. Hands on experience will allow the student to feel different energies of crystals and minerals.

CEN 201 Ethics in Health Care
0.5 Credit

This course presents the ethical dilemmas that have become everyday issues in health care. Also presented is the effect that technology has had on such discussions as the "right to die" and "duty to die." Although there are no "answers" to ethical dilemmas, many insights are studied by examining the issues.

CEN 202 Aromatherapy
0.5 Credit

This course explores the wisdom of the ancient Egyptians and their use of oils. The use of essential oils as it pertains to health maintenance and the healing of particular diseases is studied. In addition,a select group of essential oils *(their origins, extraction, storage and usage)* are covered. Alarge number of essential oil remedies and their applications are used in this course.

CEN 203 Women's Holistic Health Care
0.5 Credit

For women being well-informed is essential for good health. With health needs dramatically changing as we age, body image, depression, sexuality, exercise and nutrition are all common health concerns. These issues and basic standard clinical practices are discussed in detail with views from several perspectives. Aholistic approach is emphasized.

CEN 205 Herbology
0.5 Credit

The use of herbs in health maintenance and the healing of disease predates written history. Herbs have been found by archaeologists in Paleolitihic burials and throughout literature of the ancient Chinese and Egyptians, which has been verified by modern scientific research. This class will explore the pharmacokinetics and composition of herbs and their effect on the body systems. In addition, the habitat, harvesting, storage and usage of a select group of herbs will be studied.

CEN 208 Basic EKG Interpretation
1 Credit

This course presents the anatomy and physiology of the heart, conduction system, normal and abnormal stimuli of cardiac muscle and recognition of arrhythmias.

CEN 209 Spanish for Health Care-Level I
1 Credit

This course covers basic anatomy and medical terminology. The course enables students to speak with patients and encourage needed information. This course is adapted to your needs.

CEN 210 Physical Assessment of the Adult
2 Credits

Participants learn 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 also covered.

CEN 212 Neurolinguistic Programming II
0.5 Credit

Prerequisite: CEN 110 or permission of instructor

This course presents hands-on NLPtools to produce effective positive changes for students and others. Create the feeling/physiology of self-confidence that students can be accessed anytime. Use the "Visual Squash" to resolve or gain more understanding of ambivalence. Interview with the "magic 9" that bridges dreams to desired outcomes/actions.

CEN 213 Spiritual Role in Health Care
0.5 Credit

This class is developed to all caregivers. Spirituality is explored with focus on its development in individuals through the life span. The healing aspects of various religions with correlation to the energy system with Nightingale's thoughts are presented. Spiritual assessment and interventions for client care are covered.

CEN 214 Exploring Your Dreams
1 Credit

People of all ages and in all stages of health dream nightly. This participatory course of dream interpretation will lead to an awareness of the benefits of dreams as a valuable tool for facilitating health and personal growth. Participants will learn simple tools for dream recall, recording dreams, and uncovering the many levels of meaning that are found in every dream. Students will evaluate their lifestyles and develop an individual concept of wellness and optimal health by tapping into their dreams as a source for reducing stress and increasing spirituality and inner growth.

CEN 215 The Role of Art in Healing
1 Credit

This course is designed to provide an overview of the role of visual art in healing. Content will include both didactic information and experiential learning. Participants will learn how the role of art in healing has evolved over the years and will explore different models, approaches and focuses of healing through visual art. Asecondary goal of the course is to help students discover, through art, things about themselves which can enhance their professional work.

CEN 216 Humor Playshops: Put Fun to Work
0.5 Credit

Joy in the workplace is absolutely essential to motivate employees, combat low morale, increase productivity and boost the bottom line. Humor playshops will provide students with the tools to help disarm explosive situations, deal with hostile questions and improve team spirit. The goal is not to teach students to be funny, but to 1) help students see the value of humor in your daily practice and 2) use humor as both a tension reliever and a safety valve.

CEN 217 Phlebotomy Refresher
1 Credit

This course covers OSHAregulations; collection procedures and requirements for various laboratory tests; phlebotomy technique; problem solving; legal implications and phlebotomist/patient rights.

CEN 218 Supervision and Delegation
0.5 Credit

This two-part course is designed to review the principles and legal aspects of documentation. This course discusses better charting deals with documentation from a nursing care perspective and examines what should be charted and how. Various charting systems (S.O.A.P., Block, Narrative, etc.) are considered and students are encouraged to bring chart forms and charting samples for discussion. This course also explores the legal aspects of documentation and includes being a witness, consents, living wills and DNR orders.

CEN 220 Advanced Ethics and Law
0.5 Credit

In this seminar students learn the anatomyof a malpractice claim and the elements required for a lawsuit. Participants becomeacquainted with basic doctrines and principles of law, which apply to nurses and how to avoid legal problems.

CEN 221 High Level Wellness
1 Credit

This course explores the positive and health-promoting dimensions of the wellness lifestyle. Students have an opportunity to assess their present lifestyle and design a new one incorporating the wellness principles. The course covers nutrition, exercises, stress management and personal assessment.

CEN 223 Hypnosis for the Medical Profession
2 Credits

This course is designed for EMTs, paramedics, nurses, operating room and emergency room personnel, or anyone in the medical profession who has patient contact. The student will learn how to increase the patient's chance of survival, lessen the side effects of drugs and treatments and help the healing process.

CEN 224 Massage Therapy
1 Credit

This course explores massage therapy and its importance in treating injuries, chronic pain and stress related conditions. Swedish massage techniques and basic foot reflexology, are performed and experienced by students. Guidelines for creating a nurturing, healing environment and the use of lotions, oils and aroma therapy are also covered.

CEN 225 Introduction to Home Health Nursing
0.5 Credit

This course introduces home health nursing from the standpoint of services provided by for-profit and non-profit agencies, funding for home health care and community support services. The role of the nurse, the family, reimbursements and the future of home health care are emphasized. *This course should be followed with CEN 264 and CEN 243.*

CEN 226 Intravenous Therapy
1 Credit

This course covers basic venipuncture techniques, central lines, factors involved in vein selection, psychological implications, complications and nursing measures. This course does not provide IV certification.

CEN 227 Communication Skills
0.5 Credit

Reacting and responding to the demands of the environment, feeling stress, frustration and apathy at times, takes a toll on self-worth and one's interaction with others. This course enables students to acquire essential skills in communication, conflict resolution, negotiation, team building, decision-making and assertiveness to manage stress, gain self-worth and expand one's human potential to get needs met.

CEN 228 Solution Focused Counseling
0.5 Credit

Students will learn brief interventions, focusing on solutions. They will practice the effective, quick, Emotional Freedom Technique (EFT) to allow themselves and others to become "unstuck." EFT combines acupressure points with hypnotic phrasing. Students will also play Word Wizard, a delightful way to find options and become skilled with the language that opens opportunities.

CEN 229 Wellness Counseling
1 Credit

This course presents tools to facilitate yourself and others in the movement toward a higher level of wellness including vitality and a joy of living. Students learn assessment tools, basic counseling skills, how to establish contacts and set goals for change, methods for evaluation and ongoing growth.

CEN 230 Trauma Assessment and Intervention
1 Credit

This course presents the steps for a systematic assessment and intervention in traumatic emergencies. Each step is covered in detail with handouts, slides, classroom discussion and hands on experience. *This course is not for BTLS Certification.*

CEN 232 Caring for the Caregiver
0.5 Credit

This course explores the daily stresses of caregivers and provides methods to relieve stress and care for ourselves. The course also examines a variety of methods to assist in self-healing.

CEN 233 Womansoul and Healing
1 Credit

The history of our contemporary female experience spirals downward through the lives of our mothers, our aunts and our grandmothers to the physical matrix of our primordial first mother, the earth herself. Together we will explore the multiple colors of our rich feminine tapestry. Through process, ritual and storytelling we will reweave the broken threads of the feminine, creating space for renewal and reaffirmation of the individual and collective Womansoul.

CEN 235 Nutritional Therapy and Health
0.5 Credit

This course examines the nutritional alternatives to traditional medical therapies. The discussions focus on a more optimum level of health, using various nutritional techniques. Topics include food allergies and asthma, premenstrual syndrome, gastrointestinal disorders, blood sugar abnormalities, vitamins and minerals and the effect of drugs on nutritional status.

CEN 236 Dance Therapy and Healing
0.5 Credit

The American Dance Therapy Association defines dance therapy as "the psychotherapeutic uses of movement as a process to further the cognitive, emotional and physical integration of the individual." This workshop will introduce the theories of Marian Chace/Group Development, Balanche Evan/Creative Movement and Mary Whitehouse/Authentic Movement. Dance therapy principles can be applied to all caregiver interactions in which professionals want to increase empathy and communication. Participants should come dressed in loose, comfortable clothing. No prior movement experience is necessary.

CEN 238 Advanced Electrocardiogram Interpretation
1 Credit

This course presents the fundamental concepts of twelve lead ECG interpretationalong with various advanced topics in electrocardiography, such as electrical axisdetermination; differentiation of wide beattachycardias; comprehensive discussion ofblocks *(AV, hemi and bundle)*; pre-excitation syndrome; pacemakers and how they impact the ECG; and effects of injury, ischemia and infarction on the ECG.

CEN 239 Intravenous Certification
5 Credits

This course covers venipuncture techniques, blood tubes, procedure for setting up and maintaining intravenous therapy, intravenous catheters, solutions, pumps, antibiotic therapy and legal/ethical ramifications.

CEN 241 Healing Imagery: Body, Mind, Spirit
0.5 Credit

This course explores the ancient practices of Shaman healers as well as the clinical research on healing imagery. Students develop their own creative imagination for personal and professional growth. Students also learn effective techniques which accelerate healing and develop insight.

CEN 242 Healing Touch Level I
1 Credit

Healing Touch is an energy based therapeutic approach to healing. Participants will learn to develop and use touch as a means of assessing a clients/patients state of wellness through the intentional use of touch. Participants will be given specific instructions in developing touch sensitivity and will 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, a person is eligible to apply for certification as a healing touch practitioner.

CEN 243 Teaching in Community/Home Health Nursing
0.5 Credit

Prerequisites: CEN 225 and 264 are recommended

This course presents teaching theories, assessment of client/family's learning needs; teaching modalities and practicum to exercisenew skills. This course covers the new JACHO and case management requirements,discharge teaching and community resources.

CEN 244 Holistic Nursing Level I
1 Credit

The conscious application of self-responsibility, caring, human development, stress, lifestyling, communication, problem solving, teaching/learning, leadership and change are topicscovered in this course. This is approached through nurturing, preventive and generative activities to help the clients help themselves move toward high-level wellness.

CEN 245 Bridging to Hospice Nursing
0.5 Credit

This course introduces the philosophy andprinciples of hospice support for the terminally ill, their family and friends. The course explores hospice intervention, which offers opportunities for comfort through symptomcontrol, support to the patient's family andfriends in decision making and coping withanticipatory grieving and death. This course also includes coverage of hospice in the home, as well as in-patient settings.

CEN 246 Second Degree Reiki
1 Credit

This course teaches the learning and meaning of the three traditional Usui symbols. In-depth discussion about application of the three symbols is covered. Students learn about the necessary preparation of a Reiki therapist in offering treatments. One atunement is given to each student. Each member gives and receives a Reiki treatment session, using the three Reiki symbols. Long Distance and Mental Reiki processes are learned. Reiki Therapist Certification available upon completion.

CEN 247 Phlebotomy Certification
0.5 Credit

This comprehensive phlebotomy class covers OSHA regulations, various collection procedures and requirements for the numerous laboratory tests; phlebotomy, fingersticks and other collection techniquest; problem solving; legal implications and other duties specifically associated with the health care industry i.e., home health care, physicians office, hospital, etc. *This course provides phlebotomy certification, not I.V. certification.*

CEN 248 Conflict Resolution in the Workplace
0.5 Credit

Conflicts occur in all relationships at one time or another. They can be especially unpleasant in a work setting, when power issues are most prevalent. Effective conflict resolution results in productive solutions as well as an increase in professional and personal self esteem and reduction in stress. Students will, then, learn and practice effective skills and techniques to resolve workplace conflicts.

CEN 249 Journaling the Healing Journey
1 Credit

The journal is an effective tool for looking at our personal growth process, as well as for helping clients in their healing process. Journaling helps develop memory, imagination, feeling, intuition and many other creative aspects of ourselves. Using a journal in your health practices can accelerate the healing process for clients. This class will teach journaling skills and how to focus specifically on healing through various techniques.

CEN 250 Home Health Nursing Skills Part I
0.5 Credit

This course is for nurses entering the home health field. The course presents the skills/functions that are necessary for quality care in homehealth nursing, including medications, laboratory work, emergencies and commonhealth problems seen in the home.

CEN 251 Music as a Therapy for Wellness
1 Credit

This course is highly participatory, including music activities and discussions that lead toward the benefits of music therapy for self and clients. Astudy of the avenues of music experience, as well as awareness of music and sounds in our environment are included.

CEN 252 Menopause: Traditional and Natural Approaches
0.5 Credit

This course addresses the process of physical, emotional, mental and spiritual symptoms. Discussions focus on traditional hormone therapy as well as alternative therapies including nutrition, natural hormones, Chinese medicine, acupuncture, herbology and biofeedback. Health care risk before and after menopause also are addressed.

CEN 254 Holistic Nursing Level II
2 Credits

Prerequisite: CEN 244

Using basic theory from CEN 244, this course provides a more comprehensive study of modalities to strengthen the whole person in the process of facilitating healing and maintaining optimal health. The application of holistic concepts and the body/mind responses are used as guides for each modality studied.

CEN 255 Spanish for Health Care—Level II
1 Credit

Prerequisite: CEN 209

This language course is conversational. Verb tenses are reviewed along with medical terminology. Students are given an opportunity to speak with native speakers one-on-one for increased proficiency.

CEN 256 Holistic Nursing Level III
2 Credits

Prerequisites: CEN 244, 254

This course incorporates the course work for the Holistic Nursing Certificate Programinto the practical implementation of holisticnursing philosophy and skills in a clinical or community setting. The course is recommended that students have completed at least half of the requirements for the certificate programbefore taking this course. Students identify your own project, write a project proposal and present a final report to the class. This course assists students in developing leadership and teaching skills in the health care community.

CEN 257 ACLS (Advanced Cardiac Life Support)
2 Credits

Prerequisite: BCLS certification is required as well as proficiency in EKG recognition

This course presents the required material for ACLS completion. The course covers arrhythmias, medications, therapeutic modalities for life threatening arrhythmias, airway management and other treatment modalities used in cardiac and respiratory arrest. Each class includes case scenarios to give practical and hands on use of emergency equipment. *This course is taught according to NEW ACLS standards.*

CEN 258 Journaling - Spiritual Journey
1 Credit

The spiritual is an evolution in who people think they are and in what they believe about their purpose. Spiritual writing expands the consciousness and the universe responds by using writing as a channel- a way to interact with the direction of people's lives. This course focuses on connecting with the spiritual part of people and providing tools for personal growth, as well as techniques to assist others, on the journey to spiritual wholeness.

CEN 259 ACLS Recertification
0.5 Credit

This course is a recertification course for those of students with current ACLS cards. The course covers rhythm recognition, cardiac drugs, cardiac monitors and case based scenarios.

CEN 260 Bereavement Counseling
0.5 Credit

This course presents current principles of bereavement counseling, including identification of the normal grieving processand appropriate interventions. The course covers the use of feelings and experiencesin assisting patients and/or families who are bereaved.

CEN 264 Documentation Skills in Home Health Nursing
0.5 Credit

Prerequisite: CEN 225 is recommended

This course is designed to assist nurses to develop problem lists, nursing care plans, document history and physical exams, write plan of treatment, work with diagnosticcodes, develop visit parameters and followMedicare and JCAHO guidelines for determining eligibility and skilled services.

CEN 265 Personal Power: Gift of Self-Esteem
1 Credit

This course explores self-talk, self-appreciation, self-responsibility, belief and expectations and provides tools for increasing personal power. This course alsocovers the correlation between self-esteem and health—mentally and physically.

CEN 266 Physical Assessment in Home Health
1 Credit

Prerequisite: Medical Professional

Participants will learn how to obtain a complete health history which is integratedwith a physical exam specific to the home setting. The assessment skills of inspection, palpation, percussion and auscultation are practiced in the course. Proper use of equipment such as the otoscope, tuning fork, ophthalmoscope and reflex hammer is included.

CEN 267 Living Without Limits
0.5 Credit

This course describes steps that can be taken to clarify goals, get support for challenges and act effectively.This course also exploresthe qualities of "optimal performers" and how to let go of distractions by understandingthe importance of being true to oneself.

CEN 269 Healing Presence
1 Credit

This course explores the meaning of healing presence through the process of increased self-awareness and self-discovery. The course also covers the development of skills for connecting on a higher level with oneself and others. The course focuses on experiencing the healing presence with oneself and the essence of the healing presence with others.

CEN 270 Advanced Reflexology
1 Credit

As a continuation of the basis reflexology course, advanced reflexology will allow the student to work on hand positions and address specific techniques for specific issues. This course is mostly hands-on with an emphasis on developing techniques. Please bring pillows, towels, and lotion to class.

CEN 271 AIDS Update

0.5 Credit

This course covers the etiology, epidemiology and treatment modalities of Acquired Immune Deficiency Syndrome. The psychosocial issues affecting the individualwith HIV/AIDS and issues concerning the caregiver are also covered.

CEN 276 Creating Healthy Relationships
1 Credit

This class explores how to create and nurture a relationship, first with ourselves and then with others, to expand our personal potential and enjoyment.

CEN 281 Home Health Nursing Skills Part II
0.5 Credit

This course includes an in-depth study of common illnesses, early discharge surgeries, open-wound care, I.V. therapy, case management and the supervision of homehealth aides in the home or assisted-living settings.

CEN 282 System Issues
0.5 Credit

This course explores some of the special legal risks for home health care providers and risk management techniques. Students study the differences in home health care today as well as look at legal issues.

CEN 283 Psychoneuroimmunology
0.5 Credit

This course presents the role of neurotransmitters in the body-mind relationship in illness or wellness. The systems of beliefpatterns, behavioral addictions, conditioned responses and health expenses are also explored and related to personal health.

CEN 284 Home Health 2000
0.5 Credit

This symposium explores managed care and medicare as we move toward the millennium. The world of managed care, from the client to the federal watchdogs; to the impact on community and health standards is addressed. This course is for the experienced home health nurse. The course evaluates your current skill level and transforms practice patterns including case management and assessment to benefit identified managed care needs. *This courseis for current home health nurses only.*

CEN 285 Stress Management
0.5 Credit

This course explores working with energy, confidence and enthusiasm by learning specific skills regarding the management of stressful situations or people. Thisexperiential class is designed for all who areinterested in a higher quality of life and want to reach their full potential. Students learn how to relax quickly, improve self-image, improve concentration and to control worry.

CEN 287 Create Holistic Practice
0.5 Credit

This course teaches the skills necessary to start an independent practice. The course includes self-assessment of professional skills, the business plan for marketing and finance and the actual design of the practice.

CEN 289 Career Alternatives Within Nursing
0.5 Credit

This one-day workshop explores numerous areas in which nurses work and how to pursue jobs in these areas.

CONTINUING EDUCATION REFRESHER NURSING

CER 200 Registered Nurse Refresher Course
7 or 12 Credits

Co-requisite: CEN 210
Prerequisite: CPR Certification

This refresher course is designed for all RNs, regardless of time absent from nursingpractice, to explore avenues of employment.Aportion of 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.

COOPERATIVE EDUCATION

COE 296 *(or COM 115)*
The Job Search Process
Cooperative Education Co-requisite
1 Credit

Either of these courses provides the on-campus co-requisite for students enrolled in Cooperative Education/Internship 297 courses. These courses are designed to maximize student learning through the Cooperative Education/Internship work experience. The co-requisite requirement is designed to assist students in developing job-oriented learning objectives and to prepare students with skills essential for job acquisition, retention and promotional growth.

COE 297 Cooperative Education/ Internship
3 Credits

Co-requisite: COE 296 (or COM 115)
Prerequisite: Permission of Office Student Employment Services

This course is a credited program, which provides work experience opportunities for students to gain practical work experience related to their educational program. All Co-op/Intern courses carry a course/program prefix to match the area of study and are numbered 297.

CRIMINAL JUSTICE

Additional Criminal Justice courses are offered during the Summer session. Please check with CRJ advisor for specific offerings.

CRJ 102 Arrest and Control Techniques
2 Credits

Prerequisite: Successful completion of the application process for the academy

This course provides students with the knowledge, skills and abilities necessary to effectively maintain control of a suspect when making an arrest. Use of force options available to officers through verbalskills are stressed. Use of a baton is taught in accordance with P.O.S.T. standards.

CRJ 104 Firearms
2 Credits

Prerequisite: This course is part of the Law Enforcement Training Academy. Admission to the Academy will be dependent upon special screening as mandated by State Law and CRJ Department policy.

This course provides students with the knowledge, skills and abilities to safely use police firearms. Students will demonstrate skills by firing weapons on a firing range in accordance with Colorado P.O.S.T. standards.

CRJ 110 Introduction to Criminal Justice
3 Credits

This course includes a study of the agencies and processes involved in the criminal justice system, including the legislature, the police, the prosecutor, the public defender, the courts and corrections. The course also 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.

CRJ 111 Substantive Criminal Law
3 Credits

Prerequisite: CRJ 110 or permission of instructor

This course examines legal definitions of crime, purposes and functions of the law, historical foundations and the limits of the criminal law.

CRJ 112 Procedural Criminal Law
3 Credits

Prerequisite: CRJ 110

This course covers constitutional and proceduralconsiderations affecting arrest, search and seizure and includes analysis of criminal cases from arrest through final appeal. *(Fall only)*

CRJ 116 Civil Liability
3 Credits

Prerequisite: CRJ 110

This course covers the origin and jurisdictionof civil action, procedure and responsibilityaddressing the liability of criminal justice practitioners. *(Spring only)*

CRJ 118 Report Writing
3 Credits

Prerequisite: CRJ 110

This course is designed to teach the fundamentals for preparing criminal justice reports, who uses them, what information must be included, how to organize it and how to write reports in a clear, concise language that will communicate the maximum amount of factual information. Special emphasis is placed on spelling, punctuation and paragraphs. *(Fall only)*

CRJ 125 Law Enforcement Operations
3 Credits

Prerequisite: CRJ 110 or permission of instructor

This course is an in-depth examination of the complexity and multi-dimensional aspects of the law enforcement role and career, law enforcement discretion and law enforcement values and culture in modern America. The role and functions of law enforcement in the occupational, social, political and organizational context are explored.*(Fall only)*

CRJ 126 Patrol Procedures
3 Credits

Prerequisite: CRJ 110

This course studies of the basic knowledge and skills required of a peace officer to safely and effectively accomplish the patrol function. *(Spring only)*

CRJ 135 Judicial Function
3 Credits

Prerequisite: CRJ 110

This course examines the criminal processwith an analysis of the major judicial decision-makers, i.e. prosecutors, defense attorneys, judges andthe discretionary aspects of adjudication.

CRJ 145 Correctional Process
3 Credits

Prerequisite: CRJ 110

This course covers 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.

CRJ 146 Community-Based Corrections
3 Credits

Prerequisites: CRJ 110, 135, 145

This course is an analysis of community based correctional programs and procedures. Emphasis on environment and the relationship to public safety, rehabilitation and punishment.

CRJ 147 Institutional-Based Corrections
3 Credits

Prerequisite: CRJ 110

This course studies the correctional institution, including the role of correctional personnelrelative to institutional programs.

CRJ 148 Juvenile Institutions
3 Credits

Prerequisite: CRJ 110

This course focuses on juvenile institutions, their purpose and function; differentiating between detention and institutional treatment.

CRJ 150 Introduction to Victims of Crime and Trauma
3 Credits

Prerequisite: CRJ 110

This course introduces students to the role the crime victim plays in the criminal justicesystem. The traditional response that a crime victim receives from the system is studied and the psychological, emotional and financial impact that these responses have on victimization are analyzed. *(Fall only)*

CRJ 151 Domestic Violence
3 Credits

Prerequisites: CRJ 110, 150 or permission of instructor

This course examines the role of women and the abuse of women in history, different theories about spouse abuse and research on the subject. The course examines the treatment for both the victim and the perpetrator of domestic violence as well as children of violent homes. The course covers Colorado law pertaining to domestic violence and changes in society's attitude and actions toward domestic violence.

CRJ 152 Sexual Assault
3 Credits

Prerequisites: CRJ 110, 150 or permission of instructor

This course examines sexual assault beginning with definitions and describing the degrees of sexual assault, i.e. penaltiesand realities of punishment. Myths, statistics, services, treatment and prevention are discussed. Both the rapist and the adolescent offender are profiled. The pro-active approach is taken with regard to prevention.*(Fall only)*

CRJ 153 Violence Against Children
3 Credits

Prerequisites: CRJ 110, 150 or permission of instructor

This course includes an in-depth study of physical, sexual and emotional abuse and neglect of children. The course focuses on identification and treatment of abusive families and victims of abuse and on the response of the legal system, the community and human service agencies. *(Spring only)*

CRJ 190 Financial Investigations
3 Credits

This course introduces the current perspectivesdominant in the field of financial investigations. Concepts of law and evidence; sources of information including financial institutions; business financial record keeping; and tracing funds,using a variety of methods and interviewing as they apply to detecting and resolving financial crimes, are discussed. Emphasis is placed on theoretical principles and applications of financial investigative techniques. *(Fall only)*

CRJ 210 Constitutional Law
3 Credits

Prerequisite: CRJ 110

This course studies the powers of government as they are allocated and defined by the United States Constitution. An intensive analysisof United States Supreme Court decisions also will be conducted.

CRJ 211 Criminal Behavior
3 Credits

Prerequisites: CRJ 110 and PSY102 or permission of instructor

This course identifies prominent theories of societal reactions to crime and their application to specific crime problems. Examination of the question of crimecausation from legal, social, political, psychological and theoretical perspectives, history and development of criminology are explored.

CRJ 214 Colorado Revised Statutes
3 Credits

Prerequisite: CRJ 110

This course is designed to provide students with an understanding of the principles and concepts of the Colorado Criminal Code.

CRJ 216 Juvenile Law and Procedure
3 Credits

Prerequisite: CRJ 110

This course analyzes the socio-legal operation of the Juvenile Court, focusing on the substantive and due process rights of minors. Legal reasoning underlying the juvenile law as it operates at all levels of government is also discussed. *(Spring only)*

CRJ 218 Drug Investigative Strategies
3 Credits

Prerequisite: CRJ 110

This course examines both the procedural and administrative functions of a drug enforcement unit to include case initiation,management of investigative resources, surveillance, undercover operations, management philosophies and personnel field training agents. *(Fall only)*

CRJ 220 Human Relations and Social Conflict
3 Credits

Prerequisite: CRJ 110 or permission of instructor

This course highlights the environmental organizational and socio-psychological dimensions of social control. This course includes the study of individual attitudes, beliefs and behavior involved in role conflicts, community relations and conflict management in the social structure. *(Spring only)*

CRJ 225 Crisis Intervention
3 Credits

Prerequisites: CRJ 110, 150 or permission of instructor

This course provides an understanding of crisis theories and examines the role of the interventionist. *(Spring only)*

CRJ 235 Delinquent Behavior
3 Credits

Prerequisite: CRJ 110

This course focuses on the adolescent who violates social and legal norms and the consequences for the individual and society. Students study the social and psychological factors influencing individual delinquent patterns. *(Fall only)*

CRJ 239 Managing Emergency Worker Stress
3 Credits

Prerequisite: CRJ 110 or permission of instructor

This course provides students with an understanding of trauma reaction and stress management for the first line responders, i.e. police officers, victim advocates, paramedics and firefighters. Practical application of coping skills and stress management for first line responders is discussed. *(Spring & Summer)*

CRJ 240 Criminal Investigation
3 Credits

Prerequisite: CRJ 110

Criminal investigative methods and proceduresare introduced and include preliminary through the follow up stages. *(Fall only)*

CRJ 245 Interview and Interrogation
3 Credits

Prerequisite: CRJ 110

This course studies the technical and legal approaches used in gathering desired information from victims, witnesses andsuspects. The fundamental characteristics of questioningand the use of psychological influences are examined. *(Spring only)*

CRJ 246 Traffic Investigation and Management
3 Credits

Prerequisite: CRJ 110

This course overviews the skills and concepts necessary to complete an accurate investigation of a traffic collision. Traffic management concepts, selective traffic enforcement and safety issues are discussed. *(Fall only)*

CRJ 255 Organization and Management of Institutions
3 Credits

Prerequisite: CRJ 110

This course consists of the history of penaland correctional management organizationof correctional institutions, management processes, leadership, control principles and implications for the future.

CRJ 256 Classification and Treatment of Offenders
3 Credits

Prerequisite: CRJ 110

This course covers the process through which the custodial, educational, vocationaland treatment needs of the offender are determined. *(Spring only)*

CRJ 287 Adult Survivors of Childhood Molestation
3 Credits

Prerequisite: CRJ 110 or permission of instructor

This course provides the potential victim advocate with the latest treatment modalitiesfor victims who are adult survivors of childhood molestation. The course also focuses on the possible long term destruction mannerisms *(Post Traumatic Stress Disorder)* as well as the immediate trauma. How this type of crime can impact its victims' physical, mental and emotional attitudes, thereby affecting their personal and professional lives is explored. *(Fall only)*

CRJ 288 Grant Writing for Non-Profit Organizations
2 Credits

This course focuses on the specifics of grant writing for non-profit organizations. The course provides step-by-step details for an acceptable grant proposal. Additionally, the difference between government grants and private sector grants is explored. This course is designed for beginners, but those wishing to refresh their knowledge in this area are encouragedto participate.

CRJ 290 Special Topics: Criminal Justice
0.5 - 5 Variable Credits

Prerequisite: Some topics may be restricted to criminal justice practitioners

This course is designed for flexible useand covers specific topics and current issuesin the criminal justice system. This course is offered as needed for credit appropriate to the topic and each offering includes a description of the topic(s). *(Fall & Spring only)*

CRJ 297 Cooperative Education/ Internship
3 Credits

Prerequisite: Permission of Cooperative Education Coordinator

This course is a credited program which provides work experience opportunities for students to gain practical work experience related to their educational program. *(Fall, Spring & Summer)*

DEVELOPMENTAL EDUCATION

CAI 091 Adaptive Introduction to Computers
1 Credit

This course is designed for those with disabilities. The course introduces students to the world of computers, computer adaptations and computer terminologies.

CAI 093 Adaptive Word Processing
3 Credits

This course is designed for those with disabilities. The course uses word processing applications to access computer adaptations. Adaptations vary depending on the disability and need.

CAI 094 Computer Access Center Usage
1 Credit

This is a follow-up class for those who have completed the introductory adaptive courses. This course provides a hands-on, project oriented focus.

CAI 096 Adaptive Spreadsheets
3 Credits

This course is designed for those with disabilities. The course uses spreadsheet applicationsto access computer adaptations. Adaptations vary depending on the disability and need.

EARLY CHILDHOOD PROFESSIONS (EDUCATION)

ECP 101 Introduction to Early Childhood Professions
3 credits

This course provides an introduction to Early Childhood Professions. Topics include the eight key areas of professional knowledge: Child Growth & Development; Health, Nutrition & Safety, Developmentally Appropriate Practices; Guidance: Family & Community Relationships; Diversity; Professionalism; Administration & Supervision. Ages addressed: Prenatal through age 8

ECP 102 Early Childhood Professions Lab Techniques
3 credits

Prerequisite or Co-requisite: ECP 101

This course includes a classroom seminar and observations at the children's center at RRCC. Observations provide the student with the opportunity to learn to observe children, to observe appropriate interactions and to develop effective guidance and management techniques. Ages addressed: Birth through age 8

If the student is not already employed in a licensed child care setting, 90 practicum hours must be fulfilled in the Children's Center at Red Rocks. Health screening including TB Tine and HIB tests and FBI screen required.

ECP 104 Basics for Care Giver Professionals
1 credit

This course provides a brief broad overview of the key areas of professional knowledge for beginning Family Child Care and Center Based providers. Topic areas include Growth & Development; Health, Nutrition, Child Abuse and Safety; Developmentally Appropriate Activities and Environments; Guidance; Family and Community Relationships; Professionalism; and Business Practices for Family Child Care Providers. Ages Addressed; Birth through age 8

ECP 105 "Grand Beginnings" Infant and Toddler Care
1 credit

This course provides an overview of quality care giving practices of infants and toddlers.

Developmental differences and the resulting care giver responses with infants, mobile infants and toddlers are explored. Interaction and communication with parents is strongly emphasized. Ages Addressed: Birth through age 3

ECP 111 Infant and Toddler Theory and Practice
3 credits

This course presents an overview of theories, applications (including observations) and issues pertinent to infant and toddler development in group and/or family settings. State requirements for licensed settings and health, safety and nutrition issues are addressed. Ages Address: Prenatal through age 3.

ECP 112 Introduction to Infant/Toddler Lab Techniques
3 credits

Prerequisite or Co-requisite: ECP111 Infant and toddler Theory and Practice

This course includes a classroom seminar and observations at the children's center at RRCC. Observations provide the student with the opportunity to learn to observe children, to observe appropriate interactions and to develop effective guidance and management techniques. Ages addressed: Birth through age 8

If the student is not already employed in a licensed child care setting, 90 practicum hours must be fulfilled in the Children's Center at Red Rocks.Health screening including TB Tine and HIB tests and FBI screen required.

ECP 148 Guidance Strategies for Children
3 credits

This course explores guidance theories, applications, goals, techniques, factors that influence expectations, classroom management issues and prosocial skills. Ages Addressed: Birth through age 8.

ECP 205 Health, Safety and Nutrition
3 credits

This course focuses on nutrition, health and safety as key factors for optimal growth and development of young children. Content includes nutrient knowledge, meal and snack planning, food program participation, health practices, appropriate activities and communication with families. Ages addressed: Prenatal through age 8

ECP 206 Child, Family and Community
3 credits

This course covers variations in family/parenting patterns and the effects of diverse cultural communities on the development of a child. Strategies to address the whole child as a member of a family and community are emphasized. The importance of inclusion of all family and cultural variations in delivery of care for children and families is a core component of this course.

ECP 213 Children's Literature
3 credits

This course focuses on identifying good children's literature, how to create a literature based classroom and how to share with children various genres of literature. Participants will explore ways to extend literature into all areas of the curriculum, use literature to incorporate multicultural education in the early childhood setting and engage young children in literature.

ECP 214 Language and Cognition and the Young Child
3 credits

Prerequisite: ECP238 Child Development

This course examines theories of cognitive and language development as a framework for conceptualizing the way children acquire thinking skills. The content includes observing, planning, facilitating creative representation and evaluating strategies within the context of play. Content includes the areas of language, science and math, problem solving and logical thinking. Ages addressed: Birth through age 8.

ECP 215 Creativity and the Young Child
3 credits

Prerequisite: ECP238 Child Development

This course provides an emphasis on encouraging and supporting creative self expression and problem solving skills in children. The content explores creative learning theories and research. The course focuses on developmentally appropriate curriculum strategies in all developmental domains. Ages addressed: Birth through age 8

ECP 216 Administration: Human Relations for the Early Childhood Profession
3 credits

(Preferred)Prerequisite: ECP206 Child, Family & Community

This course focuses on the human relations component of an early childhood professional's responsibilities. Course content includes director-staff relationships, staff development, leadership strategies, parent professional partnerships and community interaction.

ECP 226 Administration of Early Childhood Care and Education Programs
3 credits

Prerequisite: ECP238 Child Development and 16 ECP credits

This course examines Colorado's licensing requirements, as well as optimal standards pertaining to the operation of programs for young children. Course content focuses on establishing a new center, administrative functions and advocacy.

ECP 227 Methods/Techniques: Curriculum Development
3 credits

Prerequisite or co-requisite: ECP238 Child Development preferred

This course provides an overview of early childhood curriculum development. The content includes processes for planning and implementing developmentally appropriate environments, materials and experiences and quality in early childhood programs. Ages addressed: Birth through age 8.

ECP 237 Reggio Emilia and Vygotsky in ECE
1-3 credits

This course explores some of the important ideas of the Reggio Emilia model. The philosophical roots of Piaget and Vygotsky in the Reggio Emilia model are examined. Cognitive progression, language as a learning tool and collaborative learning are emphasized. Application of Reggio Emilia methods for early childhood is an important component of the class.

ECP 238 Child Development
4 credits

Co-requisite: Lab

Prerequisite: ENG 121, acceptable assessment scores for reading and writing, or permission of faculty advisor.

This course, covers the growth and development of the child from conception through the elementary school years. Physical, cognitive, emotional, psychosocial and environmental factors are emphasized. The concept of the whole child and how adults can provide a supportive environment for children is also emphasized. This class may be taken as PSY238. Ages Addressed: Prenatal through age 12 The co-requisite Lab includes applied observation of childrens' development.

ECP 287 The Exceptional Child in Integrated Settings
3 credits

This course presents an overview of typical developmental progression. The content includes planning, learning strategies, legal requirements, accommodations and adaptations necessary to create an integrated classroom environment for a wide range of exceptionalities. Ages addressed: Prenatal through age 8

ECP 294 Professional Issues for Teachers/Directors
2 credits

Prerequisite: Students should be enrolled in the final classes of the Director's Certificate progression

This course is designed to give the student, without director experience, the opportunity to examine and assess their knowledge of the Early Childhood Field. Students compile a professional portfolio that indicates competency in the key areas of: Child Growth & Development; Health, Nutrition & Safety, Developmentally Appropriate Practices; Guidance: Family & Community Relationships; Diversity; Advocacy, Professionalism; Administration & Supervision. Students should take this course as the capstone course of their Directorís certificate.

ECONOMICS

ECO 101 Economics of Social Issues
3 Credits

This course examines the major socio-economic issues of the past century. Topics include poverty, growth, education, health care, pollution and discrimination and the government's role in regulating them.

ECO 201 Principles of Macroeconomics (Core)
3 Credits

Macroeconomics is the study of the United States economy. The course looks at the interrelationships between households, businesses and the government. Saving and investment decisions will be explored, as well as the causes of unemployment and inflation.

ECO 202 Principles of Microeconomics (Core)
3 Credits

Microeconomics studies the firm in-depth, and it explores the nature of costs and production. The course introduces economic models, which portray consumer behavior, competitive firms, monopolies, oligopolies and monopolistic competition.

ELECTRICITY—INDUSTRIAL/ COMMERCIAL

(See Construction Technology)

EMERGENCY MEDICAL SERVICES

EMS 100 CPR for the Health Care Provider
1 credit

This American Heart Association course is designed for individuals who are interested in entering the health care profession. This course teaches students how to prevent heart disease, adult CPR (one rescuer and two rescuer), adult obstructed airway (conscious and unconscious), child CPR, child obstructed airway (conscious and unconscious), infant CPR and infant obstructed airway (conscious and unconscious). Upon the completion of this course students will be certified in the American Heart Association Health Care Provider Course level of CPR.

EMS 115 First Responder
3 credits

This course provides the student with core knowledge and skills to function in the capacity of a first responder arriving at the scene of an emergency and providing care until advanced EMS help arrives. Upon successful course completion, the student will be eligible to take a certification exam at the responder level.

EMS 125 Emergency Medical Technician - Basic
10 credits

Prerequisite: Instructor permission required

This course provides the first level of training in the career structure of the Emergency Medical Technician. Upon successful completion of this program (which includes written and practical examinations), candidates are eligible to take the state EMS certification examination (Candidates must fulfill the requirements set by the Colorado Department of Public Health and Environment)

EMS 130 Emergency Medical Techinician-Basic Intravenous (IV) Therapy
2 credits

Prerequisite: Instructor permission required

This course is designed for the EMT-B to upgrade her/his skills. Students will spend time in the classroom gaining the knowledge and skill needed to safely and efficiently initiate an IV line in the pre-hospital setting. The clinical portion of the course provides students with the opportunity to initiate IV's on actual patients. Upon successful completion of the, course students are eligible to be IV certified.

EMS 131 Basic Trauma Life Support
1 credit

Prerequisite: Instructor permission required

This course is designed for Emergency Medical Services' personnel, and covers all the skills necessary for rapid assessment, resuscitation, ad stabilization and transportation of the trauma patient. This course was developed by Basic Trauma life support International and endorsed by the American College of Emergency Physicians and the National Association of EMS Physicians.

EMS 132 Emergency Medical Technician – Basic Refresher
3 credits

Prerequisite: Instructor permission required

This course assists those needing to recertify their Colorado EMT-Basic license. Included in this class are the latest additions to the EMT-Basic curriculum. The course consists of lecture and skills sessions. At the end of the refresher course, a state approved practical exam will be offered. Upon completion, students will be prepared for the state written recertification exam.

EMS 134 Basic Electrocardiogram (EKG) Interpretation for EMS Provider
2 credits

This course assists the emergency medical technician in acquiring the knowledge and skills essential for identification of basic cardiac arrythmias especially those that are life threatening. The course is specifically designed for the pre-hospital worker. students learn to interpret both static and dynamic EKG tracings.

EMS 225 Paramedicine (Emergency Medical Technician - Paramedic)
14 credits

Prerequisite: Instructor permission required

This course is presented by both Centura St. Anthony's Hospital Institute of Emergency Medical Services and the Colorado Association of Paramedic Education (C.A.P.E.) programs. To apply for this program, students must successfully complete the EMT-B course and have approximately one year of EMT-B first responding experience. Students will learn advanced pre-hospital emergency care techniques in assessing, treating and choosing the proper mode of transportation for acutely injured or ill patients. Upon successful completion of this course, students will be eligible to take the Colorado State EMS paramedical certification exam.

EMS 226 Paramedicine II (Emergency Medical Technician - Paramedic)
13 credits
Prerequisite EMS 237

Continuation of Paramedicine I. Must have completed Paramedicine I to be eligible to enroll in this class.

EMS 240 Advanced Cardiac Life Support (ACLS) for the Emergency Medical Service Provider
1 credit

Prerequisite: Instructor permission required

This ACLS course is specifically designed for the Emergency Medical Services' provider. The course meets all the AHA specifications for ACLS certification. Advanced life support techniques such as arrhythmia recognition, pharmacological intervention and airway management are covered. Students have the opportunity to be certified.

EMS 241 Pediatric Advanced Life Support for the EMS Provider
1 credit

Prerequisite: Current CPR certification (American Heart Association Health Care Provider Course C)
Proficiency in EKG interpretation

This course is specifically designed for the Emergency Medical Service's provider. The course meets all American Heart Association specifications for PALS certification. Pediatric advanced life support teaches students to recognize and treat problems associated with airway, breathing and circulatory emergencies. Students have the opportunity to become certified at the national level.

EMS 279 Paramedicine III (Emergency Medical Technician - Paramedic)
8 credits -
Prerequisite EMS 237 & 238

The clinical and internship phase of the paramedic program. Students will be able to observe and practice the skills learned in class. Clinical and internship rotations will be both in-hospital and with an EMS agency.

EMERGENCY MANAGEMENT AND PLANNING

EMP 101 Principles to Emergency Management
3 credits

This course presents a broad overview of an emergency management system and the importance of an integrated approach to managing emergencies. Participants formulate the elements of an integrated teamwork system and devise specific actions for improving their own contributions to local emergency management teams. The course is for all disciplines that work together in planning for or responding to emergencies.

EMP 105 Emergency Planning
3 credits

This course is designed to give students a good working knowledge of the standards, regulations and processes of Emergency Management Planning. students will formulate a rationale for assessing hazard vulnerability and determine the applicability of proposed preparedness, mitigation, response and recovery strategies. The student understand the importance of establishing and coordinating emergency management planning teams. They will develop descriptions of region specific hazards, assess vulnerability, identify existing hazard mitigation systems, recommend activities, estimate costs and develop a strategy for mitigation and response and recovery procedures.

EMP 106 Exercise Design and Evaluation
3 credits

This course provides students with the knowledge and develops skills that will enable students to train a staff and to conduct an exercise that will test a community's plan and its operational response capability. This course is also designed to give students knowledge and develops skills that will enable students to manage exercise evaluation activities before, during and after an emergency management exercise.

EMP 107 Emergency Operations Center
3 credits

This course provides students with knowledge and skills to manage and operate an EOC during crisis situations. The course covers many aspects of properly locating and designing an EOC, how to staff, train and brief EOC personnel and how to operate an EOC during various situations. The course covers various aspects of information gathering and dissemination, along with best practices for use of computers in an EOC environment, promoting enhanced planning and better control information flow to safely and effectively make strategic response decisions.

EMP 109 Incident Command Systems
3 credits

This course explores the dynamics of managing major emergency incidents. The National Incident Command System is used in the instruction. Major incidents where large life, property, or economic losses are possible are studied. Topics include organization and staffing, incident and event planning/staffing, organizing a response to an incident and incident resource management. Actual incidents are discussed and analyzed. This course recognizes that learning from the experience of others in handling major emergencies is required in the preplanning of emergencies in our own communities.

EMP 240 Leadership and Influence
3 credits

This course enables students to lead and influence others in the demanding setting of emergency management by increasing their range of skills in a variety of interpersonal areas: conflict management, use of power group dynamics as well as leadership and influence.

EMP 241 or EMP 247 Decision Making and Problem Solving or Decision Making in a Crisis
3 credits

These course are designed to enable students to clearly identify a problem and its causes in order to determine the appropriate type of decision making style. Using suggested methods of problem solving, participants will be able to apply creative solutions to both emergency and non-emergency situations.

EMP 244 Developing Volunteer Resources
3 credits

This course is designed to enable students to develop and coordinate volunteer resources in a disaster. The success of developing volunteer resources is often critical in emergency management. Overall, local emergency program managers involve volunteers in different tasks and to varying degrees. Some rely almost exclusively on organized volunteer groups and make minimal use of individual volunteers. Yet both individual volunteers and established groups represent a wealth of talent that, systematically applied, can significantly upgrade the emergency management program.

EMP 242 Effective Communications
3 credits

This course is designed to sharpen the presentation and media skills of emergency management officials when giving and receiving information in emergency management contexts. The course addresses not only public speaking, but also other areas of communication, such as one-on-one interactions, small group discussions, written communication, listening skills and dissemination of information.

EMP 291 Public Information Officer
3 credits

This course provides students an opportunity to practice and expand on public information skills in a crisis environment. The course is a highly interactive course that includes workshops on writing, public speaking, media interviews and awareness campaign development. Students also will discuss media relations and public information planning.

ENERGY TECHNOLOGIES

(See Construction Technology)

ENGINEERING GRAPHICS TECHNOLOGY

(Formerly Drafting Technology)

EGT 100 Technical Drawing
6 Credits

This course is for architectural and/or mechanical drafting majors, pre-engineeringstudents and anyone seeking instruction in basic engineering graphics. Course content includes use and care of equipment; drawing techniques; orthographic, auxiliary, sectional andisometric projection methods; sketching and computer applications.

EGT 110 Basic CADD Applications
6 Credits

Prerequisite: EGT100 or equivalent

This course serves all emphasis areas of engineering graphics. Course content includes fundamentals of layout, constructionand dimensioning techniques as applied to two-dimensional drawings; systems and database management; and production of computer-generated drawings to ASME, AIA and other applicable specifications.

EGT 120 Intermediate CADD Applications
3 Credits

Prerequisite: EDT110 or equivalent

This course serves all areas of technical graphics. Course content includes producing two-dimensional working drawings using applications of geometric construction, intersection and development methods; and animation techniques. Databases and file management systems are used in the learning experience to improve and increase production time of technical drawings.

EGT 130 Three-Dimensional CADD Applications
3 Credits

Prerequisite: EGT120 or equivalent

Fundamentals of three-dimensional models, two-dimensional extraction's and file/ database manipulation are taught using construction methods of three-dimensionalwire, three-dimensional thickness and solid models.

EGT 265 Presentation Graphics
3 Credits

Prerequisite: EGAor EGM 241 or equivalent

Application of 2-D graphics, 3-D modeling, animation and rendering techniques to enhance portfolio presentation.

ENGINEERING GRAPHICS TECHNOLOGY—ARCHITECTURAL

EGA121 Intermediate CADD—Architectural
3 Credits

Prerequisite: EGT120 or equivalent

2D residential concept drawings are created from given design parameters and appropriate specs. 2D floor plans, cross sections and elevations are required.

EGA131 Three-Dimensional CADD—Architectural
3 Credits

Prerequisites: EGA121 and EGT130 or equivalents

Advanced applications of three-dimensional construction techniques are applied to an architectural construction model. The 3-D model is constructed using current building methods, UBC and other local codes.

EGA207 Framing Methods
3 Credits

Prerequisite: EGA 131

Applications of current building methods are applied to 3D residential concept models.

EGA209 Roof Design
3 Credits

Prerequisite: EGA207 or equivalent

Applications of current residential roof framing methods are applied to 3D residential concept models.

EGA231 Architectural Design/Drafting I
6 Credits

Prerequisite: EGA131 or equivalent

Fundamental understanding of building design, concepts and construction methods are developed by preparing working drawings with necessary details for framing, brick and steel construction. Four basic designs are used as models: the one story or ranch, the one and one-half story, the two story and the split-level. Only one design is chosen and a full set of detail drawings produced.

EGA241 Architectural Design/Drafting II
6 Credits

Prerequisite: EGA231 or equivalent

Ideas, sketches and layouts are used to create working drawings of a customized design with an emphasis in remodeling and renovation. Detailed construction drawings are produced using CADD two- and three-dimensional applications per AIA, UBC and local codes.

ENGINEERING GRAPHICS TECHNOLOGY—MECHANICAL

EGM 121 Intermediate CADD—Mechanical
3 Credits

Prerequisite: EGT120 or equivalent

This course requires a set of documentation production drawings. Drawings are created per ANSI/ASME Y14.5M spec. Application of 2D, limits and fits, geometric dimensioning and tolerancing, dimensions and annotations are required.

EGM 131 Three-Dimensional CADD—Mechanical
3 Credits

Prerequisites: EGM 121 and EGT130 or equivalents

3D concept design models are created using as-built assemblies, layouts, sketches and existing concept designs. 2D extractions from the 3D models, dimensioning and annotations are required.

EGM 205 Assembly and Detail GD&T
3 Credits

Prerequisites: EGM 131

3D assembly drawings created from individual data bases. Assemblies are created using WBLOCK and XREF applications. Production drawing is created using the 2D extractions from the 3D model. Presentation methods are also demonstrated.

EGM 215 Mechanisms and Drives
3 Credits

Prerequisites: EGM 205

This course uses the applications of 3D drawing of a variety of mechanisms and drives to 3D assembly drawings. 3D animation and rendering methods are used to create a more realistic presentation drawing.

EGM 231 Mechanical Design/Drafting I
6 Credits

Prerequisite: EGM 131 or equivalent

This course introduces the concept of multiple part mechanical assembly and detail drawings. Included may be cast, machined, welded and purchased parts and operating mechanisms. Part call-outs, material lists, drawing organization and appropriate dimension systems such as precision and/or metric applications are included.

EGM 241 Mechanical Design/Drafting II
6 Credits

Prerequisite: EGM 231 or equivalent

All drafting courses for an AAS degree in Mechanical Drafting culminate in one or more final projects in design problems in areas such as robotics, aerospace, jig and fixture, tool and dies and biomedical. Projects require full documentation details and presentation of graphics and documentation.

ENGLISH

Writing and reading assessment is required before or during registration.The results are used to advise studentsinto courses in which they are prepared to succeed.

ENG 030 Basic Writing Skills
3 Credits

This course will focus on sentence and basic paragraph structure and development. Students will 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.

ENG 031 Spelling and Vocabulary I
1 Credit

This course is designed for students who need to develop spelling and vocabulary skills. The course emphasizes spelling rules, phonics, dictionary skills and vocabulary development.

ENG 060 Language Fundamentals
3 Credits

Co-requisite: Recommended REA 060 Foundations of Reading

Prerequisites: ENG 030 or appropriate COMPASS score

This course will focus on paragraph structure and development and will introduce the formal essay. Students will review and improve grammar, usage and punctuation skills while employing critical thinking strategies and the writing process to respond to a write variety of writing situations.

ENG 061 Spelling and Vocabulary II
1 Credit

Prerequisites: ENG 031 or appropriate ASSETor COMPASS score

This course is designed for students who need to review spelling rules and vocabulary. The course emphasizes understanding and applying spelling rules and vocabulary to common writing experiences. The course is meant to bring student's vocabulary ability to college level.

ENG 090 Language &Composition Fundamentals
3 Credits

This course emphasizes critical thinking as students explore writing for specific purposes and audiences. Students will develop skills required for college-level writing while reviewing paragraph structure and focusing on essay development.

ENG 091 Spelling and Vocabulary III
1 Credit

Prerequisites: ENG 061 or appropriate ASSETor COMPASS score

This course is designed for students as a review of spelling rules and development of a college preparatory vocabulary. This course emphasizes applying spelling rules and vocabulary to common writing experiences found at the college level.

ENG 097 Special Topics in English
1-6 Credits

This course is designed for students who need a customized program to develop basic writing skills.

ENG 115 Technical English
3 Credits

This course is designed to fit the written and oral communications needs of students in the vocational and technical fields. Students will practice their written, oral, reading, reasoning and interpersonal communication skills to become successful (or remain successful) in the workplace.

ENG 121 English Composition I (Core)
3 Credits

Prerequisite: Agrade of "C" or higher in ENG 100

This course emphasizes the planning, writing, editing and revising of compositions along with the development of critical and logical thinking and reading skills. Students write a minimum of five compositions that stress analytical, evaluative and persuasive/argumentative writing.

ENG 122 English Composition II (Core)
3 Credits

Prerequisite: Agrade of "C" or higher in ENG 121

This course builds upon the objectives of English Composition I (ENG 121), and provides students with the skills and experience needed to write papers involving research. Students will learn to summarize, synthesize, evaluate, analyze and interpret information from primary and secondary resources. The course also emphasizes critical and logical thinking skills.

ENG 125 Advanced English Usage and Grammar
3 Credits

This course concentrates on basic grammar, sentence structure, punctuation, rhythm and style. The course is designed to ensure that students have achieved a high level of correctness, conciseness and precision in language use and understands the principles of organizing ideas, providing adequate support and data and drawing logical conclusions.

The course is conducted mainly through lecture, explanation, discussion, small group work and presentation. Students may be asked to spend additional time in the Writing Center with a tutor.

ENG 131 TechnicalWriting
3 Credits

This course develops skills students can apply to a variety of technical documents and job needs. Students learn principles for organizing, writing and revising clear, readable documents for industry, business and government.

ENG 215 Playwriting
3 Credits

This course gives students an opportunity to learn and practice playwriting techniques, thereby improving creative writing skills. Elements of dramatic structure, dialogue, styles and theatrical practices are emphasized. *This course is co-scheduled with THE 215 and may be taken as ENG 215 or THE 215, but not both.*

ENG 217 Business Communication and Report Writing
3 Credits

Prerequisite: Successful completion of a minimum of 3 credit hours of a 100-level English course or equivalent.

This course emphasizes effective business writing including letters, memoranda, reports,application letters and resumes. The fundamentals of business communication and international communication are introduced. This course is co-scheduled with BUS 217 and may be taken as ENG 217 or BUS 217 but not both.

ENG 221 CreativeWriting I
3 Credits

Prerequisites: Agrade of "C" or higher in ENG 121

This course introduces the imaginative uses of language and composing techniques and terminology necessary for the creationand appreciation of short fiction and poetry. Instruction consists of discussions,readings and in-class critiques of students work.

ENG 222 CreativeWriting II
3 Credits

Prerequisite: Agrade or "C" or higher in ENG 221 or permission of instructor

This course continues the development of written expression in such forms as poetry, fiction and/or nonfiction writing.

ENG 225 Topics In Advanced Composition
1-3 Credits

Prerequisite: Agrade or "C" or higher in ENG 221

This course deals with specific themes and structures relating to uses of the English language. Lessons range from exercises in mechanical structures to explorations of implications for human communication and action.

ENGLISH AS A SECOND LANGUAGE

ESL091 ESLCommunication
3 Credits

This course is for those students with limited English speaking ability. The course emphasizes developing oral communication skills. Students practice listening/ speaking for everyday survival as well as preparation for higher-level ESL courses.

ESL095 ESLIntensive
8 Credits

This is an intensive English program that prepares ESL students to succeedin contemporary everyday interactions in personal, business and college environments. This program develops comprehensive skills in grammar, writing, reading, listening, conversation and pronunciation andconsists of five levels, including basic through advanced. Placement is determined on the first day of class.

ENVIRONMENTAL SCIENCE

ENV 101 Introduction to Environmental Science
4 Credits
Co-requisite: ENV 101 LAB

This course introduces students to the basic concepts of ecology and the relationship between environmental problems and biological systems. This course also includes discussions on biology, chemistry, geology, energy, natural resources, pollution and environmental protection.

FACILITY MANAGEMENT

(See Construction Technology)

FILM/VIDEO TECHNOLOGY

FVT 105 Video Production I
3 Credits

Co-requisite: FVT 160

This course is a hands-on introduction to video production that must be taken with FVT 160. Students work in groups structuring and shooting original projects to be edited in FVT160. Students are responsiblefor learning and handling departmental cameras,tripods and lights while working on projects outside of class time. Class time is divided between examining video production in the textbook and productionplanning/critiquing.

FVT 150 Development of Film Expression
3 Credits

This course examines the nature and structure of film/video expression concentrating on the way directors, editorsand cinematographers use visual techniques to serve the narrative. Students watch films in their entirety and analyze them for their mise en scene *(lighting, composition,camera position and movement, lens, depth of field and the use of screen space)* and editing techniques. This course transforms students from a passive to an active viewer of film/video.

FVT 153 Introduction to 16mm Film Production
3 Credits

This course is an introduction to the processes and considerations involved in film production. The course covers film stocks, laboratory and processing, crew positions and responsibilities, rudimentary lighting and exposure considerations. This is a course that involves both textbook and hands-on work.

FVT 155 Writing the Short Script
3 Credits

Students observe, discuss and analyze a variety of short films:15 seconds to a couple of minutes. Films will include commercials, public service spots, animation, political ads, emerging video for internet, etc. Students write, improve and perfect their own scripts throughout the course, including building a portfolio. Included in the class are team assignments to encourage collaboration.

FVT 160 Video Post Production I
3 Credits

Co-requisite: FVT 105

Students edit two production projects in this course while completing other editing assignments and learning the basics of broadcast signal, VTR operations, vectorscope,waveform monitors, timecode, edit decision list creation and editing aesthetics. Students are expected to work on the Sony, JVC and Panasonic cuts only edit systems, both in and outsideof class time.

FVT 186 The Horror Movie
3 Credits

This course provides an overview, history and examination of the horror genre. There is a text, but supplemental reading will also be required; additionally, there will be in-class and supplemental screenings. Students will analyze films from a variety of perspectives: drama, history, culture and film technology. The approach will be by subgenre, i.e. Vampires, Mad Scientists, Zombies, etc.

FVT 187 The Science Fiction Movie
3 Credits

This class provides an overview, history and examination of science fiction movies, the ultimate "what if" films. There is a text as well as supplemental reading, but the heart of the class is centered in the in-class and supplemental screenings. Students will analyze films from a variety of perspectives: drama, history, culture and film technology. The approach will be by subgenre, i.e. space travel, time travel, etc.

FVT 188 The Comedy Movie
3 Credits

This course provides an overview, history and examination of the film comedy genre. Atext and some supplemental reading are required; additionally , there will be in-class and supplemental screenings. Students will analyze films from a variety of perspectives: drama, history, culture and film technology. We will examine both style (Farce, Social Satire, Parody, etc.) and performers (Chaplin, Fields, Marx Brothers, etc.), moving chronologically.

FVT 200 Video Production II
3 Credits

Prerequisites: FVT105, 150 ,160 , 205 or 208, 206, 209
Co-requisite: FVT215

Students engage in more advanced productions using more sophisticated techniques and equipment in completing two original video productions. Preproduction planningand budgeting, working with actors and resource management with the aim of maximizing production value are stressed.

FVT 205 Film/Video Camera Equipment and Techniques
3 Credits

Prerequisites: FVT105, 150, 160 or permission of instructor

This course examines how video and 16mm cameras work and various techniques used in composition and the acquisition of images. Lenses, light, filters, formats, CCD's, cranes, dollies and jib-arms are discussed and used. The narrative importance of different camera angles, movements and focal planes are analyzed. Students are required to shoot specific exercises both in and out of class.

FVT 206 Film/Video Lighting and Grip
3 Credits

Prerequisites: FVT105, 150, 160 or permission of instructor

Basic lighting equipment *(lights, stands, nets, flags, grids, diffusion, light meters, waveform, etc.)* are covered. Lightingaesthetics in both interior, exterior, locationand studio settings; lighting for closeups, large areas and product shots and balancing for color temperature, are explored.

FVT 208 Sound for Film and Video
3 Credits

Prerequisites: FVT105, 150 and 160

This course covers sound acquisition *(equipment and techniques)*, matching sound to image *(perspective and sync)*, as well as post production methods *(ADR, foley, voice over, music pro tools)* on both analog and digital formats. This is a hands-on course using professional standards and teaches students to maintain creative control over audio.

FVT 209 Production Management Techniques
3 Credits

Prerequisites: FVT105, 150 and 160

This course is one of Colorado's finest, most in-depth production management courses. Students break down a one hour TV show into its component parts, then plan and schedulethe shoot using production boards. Students complete a full professional budget for the shoot including pre-production, production and post-production considerations.

FVT 215 Video Post Production II
3 Credits

Co-requisites: FVT 200, 254 recommended
Prerequisites: FVT105, 150 and 160

Students edit Production II projects using A/B roll techniques with Beta SPoutput as well as completing other assignments. Editing aesthetics, cutting on action, cuttingfor narrative, rhythm editing and cutting for continuity are stressed. Students use the United Media edit controller *(CMX style)* and the DV firewire digital nonlinear edit systems both in and out of class.

FVT 220 16mm Film Production
3 Credits

Co-requisite: FVT209 recommended
Prerequisites: FVT105, 150, 153 and 160

This course examines the 16mm and super 16mm sync film timecode camera and audio recording techniques. The classworks as a crew to aid in the production of FVT270 film projects, professional productions and projects proposed by members of the class. Preproduction, production, shooting and directing are stressed while working with the Bolex, Eclair NPR (w/video assist), and Aaton XTR *(w/color video assist and timecode)* cameras and Nagra IV and timecode Portadat recorders.

FVT 250 Script Writing for Film/Video
3 Credits

Students observe, discuss and analyze a variety of short film: 15 seconds to a couple of minutes. Films will include commercials, public service spots, animation, political ads, emerging video for the internet, etc. Students write, improve and perfect their own scripts throughout the course, building a portfolio. Included in the class, are team assignments to encourage collaboration.

FVT 254 Introduction to Digital Editing—Final Cut Pro
3 Credits

This course is an introduction to digital non-linear video editing in our high end Mac lab. Digitizing, compression boards, outputting and integrating with other software *(After Effects)* are covered. Video, audio, stills and graphics are integrated in a final project output to tape or CD.

FVT 260 Screenwriting for Feature Films
3 Credits

Prerequisites: FVT105, 160, 150 and 155

This course is for students who are interested in writing for feature film markets. Students develop a 30-40 page "treatment" for a feature length screenplay, including all of theelements *(scenes, structure and characters)* of the finished script without dialogue and detail.

FVT 280 Introduction to AVID
3 Credits

Co-requisite: FVT 270
Prerequisites: 105, 150, 160, 200, 215 and 254

Students are introduced to the four AVID Media Composer 8000's in the AVID Training Center. Inputting, outputting, editing on the timeline, database management, titling, effects and sound are covered. Students are allotted time outside of class to learn the system and edit their FVT 270 projects. *This course is restricted to Red Rocks FVT majors only.*

FVT 290 Film/Video Topics
3 Credits

There will be a variety of courses offered under the FVT 290 Topics designation each semester such as FVT290/117 Understanding the Actor's Process, FVT 290/264 Intro to Digital FX for Post, FVT 290/217 Acting Scene to Screen, etc.

FVT 297 Cooperative Education
Prerequisites: FVT105, 150, 160, 200 and 215

This is an internship arranged by the students and approved by the instructor. Students are required to work a minimum of 160 hours in the industry. Internships may include KRMA Channel Six, Arvada Community Television, Denver CommunityTelevision, Dewey/ Obenchain Films, Denver Center Media, Reel Things, Lighting Services Inc., and others.

FVT 299 Independent Study
Prerequisites: FVT105, 150, 160, 200, 215, 270 or permission of instructor

This independent study course includes advanced projects for students in film or video, production or post-production.

FINE WOODWORKING

(See Construction Technology)

FIRE SCIENCE TECHNOLOGY

FST 100 Essentials of Firefighting *(Firefighter I)*
5 Credits

Co-requisite: FST 297-402
Prerequisite: FST102, 103, 105, 106

This course is a classroom section in which the ***IFSTA200 Essentials of Firefighting Manual*** is taught. Basic firefighting skills in forcible entry, fire suppression, fire prevention, equipment and basic fire ground procedures are covered.This course is required if students are not presently working in the fire service.

FST 101 Firefighter II Academy
5 Credits

Co-requisite: FST 297-403
Prerequisites: FST100, 297

This course involves roughly 360 contact hours of in-depth trainingin all aspects of firefighting. Firefighting skill in fire ground operations is covered and all required knowledge and skills are tested for State Certification as Firefighter II. The course is hands on intensive and is held at a fire academy training ground.

FST 102 Introduction to Fire Science and Suppression
3 Credits

This course presents a broad overview of fire suppression and prevention in the public and private sectors. The rudiments of fire history building construction, fire behavior, fire department organization and management, chemistry of fire, fire and arson investigation, methods of early detection and suppression, hazardous materials management and initial fire attack and fire/emergency operations are studied.

FST 103 Firefighter Occupational Health and Safety
3 Credits

This course stresses on-scene and on-the-job causes of firefighter injuries and deaths. Case studies emphasize the importance of determining the cause of injury and how to eliminate those causes. The importance of on-the-job safety, the safety officer, diet, physical fitness, mental well-being and stress management are discussed.

FST 104 Fire Protection Systems
3 Credits

Prerequisites: FST100, 105 or permission of instructor

This course provides students with an understanding of the principles and functions involved in the installation and use of sprinkler systems, special suppressionsystems and fire detection and alarmsystems. Students gain a working knowledge of where these systems are needed in relation to life safety hazards and various building occupancies and types of construction. Fire department involvement in systems maintenance and use are discussed.

FST 105 Building Plans/Construction
3 Credits

This course provides students with as much information as possible about the various methods of building construction, the materials used in building construction and their relationship to methods of fire attack and extinguishment. Using the knowledge acquired in this course, the firefighter can greatly enhance the efficiency and ease of extinguishment and the safety of the firefighting forces on the fire ground.

FST 106 Fire Inspection Practices
3 Credits

This course provides students with an understanding of the function, goals and operation of a fire prevention inspection bureau and the importance of company inspections and preplanning. Hazards and the cause of these hazards and methods to correct them are discussed in depth. Students are introduced to classes of building construction, occupancy hazards, protection systems and devices necessary to protect building and occupancies from hazards to life and property.

FST 107 Hazardous Materials Operations
3 Credits

Students will study and analyze hazardous materials incidents, recognizing and identifying hazardous materials, planning response, implementing response procedures, decision making and continued evaluation at the awareness and operation level.

FST 110 Job Placement and Assessment
3 Credits

This course introduces entrance firefighter candidates to a program that they may use to successfully begin a career in the Fire Service. This course discusses the various aspects of the Fire Service entrance exam process and zeros in on the different components of the exam including the written, physical abilities, oral interview and resume preparation. Students learn to identify any deficiencies students may have regarding various exam topics and to identify a means to improve in these areas.

FST 111 Private Fire Protection Systems
3 Credits

This course is designed to give the non-firefighter student an insight into the installation, maintenance and inspection of automatic detection, suppression and alarm systems. Special extinguishing systemsare also presented. The criteria that is used to determine what type of protection system to utilize is covered in depth.

FST 112 Fire Service Planning
3 Credits

This course provides students with the knowledgeand skills to set goals for a fire department in budget, operations, training,equipment, prevention and administrative needs. Items such as planning for expansionand new fire houses are included.

FST 113 Introduction to Fire Prevention Awareness
3 Credits

This course enables students to introduce and maintain fire prevention awareness and educational programs for private industry, governmental agencies and to the public.

FST 120 Confined Space Entry and Rescue
3 Credits

This course provides students with the knowledge and skills to safely and effectively work and rescue personnel in a confined space and follow all OSHAand NFPAstandards for confined space entry.

FST 121 Rope Rescue
3 Credits

This course provides students with the knowledge and skills to handle low and high angle rescues using rescue rope and associated hardware. The course takes students from the introductory level up to advanced skills in three separate sessions. Belay, rappel and raising systems are taught in a real life setting in both high and low angle rescue environments. Students are also taught care and maintenance of equipment.

FST 150 Public Fire Prevention and Education
3 Credits

This course provides students with the knowledge and skills to conduct prevention and education needs assessment, targeting audiences, developing and delivering programs and conducting fire prevention, safety inspections and courses.

FST 151 Driver Operator
3 Credits

This course provides students with the knowledge and skills to safely operate emergency vehicles according to NFPAstandards and meets all requirements for State Driver Operator Certification. Students are able to display a knowledge of fire apparatus, operation of apparatus, pumps,aerial devices, driving, maintenance and testing and demonstrate apparatus driving skills on a NFPA/State of Colorado driving course.

FST 152 Wildland Firefighting
3 Credits

This introductory course is designed to give students a basic understanding of wildland fireand the strategies and tactics involved during suppression operations. Fire line safety is also covered in depth, emphasizing the wildland fire orders and watch out situations.Students receive training which qualifies them as Certified Wildland Firefighters under theIncident Command System and is recognizedby the National Wildfire Coordinating Group. Fire behavior, fire weather, fuel types, safety equipment and guidelines, incident size up, determining resource needs, aircraft identification and capabilities,direct vs. indirect attack, burn-out, backfiring and map reading are also covered.

FST 201 Instructional Methodology ***(Fire Instructor I, II)***
3 Credits

Prerequisites: FST100, 102 or permission of instructor

This course studies management and operation of a training division and company training. Emphasis is placed on the safety of firefighters on the fire ground,in training and general on-the-job safety. Training techniques that have been developed and are recognized nationally are emphasized. The course also includes record keeping and state and national reporting requirements.

FST 202 Fire Fighting Strategy and Tactics
3 Credits

Prerequisites: FST102, 104, 107 or permission of instructor.

Basic firefighting tactics and strategy, methods of fire attack and preplanning are discussed in depth. Rescue proceduressuch as building collapse, cave-in, landslide and vehicular accident extrication are also studied.

FST 203 Fire Science Hydraulics
3 Credits

Prerequisites: FST105, 209 and FST297; MAT 100 or permission of instructor

This course provides a working knowledgeof the hydraulic calculations that arenecessary in water supply and delivery in fire protection and suppression. Hydrauliclaws and formulas as applied to the fire service are studied.

FST 204 Fire Codes and Ordinances
3 Credits

Prerequisites: FST102, 104, 105

This course provides an overview of the Uniform Fire Code with reference to other applicable codes, including the Uniform Building Code and Life Safety Code. After taking this course, students should be able to apply the requirements of the Uniform Fire Code to practical job and inspection situations and prepare for the ICBO Certification exam.

FST 205 Fire Cause Determination
3 Credits

This course provides students with proper methods of conducting basic fire investigation, determining area and point of origin, cause and methods of fire spread, recognition and preservation of evidence, arson law, constitutional law, interviewing court procedures and testimony are discussed.

FST 206 Fire Company Supervision and Leadership ***(Fire Officer I)***
3 Credits

Prerequisites: ENG 121; FST102, 202, or permission of instructor

This introductory course provides insight into the management of a fire company. Management functions, decision making, ethics, communication, motivation, managing time and stress, report writing, basic budgeting, discipline and leadership skills are analyzed and discussed. Through the use of class discussion, examples taken from the experience of the instructor, class members and case studies, students will gain a basic knowledge of management and leadership skills required of a fire service company officer.

FST 207 Strategy and Tactics II
3 Credits

This course provides the skills and knowledge for the career firefighter in handling complex fire, EMS and hazardous materialsincidents and working with the incident command system, other resources and private and public entities.

FST 208 Codes and Ordinances ***(Advanced)***
3 Credits

Prerequisite: FST 204

This course provides students with advanced skills and knowledge in the Uniform Fire Code and Local Codes and Ordinances and in preparation for the ICBO Certification.

FST 251 Fire Service and the Law
3 Credits

This course is designed to provide the professional fire officer with detailed information on federal, state and local laws and ordinances that impact the fire service and studies the OSHA and NFPAstandards in depth.

FST 252 Arson Investigation
3 Credits

Prerequisites: FST102, 209 & 297 or permission of instructor

This course provides insight into the basicsof fire investigation. How to determine area and point of origin and cause and method of spread of fire are discussed. Recognition and preservation of evidence of arson, arson law, constitutional law, interviewing witnesses, court procedures and testimony are stressed.

FST 253 Incident Command/ Command of Major Incidents
3 Credits

Prerequisite: FST 202

This course explores the dynamics of managing major emergency incidents. The National Incident Command System is used in the instruction. Major incidentswhere large life, property or economic losses are possible are studied. Actual incidents are discussed and analyzed. This course recognizes that learning from the experience of others in handling major emergencies is required in the preplanning of emergencies in our own communities.

FST 254 Hazardous Materials Technician Level
6 Credits

Prerequisites: FST102, 107 or Operations level certificate

This course is designed to help first responders achieve an advanced knowledge of hazardous materials handling and mitigation. This class goes beyond merely awareness. The course studies the various options available to us in bringing hazardousmaterials incidents to safe conclusions.

FST 255 Fire Service Management
3 Credits

Prerequisites: FST105, 202, 206

This course introduces students to current management practices and philosophies. Real world applications from the supervisorsviewpoint is stressed by using numerous and varied examples. In addition to organizing, delegating, planning and controlling, the course covers decision making, communication skills, conflict resolution, creativity and innovation. The role of the manager in supervising programsand divisions as it pertains to motivation, appraising budget, counseling and handlingdiscipline and grievances are discussed. The formal and informal work group are also discussed to some extent.

FST 256 Fire Administration
(Fire Officer III)
3 Credits

This course is designed to provide upper management and fire chiefs with the skills and knowledge needed to manageand administer the needs of the fire department and to be an effective leader in today'sand tomorrow's changing fire service.

FST 257 Volunteer Fire Administration
3 Credits

This course provides volunteer fire chiefs and upper management with the skills and knowledge needed to lead the fire service into the future and discuss problemsand solutions inherent in the fire service and in volunteer departments.

FST 258 Wildland Fire Incident Management and Organization
2 Credits

Prerequisite: FST152; 1 year of wildland fire experience is preferred

This course introduces and develops supervisory and decision making skills for fire line management. Fireline safety, size-up,incident planning, ordering, tactics, strategies and administrative duties are covered.Four specific sections are taught: First Attack Incident Commander, Crew Supervisor, Incident Commander Multi-Resource and Task Force/Strike Team Leader are covered. All four sections are certified through the Incident Command System under NIMS and recognized by the National Wildfire Coordinating Group.

FST 260 Intermediate Fire Behavior S-290
2 Credits

Prerequisite: Introduction to Wildland Fire Behavior

This course analyzes the affects of fuels, weather, topography and fire behavior on the wildland fire environment. The course is designed to instruct 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

Prerequisite: FST 152

This course was developed under the Interagency Curriculum established and coordinated by the National Wildfire Coordinating Group. The course is designed to give fire line personnel skills to anticipate and predict wildland fire behavior, weather and rates of spread. 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 fire line tactics and fire behavior predictions.

FST 262 Advanced Firefighter S-131
1 Credit

Prerequisite: Qualified as a Firefighter Type 2 in the National Wildfire Coordinating Group system

This course provides the training needs for the wildland firefighter to become an Advanced Firefighter, Squad Boss and Incident Commander Type 5. The course discusses elements of the fireline handbook, safety issues and other topics important for this first level supervisor position.

FST 263 Powersaws S-212
2 Credits

Prerequisite: Certified as a firefighter Type 2 in the National Wildfire Coordinating Group System

This course is designed to teach the wildland firefighter the skills necessary to use, repair and maintain a chainsaw in the field. students will learn techniques to fell trees and buck material in a fireline operation.

FST 264 Helicopter Crew S-217
2 Credits

This course is designed to provide training needs of fire and nonfire personnel involved in project assignments with helicopters. The skills taught in this course will enable an individual to work with a helicopter in performing tasks common to all helicopter operations.

FST 265 Ignition Operations S-234
2 Credits

Prerequisite: Basic wildland fire course, intermediate fire behavior, qualified as a squad boss/firefighter type 1 based on National Wildfire Coordinating Group standards.

This course is designed to teach the wildland firefighter techniques in conducting firing operations. The focus of the course is 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 safety concerns related.

FST 270 Basic Air Operations S-270
1 Credits

Prerequisite: FST152 or equivalent

This course is the S-270 course offered by the National Wildfire Coordinating Group (NWCG) to survey the uses of aircraft in fire suppression and provides instruction on how to deal with management policy, regulations and procedures which govern agency aviation operations in fire suppression.

FST 290 Fire Science Advanced Topics
1-6 Credits

This series of courses is designed to encourage students to take advanced curriculumcourses in areas of major concern to both the citizenry and the fire service. The credit earned from 290 courses are applied as elective credit only. *Please see an advisor.*

FST 297-401 Internship
1-6 Credits

Prerequisite: Permission of program advisor

This course must be arranged through the office of Job Placement/Cooperative Education and with approval of your advisor. This Internship allows students to gain experience and knowledge from on-the-job training. *Positions are non-paid.*

FST 297-402 Cooperative Fire Academy I**
4 Credits

Co-requisite: FST 100

This course is a drill ground program where hands-on practice of topics coveredin FST 100 are used. This course is held at a local fire academy drill ground. This course is required for continuation into all FST145 or above courses for those who are not presently in the fire service.

FST 297-403 Cooperative Fire Academy II
4 Credits

Co-requisite: FST 101

This course is a drill ground program where hands-on practice of topics coveredin FST 101 are used. This course is held at a local fire academy drill ground.

FST 299 Independent Study
1-6 Credits

Prerequisite: Permission of instructor only

This course encourages students to study advanced topics in areas of major concernto both the citizenry and the fire service. The credits earned from 299 courses are applied as elective credit only. *Please see an advisor.*

***These two courses (FST100 and 297) are required for all who are not working in the fire service. The objective of this program is to give students an opportunityto get educational experience early in your pursuit of a fire service career in order to be able to compete academically with those who may already have experience in the fire service. These courses are also the first step in achieving NFPAFirefighter I Certification. Courses are offered in cooperation with local fire academies.*

FRENCH

The order of the topics and the methodology vary according to the individual texts and instructors.

FRE 101 Conversational French I
3Credits

This is the first course in a sequence for beginning students who wish to understand,read and speak French.The material includes basic vocabulary, grammar and expressions that are used in daily situationsand in travel. (This course may not transfer to a four-year institution.)

FRE 102 Conversational French II
3 Credits

Prerequisite: FRE 101 or permission of instructor

This is the second course in a sequence for beginning students who wish to understand and speak French.The materialcontinues to cover basic conversational patterns, expressions and grammar. *This course may not transfer to a four-year institution.*

FRE 111 Foreign Language I (Core)
5 Credits

This course begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the language. Grammar is studied in detail as well as the use of present-tense, past-tense and the immediate future-tense. The course also broadens your understanding of the culture, history and customs of French-speaking people.

FRE 112 Foreign Language II (Core)
5 Credits

Prerequisite: FRE 111 or permission of instructor

This course is a continuation of FRE 111. The course is designed to further develop principles of grammar and syntax, reading and writing, correct pronunciation and rudimentary conversation. Grammar rules are studied in detail as well as all tenses learned in FRE 111. Other simple and compound tenses are learned. This course continues to study the culture, history and customs of French-speaking people.

FRE 211 Foreign Language III (Core)
3 Credits

Prerequisite: FRE 112 or permission of instructor

This course continues the development of increased functional proficiency in listening, speaking, reading and writing the language.The study of geography, history, culture and French literature continues in detail.

FRE 212 Foreign Language IV (Core)
3 Credits

Prerequisite: FRE 211 or permission of instructor

This course continues the development of increased proficiency in listening, speaking, reading and writing the language.

GENERAL EDUCATION

GED 010 GEDPreparation
1 Credit

This course is designed for students who need remediation before GED preparation. Diagnostic tests determine skill level; help is available in writing skills, reading comprehension and mathematics.

GED 011 GEDPreparation
1 Credit

Prerequisites: GED 010 or a minimum score of 35 on individual GED pre-tests.

This course is designed for students who need to prepare for the GED tests: Writing Skills, Social Studies, Science and Literature and the Arts. Diagnostic tests determine skill level. Practice tests in GED materials and simulated GED testing are provided. Afree pre-GED test is available.

GEOGRAPHY

GEO 105 World Regional Geography (Core)
3 Credits

This course introduces the spatial relationships between and among the geographic regions of the world.Topics include demographic and cultural (political, economic and historic) forces related to the physical environments of selected regions. Methods of study include analysis of and interrelationships between developed and developing regions.

GEO 235 Geographic Information Systems - See Geology

GEOLOGY

GEY 111 Physical Geology (Core)
4 Credits
Co-requisite: GEY111 LAB

This course studies the materials of the earth, the earth's structure, surface featuresand the geologic processes involved in its development. This course includes a lab.

GEY 117 Map Reading
1 Credit

This course deals with the reading and interpretation of topographic and geologic maps.

GEY 118 Rock and Mineral Identification
1Credit

This course focuses on the basic field methods for identifying igneous, sedimentary and metamorphic rocks as well as the major rock forming minerals.

GEY 119 TheGreatIceAge
1 Credit

This course analyzes the effect of the Great Ice Age on the development of North America and also explores theories of climactic change.

GEY 121 Historical Geology (Core)
4 Credits

Co-requisite: GEY121 LAB

This course 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 a laboratory experience.

GEY 125 ContinentalDrift
1 Credit

This course explores the history of continental movement and its relationship to earthquakes and volcanoes and the history of life.

GEY 135 Environmental Geology
3 Credits

This course introduces the relationship of applied geology to the human environment. An overview of geologic concepts and terminology precedes a study of geologic hazards such as floods, landslides, avalanches, earthquakes and volcanoes. Surface and groundwater hydrology are emphasized and human's responsibility to protect these resources from contamination. The geologic aspects of environmental health, land use practices and resource exploitation are reviewed and related to legislation regarding environmental law.

GEY 140 Introduction to Global Positioning Systems
1 Credit

This course provides instruction on the use and application of hand-held global positioning sytems (GPS). Course topics include 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 Geology and Evolution of Caves
2 Credits

This course is an introduction to the science of caves. Topics include cave formation and evolution, cave decorations (speleothems) and the adaptations of living organisms to life below ground. A one-day field trip to a nearby cave system is included.

GEY 205 The Geology of Colorado
2-3 Credits

Prerequisite: Permission of instructor

This course covers the geologic history of Colorado, with emphasis on formation of mountain ranges, igneous, sedimentary and metamorphic rock types ore deposits and land forms. Field experience and/or class room lectures are used to cover the material.

GEY 208 GeologyFieldTrip
2-3 Credits

Prerequisite: Permission of instructor

This course involves in-depth field studies into the geology of specific regions both within and outside Colorado. Trips lasting from one to several days to the study area constitute the major activity of the course. The specific area of investigation are indicated in the *Class Schedule* each time the course is offered.

GEY 215 Introduction to Mineralogy
4 Credits

Prerequisites: GEY111 and high school chemistry or equivalent

This course studies the physics, chemistry origin and occurrence of minerals. Topics include techniques of mineral identification,the physical properties of minerals, crystallography,the genesis and occurrence of minerals and some economic geology as related to local mineral deposits. Field trips are taken to local mineral collecting areas.

GEY 235 Introduction to Geographic Information Systems
4 Credits

Co-requisite: GEY235 LAB

This course introduces the theory and practice of creating and using computer-based geographic information systems. The course provides direct experience with the techniquesused to access, develop, manipulate and display spatial data using computers.

GERMAN

The order of the topics and the methodology vary according to the individual texts and instructors.

GER 101 Conversational German I
3 Credits

This is the first course in a sequence for beginning students who wish to understand and speak German. The material includes basic vocabulary, grammar and expressions that are used in daily situations and in travel. *This course may not transfer to a four-year institution.*

GER 102 Conversational GermanII
3 Credits

Prerequisite: GER 101 or permission of instructor

This is the second course in a sequence for beginning students who wish to understand and speak German. The material continues to cover basic conversational patterns, expressions and grammar. *This course may not transfer to a four-year institution.*

GER 111 Foreign Language I (Core)
5 Credits

This course begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the language.

GER 112 Foreign Language II (Core)
5 Credits

Prerequisite: GER 111 or permission of instructor

This course continues the development of functional proficiency in listening, speaking, reading and writing the language.

GER 211 Foreign Language III
3 Credits

Prerequisite: GER 112 or permission of instructor

This course continues the development of increased functional proficiency in listening, speaking, reading and writing the language.

GER 212 Foreign Language IV
3 Credits

Prerequisite: GER 211 or permission of instructor

This course continues the development of increased proficiency in listening, speaking, reading and writing the language.

GRAPHICS AND ANIMATION TECHNOLOGY

(See Multimedia Technology)

HISTORY

HIS 101 Western Civilization I (Core)
3 Credits

This course surveys a number of events, trends, peoples, groups, ideas and institutions that have shaped Western Civilization from the prehistoric era to 1650. The course reflects the multiple perspectives of gender, class, religion and ethnic groups. Aprinciple focus of this course is on developing, practicing and strengthening the skills historians use while constructing knowledge in this discipline.

HIS 102 Western Civilization II (Core)
3 Credits

This course surveys a number of events, trends, peoples, groups, ideas and institutions that have shaped Western Civilization from 1650 to the present. The course reflects the multiple perspectives of gender, class, religion and ethnic groups. Aprinciple focus of this course is on developing, practicing and strengthening the skills historians use while constructing knowledge in this discipline.

HIS 115 PersonalitiesandIssues
3 Credits

This course identifies and describes noteworthy personalities and issues that have affected the development of critical periodsin history.

HIS 116 The Native American Experience
3 Credits

This course is an introduction to the Native Americans' historical and socio-cultural development with emphasis upon those processes and relations with non-Native Americans, which have contributed to the current conditions.

HIS 137 Contemporary World History
3 Credits

This course 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. Emphasis is placed on the interactions of global regions and nation states.

HIS 201 United States History I (Core)
3 Credits

This course surveys events, trends, peoples, groups, cultures, ideas and institutions in North American 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. Aprinciple focus of this course is on developing, practicing and strengthening the skills historians use while constructing knowledge in this discipline.

HIS 202 United States History II (Core)
3 Credits

This course surveys events, trends, peoples, groups, cultures, ideas and institutions in United States history, including the multiple perspectives of gender, class and ethnicity, between the period of the American Civil War and the present. A principle focus of this course is on developing, practicing and strengthening the skills historians use while constructing knowledge in this discipline.

HIS 215 Women in U.S. History
3 Credits

This course surveys women's changing roles in American history from the pre-colonialperiod to the present. Special emphasis are placed on the nature of women's work, gender relationships and the participation of women in the family, political, religious and cultural activities and reform movements.

HIS 225 ColoradoHistory
3 Credits

This course presents the story of the people, society and cultures of Colorado from the earliest Native Americans, through the Spanish influx, the explorers, the fur traders and the mountain men, the gold rush, railroad builders, the cattlemen and farmers, the silver boom, the tourists and the modern state.

HIS 236 Contemporary United States History
3 Credits

This course surveys the major political, economic, social and cultural developmentsthat have shaped modern America.

HIS 276 History of Meso-America
3 Credits

This course traces the history of the indigenous people of Mexico from the first inhabitants through the conquest by the Spanish in 1521 A.D. Special emphasisis placed on such cultures as the Olmec, Maya, Toltec, Totonac, Teotihuccan and Aztec. Topics include the daily life, religion,art, social and political organization and other historical characteristics of these groups of people.

HUMANITIES

HUM 118 Religion in American Culture
3 Credits

This course 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 preeminent organizing principle, to our 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 119 Early Christian Literature
3 Credits

This course surveys the literature of the early Christian era, from its inception to approximately 150 C.E. The New Testament as well as selected non-canonical writingsfrom this period are examined. The coursefocuses on the interpretation of these textsin 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.

HUM 121 Survey of Humanities I (Core)
3 Credits

Through a study of the visual arts, literature, drama, music and philosophy of early civilizations, Greek and Roman antiquity and Christian eras, this course introduces students to the history of ideas in Western Cultures. The course emphasizes connections amongthe arts, values and diverse cultures.

HUM 122 Survey of Humanities II (Core)
3 Credits

This course examines the Medieval, Renaissance and Baroque periods through a study of the visual arts, literature,music and philosophy.The course compares and contrasts diverse cultural ideas and feminine and masculine viewpoints.

HUM 123 Survey of Humanities III (Core)
3 Credits

This course examines the cultures of the 17th through 20th centuries by focusingon the interrelatedness of the arts, ideas and history. The course considers the influences of industrialism, scientific development and non-European peoples.

HUM 126 Folklore of Mexico and the Southwest
3 Credits

This course traces the history and cultural heritage of the Mexican and the people who populate the southwest part of the United States. The course studies the ancient cultures before the arrival of the Europeansand see how these people changed their lifestyles with the coming of the Spaniardsand other cultures from other parts of the world.Topics include legends, myths, the Aztec calendar, folk medicine, folk art, folk music, ballads, food, riddles, language, games and other related thesis.

HUM 215 Ideas in a Changing Society
1-3 Credits

This course is an interdisciplinary study of the modes of change as manifested in artistic and social movements, in mass culture and in changing life styles.

LEARNING SKILLS ENHANCEMENT

LSE 100 Learning Skills Enhancement
1 Credit

Co-requisite: Students need to be concurrently enrolled in one of the disciplinesdescribed below to receive tutorial assistance

This course is designed for studentsin need of instructional assistancein math, chemistry, physics, economics, English, literature, foreign language and writing. Students may receive access to computerized tutorial assistance in addition to World Wide Web access.

LITERATURE

The prerequisite for all literature courses is an ASSET reading score of 41+ and Written score of 43+.

LIT 115 Introduction to Literature (Core)
3 Credits

Literature 115 provides an overview of literature, including short fiction, poetry and drama. 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 literature are used as tools to develop discriminating reading skills for lifetime enjoyment.

LIT 125 Study of the Short Story
3Credits

This course focuses on careful reading and interpretation of the short story as a distinct genre. The course examines formal as well as thematic elements of short fiction. Critical thinking, discussion and writing about short stories enhances perceptive reading skills and heightens the awareness of the human condition.

LIT 126 Study of Poetry
3Credits

This course focuses on careful reading and interpretation of various poems representing types and periods of poetry. The course examines formal as well as thematic elements of poetry. Critical thinking, discussion and writing about poetry enhances perceptive reading skills and heightens the awareness of the human condition.

LIT 127 Study of the Novel
3Credits

This course focuses on careful reading and interpretation of selected novels representing types and periods of literature.The course examines formal as well as thematic elements of longer fiction. Critical thinking,discussion and writing about novels enhances perceptive reading skills and heightens the awareness of the human condition.

LIT 145 The Literature of Women
3 Credits

This course examines culturally and historically the techniques/themes in literature by and about women. Women's issues in various genres are also examined. The course emphasizes careful reading, analysis, interpretation and understanding of the works. Critical thinking, discussion and writing about significant works by and about women enhances perceptive reading skills and heightens awareness of women's issues as part of the human condition.

LIT 201 Masterpieces of Literature I (Core)
3 Credits

This course examines significant writings in world literature from the Ancients through the Renaissance. The course emphasizes careful reading and understanding of the works and their cultural backgrounds. Critical thinking, discussion and writing about the literature enhances perceptive reading skills and heightens the awareness of the human condition.

LIT 202 Masterpieces of Literature II (Core)
3 Credits

This course examines significant writings in world literature from the Enlightenment through the present. The course emphasizes careful reading and understanding of the works and their cultural backgrounds. Critical thinking, discussion and writing about the literature enhances perceptive reading skills and heightens the awareness of the human condition

LIT 211 Survey of American Literature I
3Credits

This course is an overview of American literature from the Puritans through the nineteenth-century Romantics. The course explores ideas, historical and social contexts and themesand literary characteristics of works in various genres by major writers.

LIT 212 Survey of American Literature II
3Credits

This course is an overview of American literature from the mid-nineteenth centurythrough the present. The course explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

LIT 221 Survey of British Literature I
3Credits

This course is an overview of British literature from the Anglo-Saxon period through the 17th century. The course explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

LIT 222 Survey of British Literature II
3Credits

This course is an overview of British literature from the 18th century through the present. The course explores ideas, historical and social contexts, themes and literary characteristics of works in various genres by major writers.

LIT 225 Introduction to Shakespeare
3 Credits

This course covers the history of the Elizabethan Period in England and the life of William Shakespeare. Students will havean opportunity to study Shakespeare's poetry and several of his plays.

MANAGEMENT

MAN 116 Principles of Supervision
3 Credits

This course studies the principles and techniques of managing and motivating personnel. This course is designed for students are interested in supervising others or for those presently in supervision. Course content focuses on the human interaction in supervision.

MAN 117 Time Management
1 Credit

This course is intended to provide students with the conceptual knowledge and tools to make better use of their time in the management function. *(Fall only)*

MAN 200 Human Resources Management
3Credits

This course presents the methods and techniques of personnel administration. The course emphasizes the study of recruiting, interviewing, selecting, placement, training and evaluating. Discussions include the topics of job descriptions, orientation, remuneration, promotion and transfers, benefits, grievances and union-management relations. (Fall only)

MAN 209 Management Seminar
1-4Credits

Prerequisite: Permission of instructor

This course offers: (1)special coverage of areas of current topical interest, (2)experimental coverage of potential new units or courses and (3) program integrating effort via seminar and simulation techniques.

MAN 212 Negotiation and Conflict Resolution
3 Credits

This course presents proper techniques in negotiation and conflict resolution. Key practices that determine successful negotiation are explored. This course covers principles of conflict resolution that may be used in various situations, such as business policies, accepted business practices, contracts, purchases, labor union contracts, pay raises and starting salaries. *(Spring only)*

MAN 215 Organizational Behavior
3 Credits

This course provides students with an understanding of the way people behave in business organizations and how that behavior can be influenced. This course shows students how to apply organizational theory to business situations and how new techniques in leadership, supervision, participative management, performance appraisal, quality of work life and management-by-objectives increase productivity. *(Spring only)*

MAN 225 Managerial Finance
3 Credits

Prerequisites: ACC 121, 122, ECO 201

This course examines the concepts and techniques used to analyze financial accounting information for managerial planning, decision making and control. Students also will explore the concepts and techniques used for funds flow management and for short-, intermediate-, and long-term financing.
(Fall only)

MAN 226 Principles of Management
3 Credits

This course is a survey of the principles of management. The course emphasizes the primary functions of planning, organization, staffing, directing and controlling with a balance between the behavioral and operational approach.

This course is accepted at many four-year institutions provided that students complete the prerequisites(i.e. ACC 121, ACC 122, BUS 226 and either ECO 201 or ECO 202) and have sophomore standing before enrolling in MAN 226.

MARKETING

MAR 111 Principles of Sales
3 Credits

This course offers will enable the student to understand and develop proper sales techniques. The course covers the role of selling in the marketing process, consumer behavioral consideration in the buying-selling process, and sales techniques. This course requires a minimum of 45 hours of work and carries three (3) credit hours. Students should expect to spend between 60-90 hours on this course.

MAR 216 Principles of Marketing
3 Credits

This course analyzes theoretical marketing processes and the strategies of product development, pricing, promotion and distribution and their applications tobusiness and the individual consumer.

This course is accepted at many four-year institutions provided that students complete the prerequisites (i.e. ACC 121, ACC 122, BUS 226 and either ECO 201 or ECO 202) and have sophomore standing before enrolling in MAR 216.

MAR 220 E-Marketing
3 Credits

As the arenas of information technology and the Internet have evolved, new marketing strategies have emerged. This course examines traditional marketing concepts of buying, behavior, promotion, production and others, then re-defines them as they apply to marketing in the technological age, in the global economy and on the World Wide Web. Web fundamentals, e-marketing trends, strategies, models and research are examined.

MATHEMATICS

MAT 030 General Skills in Mathematics—Whole Numbers
1 Credit

This course offers a competency-based review of basic math skills. Topics include vocabulary and notation, basic arithmetic operations, exponents and applications of whole numbers.

MAT 031 General Skills in Mathematics—Signed Numbers
1 Credit

This course offers a competency-based review of basic math skills. Topics include vocabulary and notation, basic operations with signed numbers, order of operations and applications of signed numbers.

MAT 032 General Skills in Mathematics—Fractions
1 Credit

This course offers a competency-based review of basic math skills. Topics include vocabulary and notation, basic operations with fractions, order of operations and applications of fractions.

MAT 033 General Skills in Mathematics—Decimals & Percents
1 Credit

This course offers a competency-based review of basic math skills. Topics include vocabulary and notation; operations with decimals; and applications of decimals, percents, ratios and proportions.

MAT 034 General Skills in Mathematics—Variables
1 Credit

This course offers a competency-based review of basic math skills. Topics include vocabulary and notation, basic operations involving exponents and roots, simplifying algebraic expressions, problem-solving using variables and applications involving geometry.

MAT 055 Pre-Algebra
3 Credits

This course is for students who need a comprehensive review of arithmetic.Topics include the whole numbers, fractions and decimals; percentages; proportion; operations with signed numbers and equations.

MAT 065 Elementary Algebra
4 Credits

Prerequisite: MAT055 (Pre-algebra) or Placement Test
This course includes operations and applications using integers, variable expressions including integer exponents and properties of real numbers, linear equations and inequalities, factoring, real number systems, polynomials and factoring polynomials. Rational expressions, quadratic equations, coordinate geometry, systems of linear equations and inequalities and applications are introduced.

MAT 114 Career Mathematics
3-4 Credits

Prerequisite: PLacement Test

This course is designed for vocational/ occupational students, and providesstudents with practical mathematical applicationsthat they will encounter in their fields. The course emphasizes careful reading, analyzing and problem-solving specific to individual students'goals. Topics include whole numbers, fractions, decimals, ratio and proportions, percents, measurements, formulas and right angle trigonometry. The course is a calculator-based modular course.

MAT 130 Intermediate Algebra
4 Credits

Prerequisite: MAT065 or equivalent
Requirement: Ascientific calculator

This course is intended for students who have recently completed one year of high school algebra or MAT100. Topics include the set of real numbers, extensive treatment of exponents, radicals, first- and second-degree equations in one variable, functions, linear systems, quadratic equations and graphs.

MAT 139 Technology Lab for Algebra
1 Credit

Prerequisite: MAT065 or PLacement test

This course is intended for students who have little or no background in using a graphing calculator. Topics include basic arithmetic, finding solutions to linear equations and linear inequalities, graphing linear and quadratic equations, solving systems of linear equations by graphing and matrices and programming.

MAT 160 College Algebra (Core)
4 Credits

Prerequisite: MAT130 with a grade of C or better or equivalent
Requirement: Agraphing calculator

This course is an in-depth study of functions and their applications. The course includes a brief review of intermediate algebra, analytic geometry, exponential and logarithmic functions and linear and nonlinear systems of equations. Selected additional topics may include theory of equations, conic sections, sequences and series or combinatorics.

MAT 161 College Trigonometry
3 Credits

Prerequisite: MAT160 or permission of instructor
Requirement: Agraphing calculator
Delivery Method: Traditional Classroom, Self Directed

This is a traditional prerequisite course to the calculus sequence. Topics include trigonometric functions (with graphs and inverse functions), identities and equations,solutions of triangles, complex numbers and other topics as time permits.

MAT 166 Pre-Calculus
5 Credits

Prerequisite: MAT160 with a minimum grade of "B" or permission of instructor.
Requirement: Agraphing calculator

This is a fast-paced review course in college algebra and college trigonometry intended for those planning to take the calculus sequence. Topics include a review of algebraic manipulations; polynomial, exponential, logarithmic, inverse and trigonometric functions and their graphs; trigonometric identities and equations, conic sections and complex numbers. If students require a slower-paced approach, students are encouraged to take MAT121 and MAT 122.

MAT 170 Finite Mathematics
4 Credits

Prerequisite: MAT130 (Intermediate Algebra)

This course is primarily for business, life science or social science majors.Topics include functions, matrix algebra, linear programming, financial formulas and an introduction to probability and counting techniques. Emphasis is on applications. This course may include other topics such as statistics when time permits.

MAT 171 Survey of Calculus (Core)
4 Credits

Prerequisite: MAT160 or MAT170 with a grade of C or better, or the equivalent
Requirement: Agraphing calculator

This course introduces calculus and analytic geometry with an emphasis on applications designed for business, life science and/or social science majors. Topics include limits, continuity, derivatives and integrals of algebraic, exponential and logarithmic functions.

MAT 175 Introduction to Statistics (Core)
3 Credits

Prerequisite: MAT130 or equivalent
Requirement: Ascientific calculator
This course includes data presentation and summarization, introduction to probability concepts and distributions, statistical inference-estimation, hypothesis testing, comparison of populations, correlation and regression.

MAT 201 Calculus I (Core)
5 Credits

Prerequisite: MAT160 and MAT161 with a grade of C or better; or equivalent
Requirement: Agraphing calculator

This course introduces two-dimensional calculus and analytic geometry. Topics include limits, continuity, derivatives and applications of derivatives, indefinite and definite integrals and applications of integrals.

MAT 202 Calculus II (Core)
5 Credits

Prerequisite: MAT201 with a grade of C or better or equivalent
Requirement: Agraphing calculator

This course is a continuation of MAT201. Topics include techniques of integration, polar coordinates, analytic geometry, improper integrals, sequences and infinite series.

MAT 204 Calculus III with Special Topics
5 Credits

Prerequisite: MAT202 with a grade of C or better
Requirement: Agraphing calculator

This course completes the undergraduate calculus sequence. Topics include multi-dimensional calculus, vectors, vector-valued functions and multi-dimensional calculus (including partial derivatives, multiple integrals, line integrals and applications).

MAT 255 Linear Algebra
3 Credits

Prerequisite: MAT202 or permission of instructor
Requirement: Agraphing calculator
(Spring only)

This course includes an introduction to the theory of vector spaces, linear transformations, matrix representations, eigenvalues and eigenvectors.

MAT 261 Differential Equations with Topics
4 Credits

Prerequisite: MAT204 or permission of instructor
Requirement: Agraphing calculator

The primary emphasis in this course are on techniques of problem solving and applications. Topics include first, second and higher order differential equations, series methods, approximations, systems of differential equations and Laplace transforms.

MEDICAL OFFICE TECHNOLOGY

MOT 104 Anatomy and Physiology for Health Professionals
4 Credits

This non-laboratory course is designed to provide the basics of anatomy and physiology for health care workers. Structural and functional components of each body system are emphasized.

MOT 110 CMAExam Review
1 Credit

Prerequisite: Completion of Medical Assisting AAS or certificate program

This class assists in the review of the national certification exam for medical assistants. The course consists of three parts; general medical knowledge, administrative procedures and clinical procedures. Study techniques and test-taking strategies will be addressed and at the end of this course a comprehensive mock test will be given to assess student's knowledge.

MOT 114 Introduction to Medical Terminology
2Credits

Provides an emphasis on verbal and written communication of medical terms, including definitions, spelling, pronunciations and analysis of component parts.

MOT 117 Introduction to Clinical Skills
2 Credits

Prerequisites: MOT114 or MOT 104

Provides hands-on experience with the basic skills required for assisting with patient care. Delivers the theory behind each skill presented as well as proper technique for performing each skill. Includes knowledge and/or performance of bloodborne pathogens/OSHA regulations, medical asepsis, procedural gloving, patient gowning, positioning and measurement vital signs.

MOT 118 Advanced Clinical Skills
2 Credits

Prerequisites: MOT114 or MOT104, MOT117

This course is the continuation of MOT117, INtroduction to Clinical Skills. It is designed to provide further technical hands-on experience with the advanced clinical skills required for assisting with patient care. Delivers the theory behind each skill presented as well as proper technique for performing each skill. Includes knowledge and/or performance patient examination, EKG, radiology applications, pulmonary function testing, sterilization and disinfecting and administration of medication.

MOT 120 Psychology for the Health Professional
1 Credit

This course is designed to help the health professional understand basic developmental principles, the effects of environmental and heredity factors on normal and abnormal behavior and how to develop techniques for dealing with a variety of personality differences effectively.

MOT 140 Medical Office I
4 Credits

This course is designed specifically for the medical office, and introduces students to career opportunities and professional growth in the medical office. This course includes reception and telephone management, appointment coordination, medical law and ethics, patient record management and patient communication.

MOT 141 Medical Office II
4 Credits

Prerequisite: MOT140
Co-requisite: BTE 102

This course is designed specifically for the medical office and includes pegboard accounting, payroll and banking procedures as well as credit and collections. Areview of basic mathematics accompanies the accounting unit. The course also includes a review of office correspondence as it pertains to the medical office.

MOT 150 Disease Processes
2 Credits

Prerequisites: MOT114 and MOT 104

This course focuses on the human body an the consequences of a disruption of body processes. Anatomy and physiology of body systems will be reviewed along with pathologic conditions within each system. Disease and system terminology along with testing and other data associated with documentation of specific disease processes are emphasized.

MOT 160 Medical Transcription I
4 Credits

Prerequisites: MOT114, MOT104, BTE 102

This course provides instruction in the use of transcription equipment and the transcribing of medical reports, operative reports, discharge summaries, x-ray reports, etc. that are used in a hospital or clinic setting.

MOT 165 Medical Transcription II
4 Credits

Prerequisite: MOT 160

This course provides instruction in advanced medical transcription skills. Emphasis is given to select medical specialties, critical-thinking/decision-making, AAMT formatting and available transcription resources.

MOT 205 Insurance and Building
3 Credits
Prerequisite: MOT114 or MOT104.

This course establishes a foundation in outpatient coding in order to complete a correct HCFA-1500 form using ICD-9-CM, CPTand HCPCcodes. The course informs student what documentation is needed to justify those codes, the problems of incorrect coding and how to manage third party requirements and reimbursements.

MOT 207 Laboratory Skills
4 Credits
Prerequisite: MOT114 or MOT104.

This course introduces students to basic routine laboratory skills and techniques for collection, handling and examination of laboratory specimens often encountered in the ambulatory care setting. Emphasizes hands-on experience.

MOT 210 Pathophysiology for Health Occupations
4 Credits

Prerequisites: MOT104 or MOT114

This course focuses on the human body and the consequences of a disruption of body processes. Anatomy and physiology of body systems is reviewed along with pathologic conditions within each organ system, while introducing important clinical considerations.

HEO 220 Pharmacology
3 Credits

Prerequisites: MOT104 and MOT114

This course covers the classifications, indications, actions, side effects and administration of medications. Dosage calculations and conversions are also presented.

MOT 297-401 Medical Assisting Externship
6 Credits

Prerequisite: Completion of all course work with a "C" or better
Permission of instructor

This medical internship allows students to gain experience and knowledge from on-the-job training. Positions are non-paid. Prior to the clinical externship, students need to have completed First Aid and CPR for Health Providers. Students also need to demonstratefreedom from communicable disease by providing proof of immunizations. Student must begin externship within one year of completing course work. *(270 hours of externship)*

MOT 297-402 Medical Office Internship
3 Credits

Prerequisite: Completion of all course work with a "C" or better
Permission of instructor

This course allows students to gain work experience from on-the-job training. Student must begin externship within one year of completing course work. *(135 hour internship)*

MOT 297-403 Medical Transcription Externship
3 Credits

Prerequisite: Completion of all course work with a "C" or better
Permission of instructor

This course allows the students to gain work experience from on-the-job training in the medical transcription field. Students must begin externship within one year of completing course work. *(135 hour internship)*

MILITARY SCIENCE

MSR 103 Adventures in Leadership I
2 Credits

Co-requisite: Leadership Lab.
(2 hrs./week)
Physical training (3 hrs./week)

Familiarizes students with the organization and role of the Army, leadership doctrine, land navigation, first aid, communication skills and ethical problem solving. Provides students with knowledge about what career opportunities are available as an Army Officer in either the active or reserve component. No Army obligation is incurred in taking this course.

MSR 104 Adventures in Leadership II
2 Credits

Prerequisite: MSR 103

Co-requisite: Leadership Lab. (2 hrs./week)
Physical training (3 hrs./week)

Continues to focus on the Army's leadership doctrine, land navigation ,first aid and communication skills. Teaches students how to function as a member of a team and introduces small unit military operations. Provides students with knowledge of what career opportunities are available as an Army Officer in either the active or reserve component. No Army obligation is incurred in taking this course.

MSR 203 Adventures in Leadership III
2 Credits

Co-requisite: Leadership Lab. (2 hrs./week)
Prerequisites: MSR 103 and MSR 104 or permission of instructor

Physical training (3 hrs./week)

Provides a basic foundation in leadership fundamentals as well as the basic military training foundations necessary to enter the US Army Reserve Officer Training Corps (ROTC) Advanced Course. Familiarizes students with the organization and role of the Army. Provides a concept of career and training opportunities that are available as any Army Officer in either the active or reserve component to assist students in deciding to enter the Advanced Course program. No Army obligation is incurred in taking this course.

MSR 204 Adventures in Leadership IV
2 Credits

Co-requisite: Leadership Lab. (2 hrs./week)
Prerequisite: MSR 103, MSR 104, MSR 203 or permission of instructor

Physical training (3 hrs./week)

Provides a basic foundation in leadership fundamentals as well as the basic military training foundations necessary to enter the US Army Reserve Officer Training Corps (ROTC) Advanced Course. Familiarizes students with the organization and role of the Army. Provides a concept of career and training opportunities that are available as an Army Officer in either the active or reserve component to assist students in deciding to enter the Advanced Course program. No Army service obligation is incurred in taking this course.

MULTIMEDIA TECHNOLOGY

MTC 100 Introduction to Macintosh Graphics
3 Credits

This course introduces students to the Macintosh computer system developed for graphics. students will learn the hardware and software components for multimedia production. Each student will explore basic computer operations, ergonomics, file management, scanning techniques, archiving capabilities and uses of the multimedia department server and internet connection.

MTC 101 Introduction to Design and Graphics
3 Credits

Prerequisite: MTC 100

This course explores the use of tools, computer graphics techniques, procedures and presentations to produce professional graphic designs. Students use creative thinking to solve communication and design problems.

MTC 102 Multimedia Equipment and Technology
3 Credits

Prerequisite: MTC 100

This course introduces the types of equipment and technical considerations used in multimedia productions. The course focuses on current types of equipment such as scanners, printers, digital cameras and computers. New types of add-on boards to enhance multimedia production and other peripheral devices are also explored. Students gain hands-on experience in how the technology is used for input and output in production and design projects.

MTC 106 Adobe Illustrator
3 Credits

Prerequisite: MTC 100

This course acquaints students with the processes of a professionally used draw program on the Macintosh computer. Stylization, typography and color are used as design elements to produce original, camera-ready art for publication.

MTC 115 Color Theory
3 Credits

Prerequisites: MTC 106 or MTC 120

This course covers color theory as it relates to the printing industry and multimedia. The psychology of color is taught as well as how to effectively design with color. Students learn how to correct color photographs and create color separations ready for printing. Color scanning technology is also covered.

MTC 120 Adobe Photoshop
3 Credits

Prerequisite: MTC 100

This course provides an introduction to digital graphics pre-press. The course studies image processing and special effects. Chemical free darkroom and illustration techniques are also covered along with graphics/text integration.

MTC 125 QuarkXPress
3 Credits

Prerequisite: MTC 100

This course introduces students to digital desktop publishing. Students learn how to assemble, organize, manipulate and manage text and graphics to produce a high quality publication. Class discussions and independent projects supplement hands-on classroom work. Examples and exercises are diverse, including magazine, journal, brochure, poster, advertisement and packaging layouts. Studies include printing basics, allowing students to produce either a stand-alone desktop publication, or to complete prepress work for offset printing and output devices.

MTC 126 Adobe InDesign
3 Credits

Prerequisites: MTC 100, MTC 101,
MTC 106 or MTC 120

This course introduces students to a page layout program created for graphic designers, production artists and prepress professionals. Integrating seamlessly with other Adobe design programs, InDesign delivers creative freedom and productivity to DTP. students will learn to manage and manipulate text and graphics to produce high quality publications. Class discussions, exercises and projects provide hands-on experience. Studies include printing basics, file formats and preparing documents for offset printing and postscript output devices.

MTC 127 Electronic Prepress
3 Credits

Prerequisite: MTC 125 or MTC 126

This course explores in detail the electronic prepress process. 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.

MTC 130 Animation and Rendering
3 Credits

Prerequisite: MTC 106 or MTC 120

This course is an introduction to the art of animation and rendering with a focus on movement and story development. Traditional and computer techniques are discussed. Students produce complete animations and transfer them to video tape or other visual media.

MTC 133 Digital 3D Design & Modeling
3 Credits

Prerequisite: MTC 120

This course will introduce students to Form•Z powerful 3D modeling tools for 3D animation. Topics include extrusions, lathes, sweeps, Boolean functions, surface trimming, skins, import/export files to and from other applications and much more.

MTC 135 Electric Image Animation I
3 Credits

Co-requisites: GAT290 (MTC 133)
Prerequisites: GAT120 (MTC 120)

This course encompasses all major aspects of this high-end 3D animation system. Topics include setting scenes, achieving realistic motion, lighting for 3D, rendering and final output.

MTC 136 LightWave 3D
3 Credits

Prerequisites: GAT201 (MTC 130)

This course introduces students to LightWave's Modeler program with an emphasis on modeling and modeling techniques. The course also touches on LightWave's Layout program for setting up scenes with texture maps and lighting. This course also includes instruction on how to import models from other programs such as Bryce.

MTC 150 Introduction to Multimedia Authoring
3 Credits

Prerequisite: MTC 120

This course examines Macromedia Director, the leading authoring tool for interactive multimedia. Students' II learn the basics of computer animation for both computer presentations and the web. Hands-on projects include lingo scripts, behaviors, adding sound and digital video to your movies.

MTC 155 Web Page Design
3 Credits

Prerequisite: MTC 106 or MTC 120

This course introduces the fundamentals of HTML syntax using a simple word processor to create a prototypical Web page. Web colors and the use of graphic editors will be explored. students will learn naming conventions, file organization and how to add links to other locations. Page layout, tables, forms and frames will also be addressed. Projects will include hands-on use of HTMLeditors.

MTC 159 Web Site Design
3 Credits

Prerequisites: MTC 106, MTC 120 and MTC 155

This course explores developing visual design ideas on the Web. students will learn site layout, design principles, interface design, metaphor & color communication, marketing and quality control. Hands-on projects will use advanced graphic editor skills and HTML editors.

MTC 180 Graphic Hardware Solutions
3 Credits

Prerequisite: MTC 100

This class provides the principles and techniques of maintaining, upgrading and customizing personal computer systems, with a primary focus on the Macintosh. Emphasis is also placed on various emerging and established technologies related to personal computing.

MTC 182 Electronic Portfolio
3 Credits

Prerequisite: MTC 150 or MTC 155

This course introduces students to portfolio construction and resume writing. students will create a CD-ROM and/or Web portfolio using art produced in multimedia class projects.

MTC 201 Multimedia Production and Management
3 Credits

Prerequisite: MTC 220 or equivalent experience

This course examines development of multimedia from a production standpoint. The process of transforming conceptual designs into actual projects is explored. Students study the management function of those tasks associated with the business end of development. Teamwork is emphasized throughout the course. (Take during last semester of program.)

MTC 205 Computer Art Studio
3 Credits

Prerequisite: MTC 106 or MTC 120

This course teaches students how to work with illustration and paint software on the Macintosh computer. Color and relationships, repeat patterns, animation and digitization are among the topics covered in the course as students explore the possibilities of computers in visual art. Assigned projects cover a wide range of visual approaches.

MTC 210 Sound Design for Multimedia
3 Credits

Prerequisite: MTC 100 or MTC 150

This course explores the use of sound in multimedia productions. The course focuses on how sound can enhance interactive productions and improve computer presentations. Students learn how to use the Macintosh computer as a full audio studio.

MTC 211 Sound Design for Multimedia II
3 Credits

Prerequisite: MTC 210

This course focuses on the application of sound with various multimedia software applications. Principles and techniques include MIDI orchestration and sequencing, digital multi-track recording and production, working with musicians and other talent, sound effects layering, integrated audio system production and advanced audio mixing/sweetening. This course also includes synchronization techniques of audio with moving pictures, graphics and animation.

MTC 220 Advanced Adobe Photoshop
3 Credits

Prerequisite: MTC 120 or equivalent experience

This course develops and reinforces techniques learned in MTC 120. Fundamentals are continuously reinforced as new techniques are introduced. Students are expected to produce two final proofs from outside sources.

MTC 233 Advanced Form •Z
3 Credits

Prerequisites: MTC 120 and MTC 133

This course introduces all of the major aspects of the Form•Z modeling system for 3D animation. Topics include hard surface and organic modeling, surface and solid modeling and nurbs and polygonal modeling.

MTC 235 ElectricImage Animation II
3 Credits

Prerequisites: MTC 120 (GAT120), MTC 133 (GAT290), MTC 135 (GAT290), and MTC 240 (PDT290)

This course covers advanced aspects of the ElectricImage Animation systems. Topics include advanced motion, camera mapping, third party plug-ins and advanced special effects. Advanced rendering and lighting effects are also covered.

MTC 236 Advanced LightWave 3D
3 Credits

Prerequisite: MTC 136 (PDT 290)

This course introduces students to LightWave's Layout program with an emphasis on animation and animation technique. The course also touches on LightWave's layout program for setting up scenes with advanced procedural texture maps and lighting.

MTC 240 Adobe After Effects
3 Credits

Prerequisite: MTC (GAT) 120

The course provides the fundamental techniques for creating digital motion graphics such as 2D animations, animated logos, video graphics, etc. The course covers relevant tools and techniques as well as industry standards, delivery methods and output.

MTC 241 Advanced Adobe After Effects
3 Credits

Prerequisites: MTC (GAT) 120
MTC (GAT) 240

The course provides advanced skills and techniques for creating digital motion graphics such as 2D animations, animated logos, video graphics, etc. The course also covers relevant tools and techniques as well as industry standards, specialized techniques and additional tools and resources.

MTC 245 Bryce
3 Credits

Prerequisite: MTC 130 (GAT 201)

This class exploits the unique abilities of MetaCreations Bryce for creating photo realistic natural scenes in 3D. Students will learn the tools, techniques and concepts involved in the use of the software. Additionally, students will study the works of premiere Bryce artists and create numerous images and animations of their own. Emphasis will be placed on structure, composition, lighting and color theory.

MTC 250 Advance Multimedia Development
3 Credits

Prerequisite: MTC 150

This course explores the interactive process within all areas of program design, courseware authoring, delivery techniques and instruction strategies. Students are introduced to CD-ROM and Shockwave technology and produce an interactive program during the course.

MTC 254 Introduction to Digital Editing
3 Credits

Prerequisite: MTC 100 and MTC 120

This course is an introduction to digital non-linear video editing in our high end Macintosh lab. Digitizing, compression boards, outputting and integration with other software are covered. Video, audio, stills and graphics are integrated in a final project output to tape or CD.

MTC 255 Advanced Web Page Design
3 Credits

Prerequisite: MTC 155

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. students will explore cascading style sheets, dynamic HTML, JavaScripts, CGI forms and frames.

MTC 290 Special Topics
3 Credits

Prerequisite: Permission of instructor

This course provides an opportunity to examine new technology and advanced techniques in computer art.

MUSIC

MUS 100 Fundamentals of Music Theory
3 Credits
This course is the equivalent to the Rudiments of Music course and lab offered by every university music school. The science and art of music is emphasized by developing the tools used in notating, creating and listening to music. Topics include basic scale forms, keys, basic chord forms and lead sheet symbols, chord progressions and melody harmonization. Ability to read music is not required.

MUS 105 Introduction to Electronic/Computer Music
3 Credits

This course explores the history and modern application of electronic music for the Macintosh and IBM personal computers. Recording from basic music software and setting up a home studio are explored. The course is conducted in the Macintosh laboratory, but utilizes products which function exactly the same in the IBM PC environment. No background in music, electronics or computers is necessary.

MUS 110 Music Theory I
3 Credits

Prerequisite: MUS 111 or permission of the instructor

This course and lab is designed to resemble the Music Theory I course offered for universitymusic school majors. Acontinuationof MUS 111, students learn to integrate theory. Two-, three- and four-part writing is analyzed to better understand music by studying examples and creating it.

MUS 120 Music Appreciation *(Core)*
3 Credits

This course covers the basic materials of music, musical forms, media, genres and musical periods. The course emphasizes the development of tools for intelligent listening and appreciation.

MUS 125 History of Jazz Music
3 Credits

This course reviews the history of jazz in America and provides basic listening skills for the understanding and appreciation of jazz music.

MUS 141 Private Instruction: Voice (1st year, 1st term)

MUS 141 Private Instruction: Guitar (1st year, 1st term)

MUS 141 Private Instruction: Piano (1st year, 1st term)

MUS 142 Private Instruction: Voice (1st year, 2nd term)

MUS 143 Private Instruction: Voice (1st year, 3nd term)

MUS 151 Chorus

Ensemble: Chorus (1st year, 1st term)
1 Credit

This course is open to students at all vocal levels. Concerts are performed every session and are designed to include a wide variety of music.

MUS 152 Chorus
Ensemble: Chorus (1st year, 2nd term)

MUS 221 Development of Music I
(Core)
3 Credits

This course studies various periods of musichistory with regard to the composers,aesthetics, forms and genres of each period.Music from the Middle Ages through the Classical period is discussed.

MUS 222 Development of Music II
(Core)
3 Credits

Music from the early Romantic period to the present is discussed.

MUS 241 Private Instruction: Voice (2nd year, 1st term)

MUS 242 Private Instruction: Voice (2nd year, 2nd term)

MUS 243 Private Instruction: Voice (2nd year, 3rd term)

MUS 251 Chorus
Ensemble: Chorus (2nd year, 1st term)

MUS 251 Chorus
Ensemble: Chorus
(2nd year, 2nd term)

MUS 299 Independent Study

NURSING

NUA101 Nurse Aide Theory/Lab
4 Credits

Co-requisite: NUA 102

This course prepares students to perform the fundamental skills of the nurse aide. Basic nursing skills, restorative services, personal care skills, safety and emergency care issues are covered in theory and lab. students will learn skills that address mental health needs as well as patient/resident/client rights.

NUA102 Nurse Aide Clinical
1 Credit

Co-requisite: NUA 101

This course applies knowledge gained from NUA 101 in a clinical setting.

NUTRITION

NUT 100 Fundamentals of Nutrition
3 Credit

This course introduces basic nutrition, with an emphasis on personal nutritional information. Nutrients needed by the body throughout one's life span for vigor and quality of life will be examined. This course satisfies the nutritional requirement for nursing programs.

OCCUPATIONAL SAFETY TECHNOLOGY

(In cooperation with Trinidad State Junior College)

OSH 112 Fire Protection and Analysis
3 Credits

This course enables students to recognize possible fire sources and emergency procedures. The course also offers an in-depth study of fires and the construction techniques of eliminating fires. This course includes history of fires, types of extinguishing agents and detecting devices. Topics also include construction techniques, extinguishing systems and detecting systems.

OSH 131 General Industry Standards
5 Credits

This course provides students with knowledge to implement an effective safety program for the general industry. 29CFR1910 Standards are covered.

OSH 134 Construction Standards
3 Credits

This course provides the knowledge needed to implement an effective safety program for any size/type of construction site. 29CFR1926 Standards are covered.

OSH 196 Safety Program Planning and Administration
3 Credits

This course explores practical application methods used in developing and administrating, a safety and health/accident prevention plan.

OSH 200 Hazardous Material Control
2 Credits

This course provides information on chemical right-to-know awareness, chemical identification, chemical labelingand chemical material safety data sheets.

OSH 201 Workers Compensation Cost Containment
2 Credits

This course covers Colorado Insurance Regulation91-5 and explains how to design and implement a "Certified Risk Management Program."

OSH 202 Accident Prevention
2 Credits

This course explores the hazards and design elimination techniques through knowledge of accident prevention controls.

OSH 203 Ergonomics: Managing Task Stress
3 Credits

This course familiarizes students with the occupational safety major with the concepts and applications of current ergonomic theory. Discussions include work physiology, engineering anthropometry, biomechanics,work station design and controls. Students learn to measure successful application of ergonomic design through improved productivity, efficiency, safety and worker acceptance of resultant system design.

OSH 204 Environmental Regulatory Framework
1 Credit

This course reviews regulations that affect the environment. Regulations discussed are E.P.A.; S.A.R.A.; C.E.R.C.L.A.;and R.C.R.A. OSHA's role in the control of potential environmental mishaps are also provided.

OSH 207 Industrial Hygiene
3 Credits

This course introduces the general concepts of industrial hygiene. Topics include routesof exposure, chemical, physical and biological hazards, ventilation, noise and instrumentation. Identification, evaluation andcontrol of industrial health hazards are stressed.

OSH 240 Case Study Evaluation
5 Credits

This course teaches students OSHA's interpretations of regulations for the general industry and the construction industry.

OSH 250 Safety Training Methods
3 Credits

This course introduces current safety training methods. Organization, preparations and delivery are stressed.

OSH 255 Instrument Laboratory
2 Credits

This course prepares students to calibrate and utilize industrial hygiene instrumentation. Direct Reading Instruments and Personal Sampling Pums are covered.

OSH 261 Independent Study
3 Credits

This course provides an opportunity for students to work on Occupational Safety related research projects. Research projectsvary and are assigned by the advisor based on your need.

OSH 290 Direct In-Service Internship
12-18 Credits

This course is designed for employees working in a safety and/or health department who wish to further their education in occupational safety. Students may substitute internship credit for appropriate occupational safety courses required for the A.A.S. degree or certificate. Appropriate credit is determined by an advisor.

OSH 296 Pre-Service Internship
5-12 Credits

This course is for those of students who do not have prior industrial experience in safety and wish to expand their understanding and knowledge of industrial processes and problems. Students may substitute internship credit for appropriate occupational safety courses required for the A.A.S. degree. Appropriate credit is determined by an advisor.

PARK RANGER TECHNOLOGY

PAR 102 Introduction to Park Ranger Technology
3 Credits

This introductory course covers the development of public lands in the United States, the various agencies controlling those lands, multi-use doctrine, wilderness, public services provided in parks and the various roles of the park ranger in different settings Discussed are career planning and park ranger responsibilities, such as law enforcement, natural resource management, protection and interpretation, cultural resource interpretation, visitor services, emergency management and training.

PAR 203 Natural Resource Management
3 Credits

Prerequisite: PAR 102

This course introduces 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.

PAR 205 Resource Interpretation
3 Credits

This is a basic course in natural and cultural resource interpretation. The philosophy, techniques and skills necessary to produce exciting and relevant resource interpretationprojects are discussed and practiced. Interpretive plans are discussed in detail aswell as various techniques used in the fieldof resource interpretation and public education.The history and development of environmental education and natural/ cultural resource interpretation are discussed. Multi-use conflict solutions via public education and resource interpretation are emphasized.

PAR 218 Outdoor Leadership
3 Credits

This course is an introduction to the development, acquisition and application of outdoor leadership skills and knowledge.Students 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 minimum impact camping, wilderness ecology, judgement, decision making, group dynamics and trip logistics.These skills enhance the effectiveness of students as a professional outdoor leader.

PAR 230 Park Ranger Law Enforcement Training
3 Credits

Prerequisites: PAR 102 or recent seasonal park employment or permission of the instructor

This course is 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,limits of authority, visitor contact, communications and situational control techniques. Topics vary depending upon the need.

PAR 235 Park Ranger Skills Seminar
1-2 Credits

This is 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 may be covered. This is a hands-on course for the development and application of skills.

PAR 255 Advanced Resource Interpretation
3 Credits

Prerequisite: PAR 205

This is an advanced course in natural and cultural/historical resource interpretation and provides students with the skills to plan, prepare and present exciting and relevant interpretation programs for special visitors and situations using a variety of personal and non-personal techniques. Examples of the types of skills offered are: writing and designof site produced publications and exhibit labels, producing basic audio-visual programs;preparing and presenting special activities such as demonstrations, living history, story telling, costumed interpretation and dramatic/creative arts. Techniques for resource interpretation for the physically or mentally challenged, sensory impaired, elderly and international visitors are discussed. The sensitive handling of controversial/sensitive educational issues is also discussed.

PAR 297 Park Ranger Internship
1-3 Credits

Prerequisite: PAR 102

This course is designed to give students realistic work experience in the field. All work is supervised by park rangers currently employed by land management agencies at various levels of government. Supervisors ensure that your participation is in relevant field work and that your performance is to the standards expected of employees of the agencies in which the internship occurs..

PHILOSOPHY

PHI 111 Introduction to Philosophy (Core)
3 Credits

Prerequisite: College level reading and writing skills

This course introduces significant human questions and emphasizes understanding the meaning and methods of philosophy. The course includes the human condition, knowledge,freedom, ethics, religion and the nature of mind.

PHI 112 Ethics (Core)
3 Credits

Prerequisite: College level reading and writing skills

This course 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.

PHI 113 Logic (Core)
3 Credits

Prerequisite: College level reading and writing skills

This course studies effective thinking using language-oriented logic and it provides tools and develops skills for creative and critical thinking.The course emphasizes the development of decision-making and problem-solving skills.

PHI 114 Philosophy of Religion
3 Credits

Prerequisites: College-level reading and writing skills

This course is a philosophical introductionto the basic topics in philosophy of religion.The course explores related topics of world religions, including the problemof evil, arguments for and against the existence of God, the nature of faith, problems of religious language andconflicting truth claims in religions.

PHI 115 Comparative Religions
3 Credits

Prerequisite: College level reading and writing skills

This course develops the ability to interpret and understand human religious experienceby comparing religious traditions. Philosophical similarities and differences will be compared among Hinduism, Buddhism, Taoism, Confucianism, Shinto, Judaism, Christianity and Islam. Pre-literate or contemporary religions may also be included.

PHI 116 Applied Ethics
3 Credits

Prerequisites: College-level reading and writing skills

This course introduces students to practical reason. Varieties of ethical principles are applied to specific areas of human decisionmaking in order to elucidate the choices and reasons for action. The specific areas of analysis that the course typically addresses are ethics of life and death, business ethics, ethics of war and peace and sexual ethics.

PHI 117 Psychology of Religion
3 Credits

This class is cross listed as PSY117

The Psychology of Religion consists in the application of psychological principles and theories to religious phenomena, including religious practices, beliefs and rituals. As an introduction to this field, this course begins with with a 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 118 Religion in American Culture
3 Credits

This class is cross listed as HUM 118

Prerequisites: College-level reading and writing skills

This course investigates the various ways in which religion and American culture interact. Beginning with the religion of Native Americans, which existed in apre-modern society where religion went unchallenged as the preeminent organizing principle, to our 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.

PHI 119 Early Christian Literature
3 Credits

This class is cross listed as HUM 119

This course surveys the literature of the early Christian era, from its inception to approximately 150 C.E. The New Testament as well as selected non-canonical writingsfrom this period are examined. The coursefocuses on the interpretation of these textsin 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 120 Literature of Ancient Israel
3 Credits

This course surveys the literature produced by ancient Israel from its inception in the 10th century B.C.E. 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 with they arose. Particular attention will be paid to the comparison of the literature of ancient Israel to that of its neighbors.

PHI 125 Critical Thinking
3 Credits

Prerequisites: College-level reading and writing skills

This course provides tools and develops skills for creative and critical thinking. The course covers the uses of language, the art of definitions and explanations, the nature of argumentation and debate, the looking for the presuppositions and the preparations of outlines and speeches.

PHI 202 Religion and Film
3 Credits

This course 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 postmodernity poses to traditional religion.

PHI 280-285 Special Topics in Philosophy
3 Credits

Prerequisite: Prior Philosophy course, sophomore standing or Instructor Permission

Students explore in-depth specific topics, movements, or persons in the history of philosophy. This study might include e.g. Plato, Greek Philosophy, Hume, periods in the history of philosophy, philosophy literature, environmental ethics, philosophyof mind, etc. Readings are selected by the instructor as appropriate to the topic. Course may be repeated for credit provided topics are not repeated.

PHYSICAL EDUCATION

*** All the PHE courses pertaining to mountain-oriented recreation have one or more field trips. Most field trips are single-day trips scheduled on a weekend. Students should check with the PHE Department to see which courses may have weekday field trips or courses that require overnight camping.**

PHE 100 Fitness
1 Credit

This course is designed to create a basic exercise and nutrition program based on individual goals and ability. Workouts include circuit training with a variety of other options including weight training, Ricochet, cardiovascular equipment and aerobic style classes.

PHE 130 Fitness
1 Credit

This course offers students a flexible way to improve their total fitness levels. Students have the freedom of using a variety of strength, aerobic and flexibility machines as well as free-weights and aerobic classes.

PHE 133 Volleyball
1 Credit

This course provides the basic knowledge and skills required for the game of volleyball. Emphasis is on individual performance, technique, rules and etiquette associated with volleyball.

PHE 134 Racquetball
1 Credit

This course is designed for individuals with intermediate to advanced racquetball skills. Emphasis is on individual performance, practical skills and competition.

PHE 136 Weight Training
1 Credit

This course provides a basic overview of weight training equipment and techniques for all levels of ability. This course is designed to improve one's fitness level while developing skills and knowledge in all areas of fitness.

PHE 145 Wellness Activity
1 Credit

This course focuses on relaxation, stress management and wellness through a variety of physical and mental activities.

PHE 146 Scuba Diving
1Credit

This course offers basic instruction and skills in scuba diving. Individuals taking this course are required to provide their own scuba equipment or rent equipment.

PHE 150 Fitness II
1 Credit

Prerequisite: PHE 100

This course is designed for individuals who wish to continue and maintain a high level of total fitness. This course includes further improvement of an individualized fitness and dietary program.

PHE 151 Tennis
1 Credit

This course covers the fundamental skills of forehand, backhand, serve and net volley. Scoring, rules and court etiquette are introduced in both the singles and doubles game.

PHE 170 Cross-Country Skiing
2Credits

The classroom portion of this six-week course includes proper selection and care of equipment, types of skis and boot binding systems, the art and science of cross country ski waxing, appropriate clothing and safe route selection. Field sessions include skill building and ski techniques for cross-country skiing in the backcountry.

PHE 176 Bicycle Camping
2Credits

This course covers the fundamentals of using the bicycle for camping recreation and includes equipment, clothing, repair procedures and camping techniques.

PHE 177 Guide to Hiking/Climbing
1 Credit

This course provides wilderness sites and their specific location in Colorado where one can go to hike or camp.The course includes selected wilderness sites in other western states. Information is included about how to use guide books and selected maps.

PHE 180 Basic Mountaineering I*
3Credits

This course emphasizes the fundamentals of mountaineering on terrain that may include rock, snow and ice. Belaying, rappelling, ice axe techniques, proper clothing and equipment, backcountry weather forecasting and safe route finding will be presented. The course includes field trips and a peak attempt.

PHE 181 Basic Rock Climbing*
2Credits

This eight-week course presents the basic concepts of rope handling, knots, climbing techniques, safety, belaying and top roping on climbs that are rated from 5.0 to 5.8. The course includes field trips to local climbing areas.

PHE 182 Intermediate Rock Climbing*
2Credits

This eight week course is designed for climber wanting to learn more advanced techniques, such as protection placement, anchors, setting up safe top roping sessions and an introduction to safe lead climbing. The course includes field trips to local climbing areas.

PHE 183 Basic Ice Climbing*
2Credits

This course emphasizes fundamentals of climbing high angle ice.The course includes clothing, equipment, ice climbing techniques and safety values.

PHE 185 Snow and Glacier Climbing*
3Credits

This course emphasizes the use of ice axe, crampons and roped climbing on snow.The course includes route finding and crevasse rescue.

PHE 186 Orienteering*
2Credits

This course emphasizes competitive cross country walking and running using map and compass. The course includes techniques, rules and field trips.

PHE 187 Map and Compass for the Outdoors Person*
3Credits

This course covers the reading of highway, forest service and topographic maps that include symbols, legends, border informationand contour lines. The course includes the usageof a magnetic compass in an outdoor environment and functions that plot a course on maps. Supplemental navigational skills are included.

PHE 188 Backpacking*
3Credits

This course emphasizes the fundamentals of backpacking. The course includes trip planning, the selection of proper clothing and equipment, backpack cooking and nutrition, "Leave No Trace" hiking and camping, wilderness route finding, environmental hazards and safety procedures. The course includes field days and an overnight backpacking trip.

PHE 189 Climbing/Backpacking Expedition*
3Credits

This course is a group expedition covering seven to ten days backpacking, hiking and climbing in remote North American regions.The course includes the rationale fororganizing and conducting wilderness trips.

PHE 190 Snowshoeing*
1Credit

This course emphasizes basic skills, equipment, clothing and techniques of snowshoeing. The course includes the objective dangers involved with winter recreation.

PHE 200 Fitness III
1 Credit

Prerequisites: PHE 150

This course is designed to improve one's level of cardiovascular fitness and strength. This course provides students with the opportunity to create an advanced workout routine and nutrition program.

PHE218 Outdoor Recreation Leadership
2Credits

This course studies the history, development and trends of outdoor recreation, conservation and organized camping. Emphasis is on large group camping, field trips and the development of outdoor leadership skills.

PHE 220 Wilderness Equipment and Facilities*
3Credits

This course is designed to acquaint and familiarize students with wilderness equipment and program facilities. The course includes a field trip.

PHE 221 Mountaineering Teaching Concepts*
3Credits

This course covers planning and methods required to teach mountaineering skills. Students give lectures and conduct field trips.

PHE 222 Basic Search and Rescue*
3Credits

This course covers the basic fundamentals required for basic search and rescue in a wilderness environment.The course includes tracking techniques and field trips.

PHE 223 Backpack Cooking*
1Credit

This course covers menu planning and nutritional requirements for wilderness camping.The course includes cooking a backpack meal.

PHE 224 Colorado's Fourteeners*
2Credits

This course presents an historical look into the naming and climbing of Colorado's 14,000-foot mountain peaks.The course includes information on the current routes to ascend the peaks.

PHE 225 Orienteering/Route finding*
3 Credits

This course combines the topics of using different types of topographic maps and compasses in order to safely plan a route in the wilderness with Orienteering (organized competitive cross-country, walk/run using map and compass with a specific list of rules and map clues). Field trips may include student participation in a scheduled Orienteering Meet.

PHE 226 Wilderness Dangers*
1Credit

This course provides familiarization of the objective and subjective dangers of the wilderness. This course includes a field trip.

PHE 227 Basic Mountaineering II*
3Credits

This course involves further development of the individual's mountaineering techniques on snow and ice, safety, rescue and climbing a peak of moderate difficulty over a time span of two to four days.

PHE 228 Wilderness Ethics
3Credits

This course emphasizes the motivation, aesthetics and ethics of wilderness. Viewpoints to be examined include Native American, Western, historical and those of modern environmental writers.

PHE 229 Wilderness Survival*
3Credits

This course emphasizes the physiological and psychological principles of survival. Survival equipment, wilderness improvising techniques and wilderness dangers are included.

PHE 230 Mountain Photography*
3Credits

This course presents the fundamentals of composition and lighting for mountain photography.The course includes a slide photo contest and critique sessions.

PHE 237 Paddle Sports
2 Credits

This course focuses on the methods and skills of conducting and leading safe lake and river trips in various types of watercraft such as canoes, kayaks, or rafts. Students will learn modern river paddling techniques, trip planning and organization, basic river rescue and safety skills, federal and local permit systems and minimal impact camping and boating techniques for a river corridor. The course includes a multi-day river expedition.

PHE 250 Fitness IV
1 Credit

Prerequisites: PHE 200

This course offers students the opportunity to continue advancing in their physical fitness program. Advanced weight training, weight management and aerobic techniques are offered in conjunction with improved nutrition and dietary analysis.

PHE 259 Wilderness Survival II*
3 Credits

This course emphasizes winter survival techniques in the nivean environment at or near timberline. Winter ecology, basic snow science and avalanche safety and rescue are also be presented in a backcountry setting. The course includes field days and an overnight in a snow-cave.

PHYSICIAN ASSISTANT

Note: the Physician Assistant curriculum is under constant evaluation and elements of the required courses may be changed by the College without notice. Admission to the PA Program is a prerequisite to each course.

PAP 200 Biochemistry and Cell Biology
3 Credits

This course introduces major topics in modern biochemistry, cell biology and human genetics. The chemistry of proteins, carbohydrates, lipids and nucleic acids are studied. How these components function and are involved in basic metabolic processes such as cellular respiration, lipid metabolism, protein synthesis and DNA replication are also covered. The basic conceptual background is provided to allow students to understand disease mechanisms, clinical lab tests and drug effects.

PAP 203 Health Care Issues
1 Credit

This course reviews the history of the physician assistant profession and describes the physician assistant's responsibilities and functions within a variety of health care delivery systems. The relationships between the physician assistant, the physician and other health care providers are explored. Legal and ethical issues and quality assurance in PApractice are discussed.

PAP 205 Human Anatomy and Development
3 Credits

This course presents functional and applied anatomy as it relates to common clinical findings. The object of this course is to provide students with a solid understanding of the structure of the human body, with emphasis on normal vs. abnormal findings. Some of the areas covered include the muscoskeletel, nervous, cardiovascular, urinary, respiratory, digestive and reproductive systems.

PAP 207 Health Promotion and Disease Prevention
1 Credit

This course is intended for students who will provide clinical preventive services as part of primary care, counseling interventions, screening tests, immunizations and chemoprophylaxis. This course gives special emphasis to counseling patients about risk factors. Conventional and alternative prevention strategies will be discussed.

PAP 210 Human Physiology
3 Credits

The object ive of this course provides students 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 218 Medical Literature
1 Credit

This course provides students with an approach to reading and understanding the medical literature. The fundamental principles of epidemiology will be addressed. Students will develop the necessary skills to evaluate study design and execution. Methods in which data are analyzed and interpreted will be described and evaluated.

PAP 219 Medical Interviewing Skills
1 Credit

This course teaches the oral techniques required to obtain a complete medical history. Students will develop and/or enhance their communication skills and learn to use these skills to interact effectively in professional relationships. This course explores the links between culture and communication. Communication techniques appropriate to multicultural society will be addressed.

PAP 220 Physical Examination Techniques
1 Credit

This course 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 in everyday clinical practice.

PAP 221 Clinical Medicine I
3 Credits

This course provides students with a beginning understanding of how clinicians approach the diagnosis and treatment of specific disease states. In conjunction with Human Pathology curriculum, students will learn to identify the signs and symptoms of common disorders, to further evaluate those disorders through appropriate testing and to prepare a treatment plan to preserve health or mitigate suffering. Topics to be covered include: cardiopulmonary, endocrine, dermatology, hematology, opthamology, otolaryngologic, oncology, immunologic, allergy and infectious disease.

PAP 222 Clinical Medicine II
3 Credits

Presentations and small group experiences will examine common patient conditions in pulmonary, gastrointestinal, genitourinary, neuromuscular, men's health, orthopedics, rheumatoid and geriatrics. Emphasis will be on developing patient and assessment treatment plans. Students will learn to identify the signs and symptoms of common disorders, to further evaluate those disorders through appropriate testing and to prepare a treatment plan to preserve health or mitigate suffering.

PAP 223 Pediatrics
2 Credits

The course is designed to emphasize primary care of the child from birth through adolescence. Students are exposed to techniques of history taking and physical examination specific to the pediatric population. Knowledge of problems unique to the adolescent will be discussed to enable students to develop skills in education of the adolescent on drug abuse, identity issues, human sexuality, peer pressure and resources for referral.

PAP 224 Surgery and Emergency Medicine
2 Credits

This course provides students with an introduction to the etiology, evaluation and initial treatment of common medical and surgical conditions and emergencies. Emphasis is placed on recognition of life and limb-threatening conditions and differentiation from non-emergent conditions.

PAP 225 Women's Health Care
1 Credit

This course provides an exposure to problems and issues associated with women's health care, primarily in the ambulatory setting. Emphasis is placed on family planning and birth control; recognition and treatment of sexually transmitted disease; cancer detection; prenatal care; and the evaluation of common gynecologic problems.

PAP 226 Clinical Procedures and Introduction to Laboratory Medicine
1 Credit

This course is designed to teach students basic diagnostic and therapeutic clinical skills and procedures. Preparation of the patient, anatomical considerations, patient consent, potential complications and clarification of therapeutic and diagnostic value of clinical procedures will be discussed.

PAP 230 Drug Therapy I
1 Credit

This course begins the study of therapeutic pharmacology, with emphasis on pharmacokinetics and pharmacodynamics. The physiology that underlies drug contraindications, interactions and adverse effects are reviewed.

PAP 231 Drug Therapy II
3 Credits

Students learn 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.

PAP 235 Human Pathology
5 Credits

Co-requisite: Clinical Medicine

Learners focus on the clinical pathophysiology of human illness. Individual modules are devoted to an examination of the cellular and organ-based aspects of disease, with attention to how the disease process begins and proceeds. Where appropriate, presentations in Clinical Medicaine will accompany the presentations in this course.

PAP 240 Behavioral Science for the Physician Assistant
3 Credits

Students explore the relationship between physical illness and psychosocial issues in the medical setting. Interviewing and communication styles unique to behavioral medicine will be discussed. The presentation and recognition of major psychiatric disorders, mood and anxiety disorders and substance abuse and the appropriate role of psychotherapeutic agents will be discussed.

PAP 260 - 269
4 Credits

This year-long series of highly structured off-campus clinical experiences pairs the PA students with practicing clinicians who supervise them in the evaluation and treatment of patients. Rotations are conducted in a variety of inpatient, outpatient and long-term care settings.

PHYSICS

Agrade of C or better is required in all prerequisite courses.

PHY 105 Conceptual Physics (Core)
4 Credits

Prerequisite: MAT100 or permission from the instructor

Co-requisite: PHY105 Lab

This course examines the basic concepts of mechanics, gravitation, vibrations, heat, electricity, magnetism, sound, light and some modern physics. This course satisfies the core requirements for an AA degree and includes a laboratory component.

PHY 111 College Physics I: Algebra-Based (Core)
5 Credits

Co-requisite: PHY111 LAB
Prerequisite: MAT 160

This course studies mechanics and heat and includes laboratory.

PHY 112 College Physics II: Algebra-Based (Core)
5 Credits

Co-requisite: PHY112 LAB
Prerequisite: PHY111 or permission of instructor

This course enables students to learn about electricity and magnetism, light and modern physics. This course includes laboratory.

PHY 211 General Physics I: Calculus-based (Core)
5 Credits

Co-requisite: PHY 211 Lab
Prerequisite: MAT201 or permission from the instructor

This course examines the basic concepts of mechanics and heat. Students will learn several problem solving techniques used by physicists and engineers. This course satisfies the core requirements for an AS degree and includes a laboratory component.

PHY 212 General Physics II: Calculus-based (Core)
5 Credits

Co-requisite: PHY212 Lab
Prerequisite: MAT202 or permission from the instructor; PHY 211 or permission from the instructor

This course examines the basic concepts of waves, electricity , magnetism and light. Students learn several problem-solving techniques used by physicists and engineers. A continuation of PHY 211, this course satisfies the core requirements for an AS degree and includes a laboratory component.

PLUMBING

(See Construction Technology)

POLITICAL SCIENCE

POS 105 Introduction to Political Science (Core)
3 Credits

This course is a survey of the discipline of political science, including political philosophy and ideology, democratic and non-democratic governments and processes and international relations.

POS 111 American Government (Core)
3 Credits

This course gives students a background in the U.S. Constitution; the philosophy of American government; general principlesof the 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.

POS 115 American Government
3 Credits

This course gives students a background in the U.S. Constitution; the philosophy of American government; general principlesof the 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.

POS 125 American State and Local Government
3 Credits

This course studies the structure and function of state, county and municipal governments, including their relations with each other and with the national government. Colorado government and politics are emphasized.

POS 215 Current Political Issues
1-3 Credits

This course is an in-depth analysis of critical issues in political science. Topics are determined each session.

PRODUCTION AND DESIGN TECHNOLOGY

(See Multimedia Technology)

PSYCHOLOGY

PSY 100 Human Relations In Business
3 Credits

This course emphasizes psychological principles as related to the work environment. Topics include motivation, interpersonal relationships, self-understanding, employee/ employer relations and group behavior.

PSY 101 General Psychology I (Core)
3 Credits

This course includes the scientific study of behavior with emphasis on the historicaldevelopment of the discipline, research methods, psychobiology, sensation/perception, consciousness, emotion, motivation, stress/coping, learning and memory.

PSY 102 General Psychology II (Core)
3 Credits

Prerequisite: PSY101 is recommended

This coursereviews the classical and current researchon Life Span Psychology, Cognition, Intelligence, Language, Personality Theory, Psychotherapy, Psychopathology and Social Psychology.

PSY 109 Career Development
1-3 Credits

This course assists students in recognizing their career potential and provides tools for making realistic decisions concerning educational and occupational objectives.

PSY 215 Psychology of Adjustment
3 Credits

This course emphasizes personal growth and the development of interpersonal skills.Focus is on practical application of psychological principles and theories in achieving self-understanding and personal growth.

PSY 116 Stress Management
1-3 Credits

This course identifies the physiological, emotional and behavioral aspects of stress. Techniques of stress reduction and management are explored and applied.

PSY 205 Psychology of Women
3 Credits

This course covers emotional, cognitive, interpersonal and cultural contributions to female identity and gender role.

PSY 211 Introduction to Human Services I
3 Credits

This course integrates knowledge andtheories from a variety of behavioral sciences;it is not intended to develop analysts or therapists, but rather to sensitize students to the issues and development of human services.

PSY 212 Introduction to Human Services II
3 Credits

This course examines in-depth the contemporary phenomenon of complex human behavior.Emphasis is in the area of group dynamics, the communication process, group problem-solving and group growth.

PSY 217 Human Sexuality
3 Credits

This course is a survey of physiological and psychological aspects of human sexuality. Topics include relationships, sexual identityand sexual health.

PSY 226 Social Psychology
3 Credits

This course explores the influence of various social factors in the development of the social self, the behavior of individuals and the dynamics of social interaction. Specific topics include sociological and psychological theory, attraction, aggression, prejudice, individual and group behavior and the application of social psychology in everyday life. *This course is co-scheduled with (SOC/PSY) 226 and may be taken as SOC 226 or PSY226, but not both.*

PSY 227 Death and Dying
3 Credits

Prerequisite: SOC 101 or PSY 101

This course examines the event of death, the process of dying and the bereavement experience. The course also explores the American "death management" system, attitudes toward death, cultural differences and opposing viewpoints regarding legal and moral issues. The major goal of this course is to challenge students to think critically about death, dying and bereavement issues.

PSY 235 Human Growth and Development
3 Credits

Prerequisite: PSY101 or 102 recommended

This course is a survey of human development from conception to death emphasizing physical, cognitive and psychosocial factors. Special emphasis is put on the development of the personal self across the life-span.

PSY 237 Assertiveness Training
1-3 Credits

This course covers the awareness of individual rights and needs in interpersonalrelationships.

PSY 238 Child Growth and Development
3 Credits

Prerequisite: Three credits of general psychology or permission of instructor

This course covers growth and developmentof the child from conception through the elementary school years, emphasizing physical, cognitive, emotional and psychosocial factors. The concept of the whole child and how adults can provide a supportive environment for children, is also emphasized. *This course isco-scheduled with ECP110 and may be taken as ECP110 or PSY238 but not both.*

PSY 239 Adolescent and Adult Development
3 Credits

Prerequisite: Three credits of general psychology or permission of instructor

This course covers growth and development of the individual from adolescence to death, emphasizing physical, cognitive,emotional and psychosocial factors.

PSY 249 Abnormal Psychology
3 Credits

Prerequisite: Three credits of general psychology or permission of instructor

This course is a study of abnormal behaviorand its classification, causes, prevention and treatment.

RADIOLOGIC TECHNOLOGY

RTE 112 Radiographic Procedures I
3 Credits

Co-requisites: RTE 114, RTE 116, RTE 118
Prerequisites: BIO 201; BIO 203; ENG 121; MAT130; PSY 101
Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to lift 40 pounds; able to manipulate radiographic equipment

This course introduces the fundamentals of radiographic positioning including the proper use of radiographic equipment and safety, positioning terminology, related anatomy and pathology. Radiographic positioning focuses on the chest, upper extremities and lower extremities. A laboratory experience is incorporated to allow proper demonstration and positioning skills to be attained, along with the proper use of the radiographic equipment.

RTE 114 Clinical Education I
5 Credits

Co-requisites: RTE 112, RTE 114, RTE 116
Prerequisites: BIO 201; BIO 203;
ENG 121; MAT130; PSY 101
Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to lift 40 pounds; able to manipulate radiographic equipment

This course introduces students to the clinical educational experiences within a medical care facility. Students are required to participate at pre-scheduled time periods to apply their radiographic skills in the clinical setting. The course allows for learning transferability from the classroom to practical applications within a radiology department.

RTE 116 Imaging Equipment I
3 Credits

Co-requisites: RTE 112, RTE 114, RTE 118
Prerequisites: MAT 130

Knowledge and Skills: Basic mathematic skills including general algebraic equations; fundamental knowledge in operating radiographic equipment; good written and verbal communication skills, including medical writing skills; general knowledge of chemistry and physics

This course introduces the fundamental aspects and physics involved in the production of x-rays. The course includes basic imaging equipment, physics fundamentals as they relate to x-ray production, the x-ray machine, image receptor equipment and the control of scattered radiation.

RTE 118 Patient Care I
3 Credits

Co-requisites: RTE 112, RTE 114, RTE 116
Prerequisites: BIO 201; BIO 203;
MAT130; ENG 121
Knowledge and Skills: General patient care skills; must be able to read and write medical language
Physical Requirements: Able to lift 40 pounds

This course provides an introduction into the profession of radiography along with basic medical care skills necessary for a medical professional. Students are provided with the knowledge to understand the concepts of effective communication, ethical and medical legal considerations, the history of the radiography profession, today's concepts in medicine, medical terminology, use of proper body mechanics, universal precautions, basic patient assessment and proper patient transfers.

RTE 122 Radiographic Procedures II
3 Credits

Co-requisites: RTE 124, RTE 126, RTE 128
Prerequisites: RTE 112, RTE 114, RTE 116, RTE 118
Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to lift 40 pounds; able to manipulate radiographic equipment

Equipment operation, positioning terminology, related anatomy and pathology are discussed and correlated with more advanced positioning skills. Radiographic positioning focuses on the, spine, abdominal, urinary and fluoroscopic procedures. Alaboratory experience is included to allow for proper demonstrationand positioning skills to be attained.

RTE 124 Clinical Education II
5 Credits

Co-requisites: RTE 122, RTE 126, RTE 128
Prerequisites: RTE 112, RTE 114, RTE 116, RTE 118

This course introduces advanced concepts from the clinical experience gained in RTE 124. The focus is on clinical tasks performed by a registered radiographer and allows for learning transferability from the classroom to the clinical setting.

RTE 126 Imaging Equipment II
3 Credits

Co-requisites: RTE 122, RTE 124, RTE 128
Prerequisites: RTE 112, RTE 114, RTE 116, RTE 118
Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to manipulate radiographic equipment

This course covers material that builds on the image production physics gained in RTE 116. The fundamentals of the variousaspects of image production including factors that affect film quality, quality control of radiographs, technical factors, sensitometry, film processing and how various additional factors such as pathologycan affect radiographic imaging are included in this course.

RTE 128 Patient Care II
2 Credits

Co-requisites: RTE 122, RTE 124, RTE 126
Prerequisites: RTE 112, RTE 114, RTE 116, RTE 118
Knowledge and Skills: Must have knowledge of basic medical assisting skills.

This course expands on concepts presented in RTE 118. The focus is primarily on direct patient care and contact skills including vital signs, medical emergencies,assistance with drug administration, care of patients with special needs and death/dying issues.

RTE 134 Clinical Education III
7 Credits

Prerequisites: RTE 122, RTE 124, RTE 126, RTE 128

Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to lift 40 pounds; able to manipulate radiographic equipment

This course is a continuation of RTE 124. This clinical experience provides a means by which students can increase their clinical skills through learning transferability from the classroom to the clinical setting.

RTE 212 Radiographic Procedures III
3 Credits

Co-requisites: RTE 212, RTE 217
Prerequisites: RTE 134
Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to lift 40 pounds; able to manipulate radiographic equipment

This course presents positioning and radio-graphic skills of the cranium and facial bones along with specialized radiology examinations and other medical imaging modalities. Students must demonstrate effective communication techniques and presentation skills that are required of today's health professionals.

RTE 214 Clinical Education IV
8 Credits

Co-requisites: RTE 212, RTE 217
Prerequisites: RTE 134
Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to lift 40 pounds; able to manipulate radiographic material

This clinical experience provides a means by which students can continue to increase their clinical skills.

RTE 217 Radiation Biology

2 Credits
Co-requisites: RTE 212, RTE 214
Prerequisites: RTE 126, RTE 134

This course provides the basic knowledge and understanding of the effects of ionizingradiation on biological systems and essential radiation protection guidelines to prevent unnecessary radiation exposures while providing patient and radiographer safety.

RTE 224 Clinical Education V
11 Credits

Co-requisites: RTE 229
Prerequisites: RTE 212, RTE 214, RTE 217
Knowledge and Skills: College Level Assessment Skills
Physical Requirements: Able to lift; able to manipulate radiographic equipment

This clinical experience is the final step in obtaining clinical proficiency prior to graduation. Students must demonstrate complete clinical mastery prior to graduation.

RTE 229 Registry Review
2 Credits

Co-requisites: RTE 224
Prerequisites: RTE 212, RTE 214, RTE 217
Knowledge and Skills: College Level Assessment Skills

This course prepares students to participate in the National Registry Examination for Radiologic Technologists. Emphasized in this review are the five major subject areas covered on the examination, as well as preparing students for job searches with resume and interview techniques.

READING

REA030 Basic Reading Skills
1 Credit

Co-requisites: Recommended ENG 030 Basic Language Skills

This course is designed for students who need to develop and improve basic reading skills. The course emphasizes word analysis, vocabulary development, dictionary skills, reading comprehension, reading fluency and reading methods.

REA060 Foundations of Reading
3 Credits

Co-requisites: Recommended ENG 06 and ENG 090
Prerequisites: COMPASS Reading score 40-49, REA 060 or COMPASS Reading score 50-71

Students will learn strategies for vocabulary development, improved reading comprehension and enrichment.

REA090 College Preparatory Reading
3Credits

Students will apply strategies for improving comprehension, developing vocabulary and increasing rate for reading college textbooks.

REA093 Skills in Test-Taking
1 Credit

This course helps students improve test-taking skills and helps reduce the nervous tension experienced before or during a test. Students develop skills to use when taking multiple-choice, true-false, essay and other types of tests. Specialized test review is offered for the ACT, SATand GRE.

REA096 Speed Reading and Efficiency
1-3 Credits

Prerequisites: COMPASS Reading score 72-99

This course is designed for students who want to develop your reading power and reading speed. The course is built upon the fundamental aspects of increasingspeed and comprehension in an organized manner.The course focuses on different reading rates, the purpose of reading, the myths about reading, the mechanics of reading, components of comprehension, vocabulary development, study methods and general enrichment.

REAL ESTATE

REE 100 Real Estate Broker's Course
11 Credits

This course satisfies the education requiredfor a real estate broker's license. The course consists of the following modules: real estate practice and law, Colorado real estate contracts and regulations, recordkeeping and trust accounts, current legal issues, closings and practical applications.

REE 107 Brokerage Administration
3 Credits

This course is for individuals who are to become newly employed real estatebrokers. Course content includes the practical application of laws, rules and sound business practices for the establishment and everyday management operation and supervision of a real estate brokerage company. This course satisfies the education required for one to obtain an employing real estate broker's license.

REE 108 Colorado Broker Transition
3 Credits

This course is for individuals who currently hold a valid real estate salesperson license and are to renew as a real estate broker associate. Course content includes real estate brokerage relationships with both sellers and buyers, sales contracts and the closing. This course satisfies the education required for salesperson licensee to renew as a real estate associate broker.

REE 109 Mandatory Continuing Education
1 Credit

This course is for individuals who currentlyhold a valid real estate broker license and are required to successfully complete the mandatory continuing education course. The course content adheres to that which is prescribed by the Colorado Real Estate Commission. This course satisfies part of the continuing education required for a real estate broker's license.

REE 201 Topics in Real Estate
1-3 Credits

This course covers select areas, concepts and developments that affect the real estate industry. Content of each offering may vary to address the particular area of emphasis specified for such offering. This course satisfies part of the continuing education required for a real estate broker's license.

SMALL BUSINESS MANAGEMENT

SBM 101 Starting a Small Business
1 Credit

This course is 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
1Credit

This course is a brief overview of legal issues involved in starting and managing a small business. The course focuses on business organizations, contracts and agreements and protecting the business.

SBM 106 Recordkeeping for a Small Business
1 Credit

This course is an overview of recordkeeping for a small business. Students learn basic bookkeeping skills and key recordkeeping requirements.

SBM 108 Marketing for a Small Business
1Credit

This course is 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

This course is 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
1Credit

This course is 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 120 Writing a Business Plan
1Credit

Prerequisites: SBM 101, 103, 106, 108, 110 and 112 (or permission of instructor)

This is a capstone course for the Small Business certificate program. Students will write a business plan.

SBM 290 Special Topics
1Credit

This course covers current topics of interest to small businesses. (Spring only)

SOCIOLOGY

SOC 101 Introduction to Sociology I (Core)
3 Credits

This course examines the basic concepts, theories and principles of sociology, as well as human cultures, social groups and the social issues of age, gender, class and race.

SOC 102 Introduction to Sociology II (Core)
3 Credits

Prerequisite: Introduction to Sociology I (preferred)

This course examines social institutions from both a micro and a macrosociological perspective. The core of this course is devoted to understanding the various ways in which social institutions mediate relations between the self and society. To that end, this course provides an in-depth study of society's major institutions (i.e., family, politics, economics, religion, education, media) in regards to their origins, functions and the social forces that impact their existence.

SOC 205 Marriage and Family
3 Credits

This course helps students develop 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 are explored, along with current trends and some alternative life styles.

SOC 215 Contemporary Social Problems
3 Credits

Prerequisites: SOC 101

This course explores current social problems, the stages involved in transforming social phenomena into social problems, the social dynamics inherent throughout this process and their resolution/institutionalization. Specific topics include education, crime and justice, poverty, inequality and the environment.

SOC 218 Sociology of Minorities
3 Credits

This course explores the variety of intergroup relations; race, nationality, ethnic, income and other minority classifications. Patterns of prejudice, discrimination and possible solutions to these issues are examined.

SOC 226 Social Psychology
3 Credits

This course explores the influence of various social factors in the development of the social self, the behavior of individuals and the dynamics of social interaction. Specific topics include sociological and psychological theory, attraction, aggression, prejudice, individual and group behavior and the application of social psychology in everyday life. *This course is co-scheduled with (SOC/PSY) 226 and may be taken as SOC 226 or PSY226, but not both*

SOC 227 Death and Dying
3 Credits

Prerequisites: SOC 101 or PSY 101

This course examines the event of death, the process of dying and the bereavement experience. The course also explores the American "death management" system, attitudes toward death, cultural differences and opposing viewpoints regarding legal and moral issues. The major goal of this course is to challenge students to think critically about death, dying and bereavement issues.

SOC 254 Juvenile Delinquency
3 Credits

This course examines the causes and consequences of delinquency.Types of young people committing offenses, the acts committed, juvenile courts, detention centers, parole and probation are topics covered.

SOC 255 Criminology
3 Credits

This course presents the nature and causes of crime as a social phenomenon.Major criminological theories are considered; the characteristics of criminal behavior and the processes of making laws, breakinglaws and the reaction toward the breaking of laws are studied. *(Fall only)*

SOC 258 Violence and Morality
3 Credits

This course looks at the moral, physical, emotional and legal ramifications of the use or the lack of use, of lethal force in human relations. This course focuses upon values introduces the fate of victims of violent crime, both those who survive and the families of those who do not.The course also investigates the nature of the criminalmind using readings and texts written by specialists in forensic psychiatry.In addition, students are introduced to the Judeo-Christian, common law tradition that has led to the evolution of our constitutional right to self-preservation. *(Spring only)*

SPANISH

The order of the topics and the methodology vary according to the individual texts and instructors.

SPA101 Conversational Spanish I
3 Credits

This is the first course in a sequence for beginning students who wish to understand and speak Spanish. The material includes basic vocabulary, grammar and expressions that are used in daily situations and in travel. This course may not transfer to a four-year institution.

SPA102 Conversational Spanish II
3Credits

Prerequisite: SPA101 or permission of instructor

This is the second course in a sequence for beginning students.The materialcontinues to cover basic conversational patterns, expressions and grammar. *This course may not transfer to a four-year institution.*

SPA111 Foreign Language I (Core)
5 Credits

This course begins a sequence dealing with the development of functional proficiency in listening, speaking, reading and writing the language.

SPA112 Foreign Language II (Core)
5 Credits

Prerequisite: SPA111 or permission of instructor

This course is a continuation of SPA111 and is designed to further develop principles of grammar and syntax, reading and writing, correct pronunciation and rudimentary conversation. Grammar rules are studied in detail as well as all tenses learned in SPA111. Other simple and compound tenses are learned. This course continues to study the culture, history and customs of Spanish-speaking people.

SPA211 Foreign Language III (Core)
3 Credits

Prerequisite: SPA112 or permission of instructor

This course continues the development of increased functional proficiency in listening, speaking, reading and writing the language.The study of geography, history, culture and Spanish literature continues in detail. The course is conducted primarily in Spanish.

SPA212 Foreign Language IV (Core)
3 Credits

Prerequisite: SPA 211 or permission of instructor

This course continues the development of increased proficiency in grammar and syntax, listening, speaking,reading and writing the language. The study of geography, history, culture and Spanish literature continues in detail. The course is conducted primarily in Spanish.

SPA231 Current Spanish—Spoken and Written I
3Credits

Prerequisite: SPA112 or permission of instructor

This is a second-year course leading to more fluent and current usage of Spanish. Current Spanish publications are used.

SPA232 Current Spanish—Spoken and Written II
3Credits

Prerequisite: SPA231 or permission of instructor

This course continues with more emphasis on fluency in speaking and current usage.

SPEECH

COM 125 Communication in the Workplace
3 Credits

This course introduces communication skills needed in business and professional contexts. The focus is on developing a working knowledge of theory and skills for interpersonal communication, group communication and public presentations. Concepts include language, nonverbal communication, culture, listening, interviewing, conflict management and researching, writing and delivering presentations.

SPE 115 Public Speaking (Core)
3 Credits

This course combines theory of speech communication with public speaking performance skills. The course emphasizes delivery, preparation, organization, support and audience analysis.

SPE 125 Interpersonal Communication
3 Credits

This course is designed for students to develop and/or enhance communication skills and to use those skills to interact effectively in family, social andprofessional relationships. Relevant concepts include an introduction to communication theory, self-concept, perception, language,nonverbal communication, self-disclosureand conflict management.

SPE 216 Advanced Public Speaking
3Credits

Prerequisite: Agrade of "C" or higher in SPE 115

This course provides special emphasis on informative and persuasive public speaking skills and techniques using longer, in-depth speeches. Work in other speech formats may include extemporaneous, impromptu, manuscript, special occasion speeches and group decision-making.

SPE 217 Group Communication
3 Credits

This course enables students to improve their ability to analyze, evaluate and impact group discussions, group processes, leadership responsibilities, group dynamics, group decision making and other elementsof group communication.

SPE 220 Intercultural Communication
3 Credits

This course explores the link between culture and communication and develops and/or enhances communication skills and abilities appropriate to a multicultural society. Emphasis is on understanding diversity within and across cultures. Relevant concepts include perception, world view, context, ethics, language and nonverbal communication.

SPE 230 Argumentation and Debate
3 Credits

Prerequisite: Agrade of "C" or higher in SPE 115 or permission of instructor

This course acquaints students with the theory of argumentation, including reasoning, evidence, refutation and critical thinking. The course includes practice in preparation and oral analysis of selected arguments and styles of debating.

SPE 275 Intercollegiate Forensics
1-3 Credits

Prerequisite: SPE 115 or permission of instructor

This course involves practice/experience in intercollegiate speech activities including participation in individual events, debates and designated weekend college speech tournaments. This course may be repeatedup to six credit hours.

THEATRE

THE 100 Technical Theatre Lab
1-3 Credits

This course provides safety training for working with equipment used in THE 116, as well as hands-on experience in one or all of the following areas: stage lighting, set construction, stage properties, costumingand makeup.

THE 105 IntroductiontoTheatreArts (Core)
3 Credits

This course includes discussions, workshops and lectures designed to discover, analyze and evaluate all aspects of the theatre experience, including scripts, acting,directing, staging, history, criticism and theory.

THE 106 Basic Costume and Apparel Construction
3 Credits

This course provides students with training in cutting and sewing techniques, as well as knowledge in fabric types, qualities, uses and cleaning.

THE 108 Basics of Pattern Drafting
2 Credits

This course provides students with basic techniques in pattern drafting. Techniques will include computer design programs as well as traditional drafting methods.

THE 111 Acting I
3 Credits

Prerequisite: THE 105 is recommended

This course 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

Prerequisite: THE 111 or permission of instructor; THE 105 is strongly advised

This course continues to explore basic acting techniques and approaches, including scene study, improvisation and intermediate script analysis. The course includes practical application through classroom performance.

THE 116 Technical Theatre
3 Credits

This course introduces students to the technical aspects of theatre production through the study of set design and construction, costuming, makeup, stage lighting and sound.

THE 120 Drafting for the Performing Arts
3 Credits

Basic manual drafting skills will be taught as students applies them to various performing arts applications and venues such as ground and lighting plots for stage, film, dance and music. Other projects will include design layouts, working, detail and isometric drawings. Attention will be given to drawing symbols, notations, dimensions and blueprint reading.

THE 130 Safety: Tools and Materials
2 Credits

Basic safety guidelines concerning the operation/use, care and storage of tools and materials will be addressed. Areas covered will include, but are not limited to OSHApower tools, hand tools, hardware, lighting and sound equipment, paints, solvents, plastics, woods, steel, aluminum and ladders.

THE 131 Theatre Production I
3 Credits

Prerequisites: THE 111 and/or 112 or permission of instructor

This course allows students to put into practice the theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing and administration is available.

THE 132 Theatre Production II
3 Credits

This course further explores the theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing and administrationis available.

THE 135 Stage Makeup I
2 Credits

Fundamentals of theatre makeup design and application techniques are covered in this course. Techniques include basic corrective, character, old age and fantasy application.

THE 136 Stage Makeup II
2 Credits

This course continues to explore basic makeup and application techniques for the stage. In addition, prosthetics, hair design and other advanced applications will be explored.

THE 140 Stage Dialects
1 Credit

This course develops students'skills in nine dialects and accents.

THE 141 Beginning Improvisation
1 Credit

This course concentrates on learning improvisation skills for performance and character development. Emphasis is placed on the "Second City" style of improvisation.

THE 142 Improvisation II
1 Credit

Prerequisite: THE 141, THE 111 or permission of instructor

Exercises are more advanced and difficult. The level of instruction is appropriate for experienced and/or advanced actors.

THE 143 Basic Acting Technique
1 Credit

This course covers scene work and acting exercises for people with little or no trainingor experience in the theatre. The StanislavskiSystem of character analysis and development is stressed.

THE 144 Scene Study
1 Credit

Prerequisite: THE 143, THE 111 or permission of instructor

This course emphasizes the Stanislavski approach. Acting skills through advanced material, including avant garde and classical, are explored.

THE 145 Audition Techniques
1 Credit

Prerequisite: THE 143 or THE 144, or THE 111 or permission of instructor

This course focuses on the selection and preparation of audition materials, including prepared monologues, cold readings and improvisation techniques. The basics of resume preparation are also discussed.

THE 151 Stagecraft I
3 Credits

This course will focus upon fundamental theories and construction of flats, platforms, stair units, soft scenery and other aspects of stagecraft.

THE 152 Stage Management
3 Credits

Students will learn 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.

THE 165 The Costume and Fashion Industry
2 Credits

This course provides an overview of the costume and fashion industry. Emphasis is placed upon local and regional opportunities as well as offering a general introduction to the national and international industry.

THE 170 Dance and Stage Movement
3 Credits

This course introduces students to the basic elements of modern dance and to the potential of dance and stage movement as a means of communication.

THE 205 Voice Practicum
1-3 Credits

This course provides students with individual tutorials that define, design and apply specific vocal techniques to abate singing and speech difficulties. Master classperformances provide the opportunity to conjure the energy, charisma and stage command necessary for presentations.

THE 210 Singing for Actors
3 Credits

This course allows students to explore and perform musical theatre songs. The pedagogical approach allows students to evaluate their vocal structure and formulate a systematizedseries of vocal and whole body exercises todevelop and enhance their self-confidenceand vocal instrument through in-class performances and variety show presentations.

THE 211 Development of Theatre I (Core)
3 Credits

This course surveys the history and evolution of drama from Ancient Greece to the Renaissance, emphasizing all aspects of the art from period values to analysisof dramatic literature and performance.

THE 212 Development of Theatre II (Core)
3 Credits

This course surveys the history and evolutionof drama from the Renaissance to the present, emphasizing all aspects of the art from period values to the analysis of dramatic literature and performance.

THE 215 Playwriting
3 Credits

This course gives students an opportunity to learn and practice playwriting techniques, thereby improving creative writing skills. Elements of dramatic structure, dialogue, styles and theatrical practices are emphasized. *This course is co-scheduled with ENG 215 and may be taken as THE 215 or ENG 215 but not both.*

THE 216 Theatre Lighting and Design
3 Credits

This course 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.

THE 221 Set Design
3 Credits

This course emphasizes two - and three-dimensional drawings and designs and color theory. Basic methods of artistic analysis and coordinating with other creative personnel are included. Students construct 3-D models and a theatrical stage set.

THE 230 Costume Shop Organization
2 Credits

This course explores the various aspects of a costume shop, including organizing stock, materials and budget management.

THE 231 Theatre Production III
3 Credits

This course allows students to continue to put into practice the theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing and administrationis available.

THE 232 Theatre Production IV
3 Credits

This course allows students to continue to put into practice the theories of theatre production. Participation in set construction, scenic artistry, costuming, lighting, sound, acting, stage managing and administrationis available.

THE 237 History of Costumes and Fashion
3 Credits

This course is an examination of the clothing and accessories used by humans around the world from prehistoric to modern times.

THE 240 Voice and Diction
3 Credits

This course provides theatre, communication and international students with techniques to develop a clear, dynamic, articulated career speech suitable for all performance occasions. Topics include the International Phonetic Alphabet, optimum pitch, vocal dynamics and projection, charisma and kinesis. Laboratory experiences include students'performances in individual and group presentations.

THE 241 Stage Properties
3 Credits

The fundamentals of set dressing/stage properties theory and practice, including plot design, period style, set props, hand props, production paper work and scene changes are addressed.

THE 245 Basic Costume Design and Construction
3 Credits

This course explores the basics of costume design and color theory. Construction techniques using regular and industrial sewing machines will be applied in constructing costumes and accessories. Students will be introduced to pattern drafting.

THE 270 Resume and Portfolio Development
1 Credit

Students will assemble a portfolio and resume for classroom presentation and job applications.

THE 271 Dance for Musical Theatre
3 Credits

Prerequisite: THE 170 or permission of instructor

This course introduces students to dance within the context of musical theatre. Students practice non-verbal communication and expressive movement techniques.

THE 299 Independent Study
1-3 Credits

Contact the Theatre department for information about this course.

WATER QUALITY MANAGEMENT TECHNOLOGY

(All courses are approved for CEUs.)

WQM 100 Introduction to Water Quality Management
3 Credits

This course introduces the water and wastewater treatment field and acquaints the prospective technicians with the variousapplied 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

This course provides students with an in-depth study of the calculations associated with water and wastewater treatment. Topics include dimensional analysis, manipulationof conversion factors, geometric figures, velocities, detention time, surface loading,filtration and backwash rates, porosity, weir over flow rates, efficiencies, weight of dry solids, sludge pumping, settleable solids, volatile solids, mean cell residence times, settleability, disinfection and chemicaldosage as relating to trickling filters, ponds, RBC and activated sludge.

WQM 106 Mechanical-Physical Treatment
3 Credits

This course serves as a basic introduction into wastewater treatment. Topics include the technician and their responsibility, effects of waste discharges, natural cycles, solids in wastewater, NPDES permits,collection systems, pretreatment, primary treatment, secondary treatment, advanced treatment, flow-measuring, solids handling and disposal.

WQM 107 Biological Treatment
3 Credits

The course covers the major types of wastewater treatment processes, including trickling filters, rotating biological contactors,lagoons and activated sludge. Topics of each system include: design, operating guidelines, process control, testing procedures, maintenance and safety.

WQM 108 Sludge Treatment
3 Credits

This course includes aerobic and anaerobic digestion; solids thickening using gravity, dissolved air, centrifuge, vacuum filters and drying beds; sludge stabilization by chemical means; sludge conditioning by chemical, thermal, wet oxidation or elutriation; volume reduction by composting or mechanical drying; sludge destruction by incineration; sludgestorage; and land disposal with environmental controls. Topics include equipment, operational strategy, performance standards, loading and trouble-shooting.

WQM 109 Water Distribution
3 Credits

This course covers the purpose, selection and location of water storage facilities andthe operation and maintenance of related equipment. Topics include storage facilitiesand capabilities, booster pumps, water mains and appurtenances, joints, pipeprotection and installation, valves, fittings and hydrants.Water quality standards,contaminants and degradation inspection and monitoring, system troubleshooting, surveillance, cross connections, pressure, main breaks, corrosion control, disinfectionand emergency planning are also covered.

WQM 115 Water Sources and Supply
3 Credits

This course provides an introduction into the water supply systems and sources of water.Topics include sources and selectionof water, water quality problems, reservoir management, intake structures, well and introductory plant operations.

WQM 116 Water Pre-treatment
3 Credits

This course covers coagulation, flocculation, sedimentation, filtering, corrosion and taste and odors. Topics for each process include descriptions, operating procedures, associated calculations, start-up and shut down procedures, laboratory tests, trouble-shooting, maintenance, safety and records.

WQM 117 Domestic Water Treatment Processes
3 Credits

This course covers iron and manganese control, fluoridation and softening, trihalomethanes, demineralization and handling of process waste.Topics for each process include process descriptions, operating procedures, start up and shut down procedures, laboratory test, trouble-shooting, maintenance, safety and records.

WQM 118 Wastewater Collection Systems
3 Credits

This course 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.

WQM 119 Basic Water Quality Analysis
4 Credits

This course relates the results of laboratory control tests to the chemistry of water and wastewater treatment. Students gain the skills and techniques to operate within a laboratory. Topics include laboratory equipment and instrumentation-identification, set-up and calibration; safety, sample collection and preservation, written reports and laboratory tests. Laboratory testing includes hardness, alkalinity, dissolved oxygen, biochemical oxygen demand, chlorine residual, pH, phosphorus, dissolved solids, total solids, suspended solids, turbidity, langier index, fluoride and biomonitoring.

WQM 120 Water Quality Equipment Maintenance
4 Credits

This course 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 equipmentand safety procedures.

WQM 121 Environmental Sampling and Volume Measurement
3 Credits

This course is designed to provide students with the knowledge and skills to collect contaminant samples for laboratory analysis, to select and prepare appropriate sample containers; to keep accurate sampling records; access sampling sites and do composite sampling. This course also provides sampling safety skills and sampling quality control and assurance methods.

WQM 122 Basic Electricity for Water Quality Systems
4 Credits

This course provides an understanding of electrical theory, various types of electrical equipment found in treatment facilities, operation, troubleshooting basic electricalproblems and safety procedures.

WQM 124 Water Certification Review for Class C & D
2 Credits

This course helps prepare students for the operators certification test in water at the C or D level. Topics include water principles, mathematics, hydraulics, water filtration, Colorado Primary Drinking Water Regulations, conventional treatment of water, disinfection, pumps, safety, housekeeping and laboratory analysis.

WQM 125 Water-Wastewater Certification Review for Class C & D
2 Credits

This course helps students prepare for the operators certification test in wastewater at the C or D level. Topics include wastewater principles, mathematics, hydraulics,conventional treatment of wastewater, wastewater sedimentation, Colorado Water Quality Control Act, biological treatment of wastewater, effluent standard for wastewater, sludge handling and disposal, disinfection, pumps, safety, housekeeping and laboratory analysis.

WQM 126 Safety in the Water Quality Industry
3 Credits

This course covers the safety aspects in the water and wastewater industry. Topics include development of safety policies and programs, job safety orientation, drivingpractices, CPR/first aid, confined spaces, safety with energy-electrical, mechanical, thermal and pressure, trenching, street work, laboratory, treatment equipment, construction vehicles/equipment and chlorine and other chemicals.

WQM 200 Hydraulics for Water Quality Management
4 Credits

This course introduces the mathematical principles of density, specific gravity, pressures horsepower and energy costs, velocities, weirs, parshall flumes, venturimeters, California pipe method, flows from open-end pipes, settling velocities and classification of flow.

WQM 206 Design Interpretations of Water Quality Systems
4 Credits

This course 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

The course 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: settleometers, flows concentrations, oxygen uptake, turbidity, microscopic examination of organisms, trend charting, process control strategies. Classroom activities are reinforced by field trips to various treatment facilities.

WQM 208 Advanced Wastewater Treatment
3 Credits

This course prepares students for the advanced stages of solids removal, nitrogen removal, solids removal, effluent disposal and wastewater reclamation. Topics include: design, troubleshooting, maintenance, start-up and shut-down, monitoring and interpretation of test results.

WQM 216 Biological and Bacteriological Water Quality Analysis
4 Credits

Prerequisites: WQM 119

This course 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, algae identification, activated sludge examination, volatile acids/alkalinityand biomonitoring.

WQM 217 Disinfection Techniques in Water Quality Systems
4 Credits

This course provides an understanding of disinfection alternatives used in treatment systems such as chlorine, ozone, ultravioletlight and bromine chloride. Topics include chemistry, equipment/maintenance, start-up/shutdown procedures, hazards, safety and troubleshooting.

WQM 230 Industrial Monitoring and Treatment
3 Credits

This course provides an understanding of industrial treatment. Various types of treatment systems are reviewed such as floatation, screening and microscreening, neutralization, coagulation and precipitation, adsorption, filtration, pure oxygen systems, chemical feed systems. Also included are safety, collection and preservingof samples, establishing an industrial monitoring program, operational strategies,interpretation of laboratory results, start-up/ shutdown of systems, maintenance, plans and specification, various types of industrial wastes and troubleshooting.

WELDING FABRICATION TECHNOLOGY

WFT 100 Introduction to Welding
1 Credit

This course enables provides a background in shop safety rules and practice in performing work in a safe manner. Students will be able to follow detailed verbal or written instructions to set up and carry out specific job assignments. Students will be able to follow detailed verbal or written instructions to carry out specific job assignments. Students will learn to maintain workspace and tool cleanliness, complete time cards, records and reports; and follow safe practices in the performance of daily duties.

WFT 102 Oxyfuel Gas Cutting
4Credits

Prerequisite: WFT 100

This course allows students the opportunity to understand and perform oxy-acetalene welding and gas fuel burning. Students will perform oxy-fuel gas cutting operations that include straight and shape cutting, beveling and weld removal. Students will set up and operatemachine oxyfuel gas cutting equipment to perform straight cutting and beveling operations.

WFT 102 Oxyfuel Gas Cutting
4Credits

Prerequisite: WFT 100

This course allows students the opportunity to understand and perform oxy-acetalene welding and gas fuel burning. Students will perform oxy-fuel gas cutting operations that include straight and shape cutting, beveling and weld removal. Students will set up and operate machine oxyfuel gas cutting equipment to perform straight cutting and beveling operations.

WFT 103 Plasma Arc Cutting
1 Credits

Prerequisite: WFT 102

In this course students understand and practice plasma arc cutting on plain carbon steel, aluminum and stainless steel and perform shape cutting operations.

WFT 108 Shielded Metal Arc Welding
4 Credits

Prerequisite: WFT102 or WFT 103

In this course students operate shielded metal arc equipment, make fillet and groove welds and perform 2 G-3G limited thickness qualification tests. Students will also learn part preparation and fit up principles and practices.

WFT 109 Gas Metal Arc Welding
4 Credits

Prerequisite: WFT102 or WFT 103

In this course students will operate gas metal welding equipment, make fillet and groove welds and make 1F-2F and 1G welds on plain carbon steel. Students will also operate flux cored arc welding equipment

WFT 115 Plate Code Testing I
4 Credits

In this course students will learn principles of metallurgy, properties of metals and residual stress and distortion. Students will also learn welding codes and information on welding qualification and certification.

WFT 116 Plate Code Testing II
4 Credits

Prerequisite: WFT115

In this course students identify welding inspection and testing principles and apply visual examination principles and practices.

WFT 200 Gas Tungsten Arc Welding
12 Credits

Prerequisite: Permission of instructor

In this course students will operate gas tungsten arc welding equipment on sheet metal and round tubing on plain carbon steel, aluminum and stainless steel. Students will make fillet and groove welds on sheet metal and tubes of plain carbon steel, aluminum and stainless steel.

WFT 207 G.T.A.W.Safety and Welding Joints
3 Credits

Prerequisite: Permission of instructor

In this course students apply the process of fusion welding of low carbon steel joints *(lap, tee, open butt),* using the appropriate power supply and accessories.Students also use silicon bronze filler material to weld low carbon steel joints. Students use the G.T.A.W.process to weld the root pass on a beveled pipe joint and fill the remaining groove with E7018 electrode in the S.M.A.W.process in 2G, 5G and 6G position.

WFT 209 Gas Metal Arc Welding
3 Credits

In this course students operate gas metal welding equipment on carbon steel, aluminum and stainless steel. Students will make fillet and groove welds in all positions on plate and pipe in plain carbon steel, aluminum and stainless steel using spray and short circuit transfer.

WFT 210 Pipe Joint Fabrication
3 Credits

In this course students make fillet and groove welds on carbon steel pipe and perform a 6G limited thickness test on carbon steel pipe.

WFT 220 Structural Shapes and Joint Design
1-4Credits

In this course students have the opportunity to design and construct a welding project.

For Your Information

Affirmative Action/ Equal Opportunity

Red Rocks Community College is committed to diversity in its people and programs. The college is an equal opportunity educational institution and does not discriminate on the basis of race, color, religion, national origin,sex, age, veteran status or disability. The college also does not tolerate acts of ethnic intimidation, which are any unlawful acts against persons or groups because of a person's or group's race, color, ancestry, religion or national origin for the purpose of inciting and provoking bodily injury or damage to property.

The college's Affirmative Action/Equal Opportunity Program Plan has been approved by the State Board for CommunityColleges and Occupational Education. The course isavailable for individual, public and agencyreview in the Human Resources office. The college has designated the Executive Director of Human Resources as its Affirmative Action officer. For information contact Human Resources, Red Rocks Community College, 13300 West Sixth Avenue, Box 17 Lakewood, Colorado 80228-1255, or call **303.914.6570**.Other inquiries may be made to the Director ofAffirmative Action for the Community Colleges of Colorado, 1391 Speer Boulevard, Denver, Colorado 80204, **303.620.4000**; or the Office for Civil Rights, U.S. Department of Education, 1961 Stout Street, Denver, Colorado 80294.

Privacy Notification

The Family Educational Rights and Privacy Act of 1974 permits Red Rocks Community College to release "directory information" about you to interested parties. Directory information does not include grades, but does include the following:

- Your name
- Local address
- Local telephone number
- Field of study
- Most recent previous school attended
- Photographic/Video-taped images
- Date and place of birth
- Full-time or part-time status
- Class schedule
- Class roster
- E-mail address
- Degrees and certificates awarded
- Participation in officially recognized activities and sports
- Dates of attendance

If you do not want the College to release directory information about you without your specific consent, sign a "Directory Restriction" form in the Admissions Office. Your directory restriction will remain in effect until you cancel the request for nondisclosure.

Information: **303.914.6303**

Students with Disabilities

Red Rocks Community College offers many special services to students who may have disabilities, whether the disability is permanent or temporary. 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 nondiscriminationon the basis of handicap. Reasonable accommodation is provided upon request for persons with disabilities.

If you have a disability and require an accommodation to participate in any class program, service or other activity at Red Rocks, please contact the Office of Special Servicesby calling **(303) 914-6376** or direct line **(303) 980-8776 TDD/V**.

Drug and Alcohol Abuse Prevention Program

The Law

Red Rocks Community College complies with the Drug Free Schools and Communities Amendments of 1989. Acopy of this Act is on file in the Office of Student Life and the Human Resources Office.

Standard of Conduct

Students and employees shall not engage in the unauthorized or unlawful manufacture, distribution, dispensation, possession, use/abuse of alcohol and/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 unlawfulmanufacture, distribution, dispensation, 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 above 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 referralto authorities for prosecution, as appropriate.

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, cirrhosisof the liver, mental illness, death, low birth weightbabies and babies with drug addictions. Personal relationships, family dynamics, ability to work and study are also at risk.

Illegal Substances

Alisting of controlled substances is on file for your reference in the Office of Student Life and Human Resources Office.

Referral Sources
Referral for counseling, treatment, rehabilitation and re-entry programs are available through:

The College:

•Advising	**303.914.6255**
•Human Resources	**303.914.6570**
•Student Center	**303.914.6372**

The Community:

Al-Anon — Al-ATeen	**303.321.8788**
Alcoholics Anonymous	**303.322.4440**
Cenikor Prevention Network	**303.234.1288**
Mile High Council Alcoholism/Drug Abuse	**303.759.5555**
Narcotics Anonymous	**303.832.3784**
Suicide Depression Crisis Hotline	**303.860.1200**

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." HOTLINE, National Institute of Drug Abuse (NIDA), 1-800-662-HELP.

Notification of Rights Under FERPA for Postsecondary Institutions

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review students' education records within 45 days of the day Red Rocks Community College (R.R.C.C.) receives a request for access. Students should submit to the Registrar or Coordinator of Student Records, written requests that identify the record(s) they wish to inspect. The R.R.C.C. official will make arrangements for access and notify students of the time and place where the records may be inspected.

2. The right to request the amendment of students' education records that students believes are inaccurate or misleading. Students may ask R.R.C.C. to amend a record that they believe is inaccurate or misleading. They should write the above R.R.C.C. official responsible for the record, clearly identify the part of the record they want changed and specify why it is inaccurate or misleading. If R.R.C.C. decides not to amend the record as requested by the student, R.R.C.C. will notify students of the decision and advise students of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to students when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPAauthorizes disclosure without consent. One exception which permits disclosure without consent is disclosure to a school official with legitimate educational interests. A school official is a person employed by the College in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and heath staff); a person or company with whom the College has contracted (such as an attorney, auditor, or collection agent); a person serving on the State Board for Community Colleges and Occupational Education, or 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. Aschool 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, R.R.C.C. discloses education records without consent to officials of a secondary or postsecondary institution that has an articulation of transfer agreement with R.R.C.C.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by R.R.C.C. to comply with the requirements of FERPA.

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

Directory

State Board for Community Colleges and Occupational Education (SBCCOE)

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Greg Romberg (Vice Chair)
Mary G. Buckley
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Straud J. Fredregill
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Community Colleges of Colorado (CC of C)

Dr. Joe May, President

Red Rocks Community College Advisory Council

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Red Rocks Community College Cabinet

Eric Reno,
President

Casey Mahon,
Executive Director of College Relations

Vi Rapuano,
Executive Director of Human Resources

Cliff Richardson,
Vice President of Administrative Services

Ted Sandquist,
Executive Director of RRCC Foundation

Larry Spraggs,
Vice President of Instruction

Bruce Walthers,
Dean of Student Services

Administrators

Bob Austin
Director of Enrollment Services
M.Ed., Eastern New Mexico University, 1995;
B.S. Eastern New Mexico University, 1989

Ron Bana
Director Physical Plant
Master Electrician

Nancy Carlson
Director Student Employment
M.A., University of Colorado at Denver, 1997;
B.A., San Diego State University, 1972; A.A.,
Grossmont Junior College, 1969

Wayne Caruolo
Associate Vice President of Technology
M.A., Webster College, 1978;
B.S., Norwich University, 1970

Renie DelPonte
Dean of Instruction
Dr. P.H., Loma Linda University, 1995; M.S.,
Slippery Rock University, 1987;
B.S., Colorado State University, 1985

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Director Financial Aid
M.S., University of Colorado at Denver, 1993;
B.S., University of Southern California, 1982

Rich Hawkins
Executive Director Rocky Mountain Education Center
B.S., Indiana State University, 1979

Diane Hegeman
Associate Vice President, Dean - Arvada Campus
M.Ed., Colorado State University, 1989; B.Ed.,
Colorado State University, 1980

Rollie Inskeep
Chief of Police
M.A., Bradley University, 1974;
B.S., Bradley University, 1967

Jim Jones
Director of Student Life
M.Ed., Texas Tech University, 1974;
B.S., Texas Tech University, 1969;
A.A., Schreiner College, 1966

Colleen Jorgensen
Dean of Instruction
M.S., University of Colorado at Denver, 1987;
B.A., University of Northern Colorado, 1974

Casey Mahon
Executive Director of College Relations
M.A., University of Northern Colorado, 1998;
B.A., Southwest Texas State University, 1987

Molly McNally-Dunn
Director School Age Child Care
B.A., St. Joseph College, 1971

Peggy Morgan
CollegeController
B.S., Mesa State College, 1996

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M.Ed., University of Florida, 1984;
B.S., Virginia Polytechnic Institute & State
University, 1979

Jayne Reiter
Director of Small Business Development Center
M.Ed., Colorado State University, 1994; B.S.,
Regis University, 1993

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President
Ed.D., Florida Atlantic University, 1985; M.A., San
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Atlantic University, 1967

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M.P.A., University of Colorado, 1987;
B.S., Metropolitan State College, 1978

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M.A., University of Colorado at Denver, 1989;
B.A., Metropolitan State College of Denver, 1981

Ted Sandquist
Executive Director of Foundation
B.A., Bowdoin College, 1959

Joan Smith
Director Family Resources/Acting Director Grants
B.S., Colorado Christian University, 2000;

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D.A., Idaho State University, 1980;
M.S., Wayne State University, 1973;
B.A., Wayne State University, 1970

Bruce Walthers
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M.A., Bowling Green State University, 1978;
B.A., Colorado State University, 1977

Ben Yohe
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Ph.D., Colorado State University, 1997; Ed.S.,
University of Iowa, 1974;
M.A., University of Iowa, 1974;
B.A., University of Iowa, 1971

Classified Staff

John Anderson
Media Specialist IV, Media Resources

Kim Arellano
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More than four hundred adjunct faculty, who are recognized as being highly proficient in their profession or trade, teach each semester and make significant contributions to the delivery of instruction by providing special expertise in their fields.

As the instructional programs and course offerings change, the part-time faculty also changes; it is not feasible to individually list them. The college takes this opportunity to recognize the outstanding contributions made by our adjunct faculty who provide timely, quality instruction to Red Rocks Community College students.

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