

CROWDER COLLEGE

Course Catalog 2013-2014

***Established by the Community College District
of Newton-McDonald Counties, 1963***

Neosho (Main Campus)

601 Laclede, Neosho, MO 64850
Admissions 1-866-238-7788 (toll-free)
(417) 451-3223, Main Campus Switchboard
(417) 455-5702 Main Campus Fax

Cassville Instruction Center

4020 North Main St., Cassville, MO 65625
Phone: (417) 847-1706 Fax: (417) 847-1367

Nevada Instruction Center

600 West Edwards Place, Nevada, MO 64772
Phone: (417) 667-0518 Fax: (417) 667-0536

Webb City Instruction Center

600 S. Ellis, Webb City, MO 64870
Phone: (417) 673-2345 Fax: (417) 673-2300

Crowder College also offers classes in various towns throughout the nine county service area as follows:

Carthage

Carthage Tech Center (South)
1100 E Airport Dr, Carthage, MO 64836

Carthage Tech Center (North)
609 River St, Carthage, MO 64836
(417) 592-2940 (both locations)

McDonald County

100 Jesse James Rd
Pineville, MO 64856
(417) 223-7050
(866) 238-7788 (toll-free)

Greenfield

Greenfield High School
418 College St, Greenfield, MO 65661
(417) 592-2940

Monett

Scott Regional Technology Center
Two David Sippy Dr. Monett, MO 65708
(417) 236-2895

Lamar

Lamar Area Vo-Tech, 4th & Maple
Lamar, MO 64759
(417) 592-2940

Mt. Vernon

The MARC (Mt Vernon Art & Recreation Center)
822 W Mt Vernon Blvd, Mt Vernon, MO 65712
(417) 461-0237

An Equal Opportunity/Affirmative Action Institution

Crowder College | 2013-2014 CALENDAR

AUGUST 2013

S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FALL 2013 Semester

- 19 Classes begin** - 1st 8 & 16 wk
23 Fall Enrollment Ends
28 100% refund - 1st 8 wk ends

SEPTEMBER 2013

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

- 2 Labor Day** - College Closed
3 50% refund - 1st 8 wk ends
9 100% refund - 16 wk ends
9 100% book refund
17 50% refund - 16 wk ends
27 Last day to withdraw - 1st 8 wk classes

OCTOBER 2013

S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

- 11 FINALS** - 1st 8 wk
14 Classes begin - 2nd 8 wk
23 100% refund - 2nd 8wk ends
23 100% Book Refund - 2nd 8 wk
28 50% refund - 2nd 8 wk

NOVEMBER 2013

S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

- 1** Financial Aid Priority Deadline
11 Priority enrollment - Sophmores 28hrs plus
14 Priority enrollment - Freshman 27 hrs or less
14 Last day to withdraw 16 wk
25 Open enrollment
26 Last day to withdraw from 2nd 8 wk classes
27 - 29 Thanksgiving Break

DECEMBER 2013

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

- 9 - 13 FINALS** - 16 wk & 2nd 8 wk
14 Graduation
25 Christmas Day
23- Jan 1 Winter Break - College Closed

JANUARY 2014

S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SPRING 2014 Semester

- 1 New Year's Day**
13 Classes begin - 1st 8 & 16 wk
17 Enrollment Ends
20 Martin Luther King Day - College Closed
23 100% refund - 1st 8 wk ends
28 50% refund - 1st 8 wk ends

FEBRUARY 2014

S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

- 3** 100% refund - 16 wk ends
3 100% book refund
11 50% refund for 16 wk ends
17 Presidents' Day (Twilight & Evening classes meet)
24 Last day to withdraw 1st 8 wk classes

MARCH 2014

S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

- 7 Finals** - 1st 8 wk
10- 14 Spring Break
17 Classes begin - 2nd 8 wk
26 100% refund - 2nd 8 wk ends
26 100% book refund
31 50% refund - 2nd 8 wk ends

APRIL 2014

S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

- 1** Financial Aid Priority Deadline
15 Last day to withdraw 16 wk
18 Good Friday - College Closed
21 Priority enrollment - Sophmores 28hrs plus
24 Priority enrollment - Freshman 27 hrs or less

MAY 2014

S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

- 1** Last day to withdraw - 2nd 8 wk classes
5 Open enrollment
12 - 16 FINALS
17 Graduation
26 Memorial Day - College Closed

SUMMER 2014 Semester

JUNE 2014

S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

- 2 Classes begin** - 8 wk & 1st 4 wk
2 Enrollment ends for 1st 4 wk
3 Enrollment ends for 8 wk
5 100% refund - 1st 4 wk ends
9 50% refund - 1st 4 wk ends
11 100% refund for 8 wk ends
11 100% book refund
16 50% refund 8 wk ends
20 Last day to withdraw - 1st 4 wk
27 FINALS - 1st 4 wk
30 Classes begin - 2nd 4 wk

JULY 2014

S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

- 3** 100% refund - 2nd 4 wk ends
3 100% book refund
4 Independence Day - College Closed
8 50% refund - 2nd 4 wk ends
11 Last day withdraw - 8 wk
18 Last day to withdraw - 2nd 4 wk
25 FINALS

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The information in the catalog was accurate at the time of publication. The College reserves the right to make changes affecting policies, fees, curricula or any other matters cited in the catalog. The College will give reasonable and adequate notice to students to allow time to adhere to any changes in the catalog. Fees, deadlines, academic requirements, courses, degree programs, and other matters described in the catalog may change with reasonable notice. Not all courses are offered each academic year and faculty assignments may change without notice. For most recent information please consult the online version of the catalog: www.crowder.edu

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AN INTRODUCTION TO CROWDER COLLEGE

Affiliation and Accreditation

Crowder College is accredited by the Missouri Department of Elementary and Secondary Education and the coordinating Board for Higher Education. The College is also fully accredited by the Higher Learning Commission, a member of the North Central Association. *The Higher Learning Commission, 30 North LaSalle Street, Suite 2400, Chicago, Illinois 60602-2504 Phone: (312) 263-0456.*

Program accreditations are in the Missouri State Board of Nursing, Teacher Education Certification, through the Department of Elementary and Secondary Education, and the National Institute for Automotive Excellence (ASE).

Graduates of the Associate of Arts programs are admitted without examination to junior standing in all public universities and colleges in Missouri and many outside the state of Missouri. Crowder is an active member of the Missouri Community College Association and the American Association of Community Colleges.

Opportunities

The college will provide opportunities for people to pursue associate degrees, certificate and diploma programs, plus continuing education to include:

A. A program in the Arts and Sciences directed toward transfer to baccalaureate degree granting institutions and to general intellectual enrichment;

B. Career education leading to economic self-reliance;
C. Both developmental and honors education to allow greater opportunity to fully exercise each individual's academic potential;
D. Endeavors to enrich life through cultural and a vocational opportunity;
E. Partnerships with business, industry and others designed to support a greater quality of life and an economic base in the community.

Student Abilities

Nine student "abilities" have been identified from the Crowder College Mission Statement. Faculty are expected to teach beyond academics and basic skills to ensure that students develop abilities in these areas. There is a matrix that has been developed to show which courses address the student abilities. The definitions for these abilities are as follows:

- **COMMUNICATION**

Communication is the process by which a thought or impression is effectively moved through its unique mode from one person or source to another.

- **RESPONSIBLE CITIZENSHIP**

Citizenship refers to the relationship between an individual and the community to which he or she belongs. Responsible citizenship involves the recognition of the inseparable rights and duties associated with membership in this community. It also requires accountability and meaningful participation in public decision making and obligations of life in this community.

- **PROBLEM SOLVING**

Problem Solving is the process of identifying an obstacle or dilemma, using critical thinking strategies and decision making skills, and

applying appropriate measures needed to overcome or resolve the obstacle or dilemma.

- **CULTURAL AWARENESS**

Cultural Awareness is the recognition of, and the appreciation for, the history, customs, lore, skills, arts, observances and beliefs of a people and how these components meet basic human needs in response to a changing environment.

- **ENVIRONMENTAL AWARENESS**

Environmental Awareness is an understanding of the external conditions that influence growth and development and how human choices influence the relationship between living beings, their surroundings and their quality of life.

- **ETHICAL DECISION MAKING**

Ethical Decision Making is the selection of courses of action in accordance with principles or standards of right or good conduct.

- **PHYSICAL AND EMOTIONAL HEALTH**

Health is a condition of physical and emotional well-being of the individual, which is achieved through competent self-care and satisfying relationships with others.

- **SELF-ASSESSMENT**

Self-assessment is a process of determining one's level of functioning, both strengths and weaknesses. It precedes the final decision-making stage of evaluation, focusing upon a number of variables judged to be important, and using a number of techniques to provide authentic and meaningful feedback for improvement.

- **MANAGING INFORMATION**

Managing information is the ability to access, utilize, implement, and store information from electronic and other sources in order to make

informed decisions, present information, and solve problems.

Academic Integrity

Crowder College is built on a foundation of academic integrity. The Crowder College Board of Trustees, faculty and staff have developed nine *Student Abilities* that are advanced across the curriculum. One of these Student Abilities is “Ethical Decision Making.” Ethical Decision Making is “the selection of courses of action in accordance with principles or standards of right or good conduct.” An academic community assumes the standards of right or good conduct also apply to school work.

The most common forms of academic dishonesty are cheating and plagiarism. Examples of cheating and plagiarism are provided in this policy as a means of helping to define expectations. The examples are not exhaustive and should be viewed as such.

Cheating may include using any unauthorized information, such as a copy of an examination before it is given, or personal electronic devices not allowed by the instructor. Inappropriate behavior could consist of collaborating with others on assignments without the consent of the instructor or collaborating with others to enable cheating. Other forms of dishonest behavior may include having another person take an exam for you, fabricating information such as data for a lab report, submitting material that is not yours as part of your course performance, or communicating with anyone other than a proctor or instructor during an exam.

Plagiarism is the use of another person’s words or ideas without giving that person appropriate

credit. Academic work is evaluated on the assumption that the work presented is the student’s own. Plagiarism may include directly quoting the words of others without proper credit given to them and/or without using quotation marks or other accepted notations to identify the borrowed words. An additional example of plagiarism includes representing an idea or strategy as a student’s own when it comes from someone else. Plagiarism can also be simply using any prior work produced by the student for another course without prior approval from the current instructor.

Penalties for cheating in a class may include a failing grade on the assignment, a failing grade in the course, or any other course/school-related sanction the instructor and administration determine to be appropriate for the cheating incident such as suspension from Crowder College. Penalties for Plagiarism are as follows: first offense, failing grade on assignment; second offense, failing grade in the class; third offense, suspension from Crowder College.

ADMISSION

General Admission Requirements

Individuals at least 16 years of age who submit the following documents:

1. Application for admission with the required \$25 application fee.
2. All high school and college transcripts (see transcript policy).

3. Certificate of home school completion.
4. Certificate of high school equivalency.

Students wishing to enter a program leading to a field that requires a license or certification should be aware that a prior misdemeanor or felony conviction may restrict the individual’s ability to obtain professional licensure or certification.

Felony convictions do not exclude admission to the College, although admission may be denied to individuals whom the college considers to be a potential danger to the safety, security, and educational environment of the College. In order to help foster a safe learning environment, the College requires those individuals who have been convicted of a felony, and who are interested in attending classes at the College, to disclose this information prior to registering for classes. Failure to disclose a felony conviction may result in the student being immediately withdrawn from current classes and may result in disciplinary action including dismissal or expulsion, as outlined in the Student Code of Conduct.

Special Admission, Conditional Admission and Re-admission Guidelines

Special Admission is granted to the following individuals:

1. Students at least sixteen years of age but not a high school, home school, or high school equivalency completer.
2. Students who have completed their sophomore year with a GPA of ≥ 3.0 in a high school program, or comparable home school program and who have

written approval of an appropriate school official may enroll as a part-time student while still attending high school/home school as part of the Crowder College Dual Enrollment Program.

3. Students attending an accredited high school or home school program and participating in the Crowder College Dual Credit Program.

Students requesting readmission, or wish to appeal a suspension, should refer to the Student Handbook.

A student in category 1 above is not permitted to enroll for or accumulate more than six (6) semester hours until he/she graduates from high school, or completes a home school program or a high school equivalency exam.

A student requiring special admission must be in compliance with all other college policies and will not be eligible to receive any form of Title IV financial aid. Students admitted under special admissions will be required to meet the same placement requirements.

Transfer Student Admissions

A student who has attended another college or university before enrollment at Crowder must provide proof that s/he was in "Good Academic and Disciplinary Standing" at the last college attended. Students with a transfer grade point average that does not meet the Crowder guidelines for Satisfactory Academic Progress will be placed on Academic Probation. Students on Academic Suspension from a previous institution will be required to meet the Crowder

standards for Satisfactory Academic Progress before being allowed to enroll for classes (see Student Progress Policies). Students who are not in good disciplinary standing will be required to appeal in order to enroll for classes.

Transcript Policy

All students must submit an official transcript prior to or upon submitting application for enrollment. Unofficial transcripts will be accepted for one semester only. Students without an official transcript on file by the end of the fourth week of classes will receive a records hold on their account. Students requesting financial aid will not be eligible to receive aid for the current or subsequent terms without an official transcript on file. Transfer, degree and non-degree seeking students that do not meet the satisfactory progress standards must adhere to the Retention Alert and Suspension Appeal policy and procedures. All students on suspension status must submit a petition for readmission to the Records Office.

International Student Admissions Required Documentation

1. Application for Admission – The application must be completed in English and the application fee paid.
2. Current Passport and Visa – Copies will be made upon arrival at the college.
3. High School Transcript – Copies of the high school and college transcripts must be provided.
4. College Transcripts – College Transcripts (in which credits are to be transferred) must be

translated through WES (World Education Services).

5. Financial Statement – These documents must prove that money exists to pay for the first year of classes. Proof of adequate funds for the duration of study should also be included.
6. Insurance – All international students are required to have health insurance that includes medical evacuation and repatriation. Students may purchase insurance through the college OR provide proof of insurance and sign a waiver of the coverage available through the college. Cost for health insurance or proof of insurance must be provided upon arrival.
7. Munoz Test – This test will be administered to all students not having English as their first language. The Munoz Test is administered on the Crowder College campus. Based on the results of the test, if necessary, a secondary language skills examination will further designate what English Language Institute (ELI) courses students will be placed in (as required by the ELI program). For questions, please contact the ELI program coordinator at 417-455-5493.

The form I-20 will be issued when numbers 1, 3, 4, and 5 are on file.

Students must pay tuition upon arrival or enroll in the college payment plan. All students enrolled in the payment plan are subject to the payment plan rules. All international students are required to submit an airline ticket to their home country OR provide the College with \$1500 to be held and refunded to purchase a return ticket home at the time of

departure, or for emergency travel home.

Dual Credit/Dual Enrollment Admissions

Public high schools may, in cooperation with Crowder College, offer post-secondary course options to high school students. Dual credit courses are classes taught in area high schools by college-qualified teachers. Crowder approves these courses for Crowder College credit. Dual enrollment courses are classes taught at Crowder College (or online). Dual credit students receive both college and high school credit for course work. Dual enrolled students receive college credit from Crowder College and may receive high school credit at the discretion of their respective school districts. Dual credit/enrollment students must meet all Crowder College admission requirements for classes in which they enroll. In addition, dual credit/enrollment students must have completed their sophomore year and be 16 years of age. Younger students may be considered for admission if they exhibit exceptional academic advancement, are recommended by their high school principal, and are approved by the Crowder College Vice President of Academic Affairs.

Conditional Admission

Applicants who would otherwise be denied admission (or readmission) to Crowder College may be granted conditional admission after review from the Admissions Committee. The Committee will stipulate the terms of admission as deemed appropriate based on the

information provided by the applicant at the time of admission and additional information the applicant provides. The Admission Committee reserves the right to restrict students' admission to online venues or such other criteria as the Committee sees fit.

Applicants convicted of selling or distributing illegal substance may be admitted to attend Crowder in an online format until the terms of incarceration, probation and/or parole are complete and when requirements of incarceration, probation, and/or parole are satisfied the student will be considered for admission on campus.

Conditional Admission (or readmission) may be granted for students who are appealing to the Suspension Appeal's Committee following a Suspension.

SPECIAL ADMISSION PROGRAMS

Nursing

The Crowder College Nursing Program prepares graduates who can demonstrate entry level competencies as registered nurses, and provides a foundation for continued learning. The program provides a multiple entry program where licensed practical nurses can enter with advanced standing or students may enter with no previous nursing education. Further information is available from the Crowder College Nursing Department, (417)455-5554.

Application requirements for all nursing students are as follows:

1. Be approved for admission to Crowder College
2. Be at least 19 years of age by completion of the program

3. Have a high school diploma or high school equivalency certificate
4. Have Certified Nurse Assistant certification
5. Have a minimum GPA or 2.75 on required general education courses
6. Have a minimum ACT composite score of 19
7. Eligibility to write the Licensure exam as described in the Missouri Nursing Practice Act section 335.066; completion of the program does not guarantee eligibility

Occupational Therapy Assistant

The Crowder College Occupational Therapy Assistant Program (OTA) prepares graduates to demonstrate as an entry level practitioner and sit for their board certification exam. Further information is available from the Allied Health Department, (417) 455-5429. Application requirements for all OTA students are as follows:

1. Be approved for admission to Crowder College
2. Complete pre-admission courses with a C or better
3. Have a minimum GPA or 2.5 on required general education courses
4. Complete application requirements
5. Eligibility to sit for the NBCOT (National Board of Certification Occupational Therapy) exam

Veterinary Technology

The Crowder College Veterinary Technology Program is a 78 credit hour program which is fully accredited by the American Veterinary Medical Association (AVMA) and prepares students for

careers as veterinary technicians. This is a selective admission program. Applications are accepted in April for the class which begins the following August. An ACT test result must accompany the application. Students must complete a minimum of BIOL 101 or BIOL 110, MATH 50 (or appropriate placement), ENGL 100 (or appropriate placement), and LOC 50 (or appropriate placement), and have worked with or observed a licensed veterinarian in practice for a minimum of 20 clock hours to be eligible for the program. To be licensed as a Registered Veterinary Technician in Missouri, a student must be at least 19 years of age, graduate from an AVMA accredited program, pass the Veterinary Technician National Examination, and pass the Missouri State Veterinary Medical Board Examination. An applicant must be approved by the Missouri State Veterinary Medical Board, or the State Veterinary Medical Board of any other state in which the student wishes to be licensed, before being allowed to sit for these examinations. For more information call 417-455-5772.

College Orientation (COLL 101)

COLL101 is a one credit, required course for all degree or certificate seeking students during their first enrolled semester. Paramedic, waste water, and truck driving certificate programs are excluded. Transfer and returning Crowder College students (first enrolled prior to fall 2005) that have successfully completed college orientation elsewhere or have a cumulative grade point average of 2.0 on a minimum of 12 credits are exempt from this course.

- Students that are non-degree seeking are not required to take COLL101. However, if students become degree or certificate seeking, they will be required to successfully complete the course.
- Students that were enrolled before Fall 2005 (when the course was officially in the catalog) are not required to take the course and are grandfathered in. However, students must be consecutively enrolled prior to Fall 2005 to be considered under the grandfather clause.

ASSESSMENT AND PLACEMENT

ACT and COMPASS Testing

To facilitate student success at Crowder College, the following guidelines have been established for enrollment in Crowder courses. Crowder College will accept the ACT scores for college-level placement if a student has an English score of at least 18, a math score of at least 23 and a reading score of at least 18. If a student's ACT scores are below the levels listed above, s/he must take the COMPASS test for placement purposes.

The COMPASS test is a placement test for students enrolling for an English, mathematics class, and to determine reading level for online courses and certain reading-intensive courses. The scores on this test are used to enroll students in appropriate levels of English, mathematics, reading, or other courses, which require a minimum score for placement. The COMPASS consists of three parts: Math, Reading, and Writing. The \$25 application fee to Crowder covers the cost of the first attempt of the

test. Retakes of any section cost \$5 each. The range of scores for placement in other identified courses is available in the Academic Resource Center (ARC). Assessment and placement guidelines have been developed, after careful consideration, to promote the greatest level of individual student success.

Students who are required to enroll in a college preparatory class (a class numbered less than 100) must maintain a grade of C or better in each of the prescribed courses in order to continue with college level coursework. Crowder College placement exams, either ACT or COMPASS, are required of all first time students who are seeking a degree, enrolling for 7 credit hours or more, or enrolling for a course that has a placement requirement. Transfer students who have not completed their freshman requirements in English and/or math will be required to take the Crowder College placement exams or provide adequate ACT scores. Students who have completed 6 hours will be required to take placement exams prior to enrolling in additional coursework.

The COMPASS placement exam is for "placement" only. To better align Crowder College with ACT regulations, a student has the option of one retake per section, per academic year of the COMPASS (Math, Reading, and Writing). ACT clearly states that allowing more than one retake per year compromises the integrity of the test, and that "statistically, placement rarely changes from the original score." Crowder College will honor the highest COMPASS score achieved for placement in prerequisite courses for enrollment of the following semester. If a student wishes to

“test out” of a class, the CLEP test is the more appropriate choice (for English or Math), or they may contact the Vice President of Academic Affairs Office to see if there is an option for taking a Departmental Exam or getting Experiential credit for a course. Speak to ARC Staff for CLEP and Testing Out opportunities.

A student cannot retake a section on the same day a test was administered. It is the experience of ARC Staff that nothing is gained by immediate retakes. This however, can be appealed to the ARC or designated personnel at off-campus sites if dire need is demonstrated for an immediate retake.

For students who have taken the COMPASS on a retake basis for the year (used their one time already) and wish to take the COMPASS again during any given year may have the opportunity if the following takes place – 1) an appeal must be made to the ARC, 2) the student’s instructor (of which the student is currently taking a class) asks specifically for a retake, because they feel that the student is improperly placed and could take a higher course, 3) the student was physically ill, a malfunction of the computer, an emergency tore them away from the test, or a drill/emergency of some kind took place (fire, tornado) causing the test to end. These and other exceptions can be appealed with the ARC or a Crowder site manager on a case-by-case discretionary basis.

Students may call the Academic Resource Center at (417) 455-5602 or visit www.crowder.edu for complete COMPASS exam information and instructions. Additional COMPASS Guidelines are available for review

in the Academic Resource Center, or on the Crowder website.

College Level Exam Program (CLEP)

Students who have taken CLEP tests and wish to receive credit must have scores at the 50th percentile or higher on Subject Matter exams. The College does not grant credit for the CLEP General Examinations. Credit is given only in course areas offered as part of the normal college curriculum. Financial aid is not available.

Students wishing to take CLEP exams may obtain information through the ARC (417) 455-5602.

Crowder College is a limited testing center.

Testing Out (Credit by Examination)

Credit may be granted in selected courses to entering freshmen and other students who pass appropriate departmental examinations. Students wanting to TEST OUT of a class and do so before the class begins will be charged a \$50 assessment fee. Students who pass the test at the level designated by the department in which the test is taken will be given credit for the class. Students not passing at the designated level will not receive credit and the \$50 fee is non-refundable. Students who are currently enrolled in a class and attempt to test out during the semester will still be required to pay regular tuition for that class. Scholarships do not cover tuition for credit earned through testing out.

Advanced Placement

High school graduates participating in the College Board Advanced Placement Program and passing the final examinations with a score of 3, 4, or 5 in the following areas will receive credit for these subjects: Political Science, PLSC 103; English Language & Comp, ENGL 101; Calculus AB, HIST 106, MATH 150 & 160; Biology/Biol 101; Chemistry, CHEM 111; Physics B, PHYS 111; Spanish Language, SPAN 101.

Military Service and Training

Students with two years of verifiable active military duty will automatically be granted two (2) hours of Physical Education and two (2) hours of Health and Hygiene. Other military coursework will be evaluated individually through interviews and submission of certificates documenting successful completion. Credit is normally granted for military coursework that has a course equivalent at Crowder College and is appropriate to the student’s major. Students interested in having military coursework evaluated should contact the Records Office located in Student Services.

STUDENT CLASSIFICATIONS

Degree Seeking Students

A student who has satisfied all admission requirements and is enrolled as seeking a degree or certificate.

Non-Degree Seeking Students

A student who has satisfied enrollment requirements but has not enrolled as one seeking a degree or certificate. A non-degree seeking student must comply with all other college policies, including placement testing for English and math courses. Regardless of semester hours accumulated, the student will not be granted a degree or certificate until he or she declares a major, files for a graduation check, pays applicable graduation fees and takes the exit exam. Non-degree seeking students are not eligible for financial aid.

Dual Credit/Dual Enrollment Students

Dual credit and dual enrollment students are high school students meeting the admissions requirements stated under "Special Admission". Dual credit students are enrolled in classes offered at their respective high schools. Dual enrollment students attend classes at Crowder College or by other special arrangements as necessary. Financial aid is not available for these classes.

International Students

A student that is a non-resident (non-immigrant) alien attending college with the purpose of returning to their homeland once their education is complete.

Military Duty Activation

In the event that a student in the Armed Forces, National Guard, or Reserves is called to active duty while enrolled at Crowder College and the student submits a copy of their military orders to the Records

Office, the student shall be granted a 100% refund of tuition and fees for all classes from which the student withdraws.

The student should work closely with their faculty to develop strategies to complete any or all courses successfully within the time-line provided. If circumstances are such that it is not possible to complete any of the courses, then the student may withdraw from any or all courses with a full refund of tuition, facilities use fees and lab fees.

Senior Citizen Students

Students age 60 or older, who reside in the state of Missouri and are otherwise eligible to attend, are granted a tuition waiver. Senior citizens do pay for books, supplies, and laboratory and facility use fees. The tuition waiver applies only to "regular" tuition courses and is not applicable toward Community Education classes.

Lifetime Learner Students

Students who have graduated from Crowder College before 2000 with a degree or certificate are allowed to enroll in one tuition-free course. Students who graduated after 2000 are allowed to enroll in one three-credit course with a tuition waiver. Lifetime Learners must present the Lifetime Learning Guarantee Card upon enrollment to the Cashier's Office and Admissions Office at any Crowder College campus. Students who fail to present a Lifetime Learning Card upon enrollment will be charged regular tuition fees.

DEGREE CLASSIFICATIONS

Associate of Arts Degree (A.A.)

The degree requirements are listed in the catalog. This degree is usually earned by students who concentrate in liberal arts or business courses on the college transfer level. The degree requires at least 61 units of credit.

Associate of Science Degree (A.S.)

The degree given to students who have completed the requirements listed in the catalog. Associate of Science degrees have been developed for transfer to specific universities and programs. Crowder College offers A.S. degrees in Nursing and Pre-Engineering.

Associate of Applied Science Degrees (A.A.S.)

The degree given to students who have completed the requirements listed in the catalog. A.A.S. graduates are prepared for the world of work upon completion of their selected program. While not designed for transfer, selected A.A.S. programs may be transferred to four-year colleges through special articulation agreements. The degree requires at least 61 units of credit.

Certificates of Study

Certificates of Study are given to students who have completed the requirements listed in the catalog. Certificates of Study are designed to prepare students for entry level positions in a variety of fields. The number of units of credit varies

with the certificate program selected.

COURSE CLASSIFICATIONS

Repeat Course

A course already taken by a student in which credit has been earned may be repeated. When a course is repeated, regardless of the initial grade, the most recent grade earned will be calculated in the GPA. The original course that is repeated cannot be used to fulfill graduation requirements. Only the final attempt of a course may be used to fulfill graduation requirements.

All grades including the original course and repeated course will appear on the transcript. A course may be repeated more than once; however, the most recent grade is always used in GPA calculations. The transcript will note the cumulative GPA which includes all attempted hours for graded course work. Repeated classes may not be funded by Veterans Benefits, Federal Financial Aid awards, or A+.

Online Course

A course offered through the Internet. Students must meet requirements for college level English and reading (see page 8) to take online classes. Keyboarding and word processing experience are necessary, as well as access to a properly equipped computer with Internet access.

Self-Directed Learning

On a very limited basis, students may enroll in coursework as self-directed learners. The Instructor, the Division Chair and the Vice

President of Academic Affairs must grant approval. Forms are available in the Office of Academic Affairs.

Flex Classes

Classes that employ a combination of in-class attendance and on-line course work. Students must meet online course requirements to enroll in flex classes.

Traditional Course

Traditional courses meet with the instructor in a classroom. Time spent in class weekly corresponds to the number of credit hours earned. Additional time may be necessary for lab work.

Non-traditional Credit

Requests for college credit acquired through means other than classroom or laboratory experience should be initiated in the Academic Affairs Office. The student should arrange for an appointment with the appropriate Division Chair or Program Director and have appropriate certificates, test scores or other documentation of successful completion of the work for which s/he is requesting credit.

Non-traditional credit will not be transcripted if the student is not enrolled. No financial aid is available for this credit.

Experiential Credit

Opportunity for credit may be possible through on-the-job experiences, trade or technical skills, etc. Students interested in applying for such credit should do the following:

1. Contact the appropriate Division Chair or Program

Director to arrange an appointment.

2. Submit a letter of application that includes documentation of the experience to be evaluated.
3. Attach an Alternative Learning form to be signed by appropriate individuals if credit is to be granted. Alternative Learning forms are available in the Academic Affairs Office.

Experiential credit will be evaluated by a team of professionals based upon the information presented by the student. There is a charge of \$50 per course for the evaluation. No financial aid is available for this credit.

Auditing a Course

Students may AUDIT a class for personal development. No credit or grade is received for the classes, but fees are the same as for credit enrollment. Audits must be declared by the second week of class. Audits are not counted in calculating financial aid.

Community Education Classes

These classes are offered on a not-for-credit basis and have varying durations and fees. Classes are offered each semester and feature a variety of disciplines, skills, and activities. Interested individuals should contact the Community Education office at (417) 455-5632. No financial aid is available for these classes.

Programs of Study

Students consecutively enrolled must adhere to program requirements listed during the first semester enrolled but may elect to use the current catalog program

requirements, but not more than one catalog shall be applied to meet graduation requirements. Students requesting to change to new program requirements under the current catalog should contact their advisor or the Records Office, prior to submitting a Graduation Check form, to receive advisement on graduation requirements. Students not consecutively enrolled must adhere to any new program requirements and policies as listed in the current catalog.

PAYMENT OF FEES

Students are responsible for the timely payment of tuition, fees, and other applicable charges. Students will not be considered officially enrolled until all financial obligations have been met.

Payment Arrangements

Students may enroll in classes during designated enrollment periods. Payment arrangements must be made at time of enrollment. Acceptable payment arrangements include:

1. Payment in full
2. FAFSA on file
3. Participation in the college sponsored payment plan.

If arrangements have not been made by the beginning of the month the semester starts, the student's enrollment may be cancelled.

Acceptable Payment Arrangements

1. Cash payment of account in full,
2. Proof of adequate Federal financial aid (Pell, etc.) or third

party payment (VA, TRA, A+, etc.),

3. Participation in the college sponsored payment plan (contact the Cashier's Office for more information).

COURSE CHANGES AND ATTENDANCE

Students are responsible for their class enrollment status and may add classes through the registration deadline.

Students are also responsible to officially withdraw, in writing, from their class(es). Discontinuing attendance does not constitute a withdrawal.

Students who are reported as having never attended class(es) by the first four (4) weeks of the semester will constitute an administrative withdrawal and the student will not be guaranteed re-entry to the dropped courses. Students eligible for financial aid are not eligible to receive disbursements for never attended courses.

Withdrawal forms are available at each Crowder College location and may be completed and submitted to the appropriate personnel, or a written notification that clearly indicates the class(es) to be dropped may be mailed directly to: Crowder College, Admissions Office, 601 Laclede, Neosho, MO 64850.

A student may withdraw from a traditional semester (16 week) course without grade penalty during the first twelve weeks of a traditional semester, the first three weeks of a 4 week semester, or the first six weeks of an 8 week semester. Students wishing to withdraw from any other course must do so prior to mid-term of that course. It is very important

that students refer to the Tuition Refund Policy to understand what amount of tuition, if any, will be refunded based upon their withdrawal date. Failure to withdraw from a course will result in a grade of an "F" for the course(s) and the student will be financially responsible for the tuition and fees.

Hardship Withdrawals

Students experiencing extenuating medical, financial, or family hardships which prevent course completion may submit a request for Hardship Withdrawal to the Vice President of Student Affairs. The student may be required to document unusual circumstances which justify request for a hardship withdrawal. The granting of a hardship withdrawal will also depend upon whether the student is passing the course as of the effective date of the hardship request. A hardship withdrawal does not clear financial aid responsibilities. Refer to the Student Handbook for restrictions.

Course Cancellations

There are times when classes may be cancelled due to low enrollment. Fees paid for such classes will be refunded.

Tuition Refunds

Students are eligible for refunds only if s/he has followed official withdrawal procedures in the Records Office. Failure to attend classes does not constitute a withdrawal. If the student has paid college costs and officially withdraws, tuition will be refunded according to the refund policy after all charges have been applied to the account. If college costs have been partially or fully paid by

financial aid (scholarships, grants, or loan) the refund may be returned to that financial aid source first. Any remainder will be returned to the student.

Please refer to the published refund schedule on the web site or inquire at the Cashier's Office.

Residency Status Policy

For tuition purposes, residency status is determined at the time of application for admission to Crowder College based upon the student's legal permanent address or the domicile where they plan to return or reside. The residence of a minor student under the age of 21 will be the residence parents/legal guardian(s) unless the student has established court declared emancipation.

Classification of Residency

In-District: Students whose permanent home is within the main Crowder College district (Neosho, Diamond, Seneca, East Newton and McDonald County school districts). Students (spouses, parents or guardians) owning property in the district are considered in-district residents. Full-time active duty military personnel stationed on a Missouri military base, their spouses and dependents are considered residents of the district. The residency status of recently discharged veterans will be based on legal residency at the time of induction into military service or on residency established during service.

Out of District: Students whose permanent home is located outside of the college district's boundaries.

International: Students whose permanent home is in a foreign country at the time of registration.

CHANGE OF RESIDENCY

The burden of proof of establishing residency rests on the student. A request for a change in status must be submitted in writing to the Admissions Office with appropriate evidence or documentation of residency change. All requests must be received by the Admissions Office no later than the second week of the petitioning semester. Otherwise, residency status does not change during the semester. Change of residency status will only affect future terms and is not retroactive for previous semesters. In accordance with the Due Process policy, students may appeal decisions by submitting a grievance to the Vice President of Student Services.

Evidence of Domicile

1. Proof of residence for 12 prior consecutive months within the district or state through lease agreement or deed.
2. Marriage Certificate and proof that new spouse owns property within the district or state.
3. Documentation reflecting in district or state residency and presence within the district or state of Missouri for the purpose of retirement, full time employment due to company relocation or transfer, or professional practice or business ownership.
4. Military discharge or active duty documents (DD214)
5. Proof of employment within the state.
6. Paid personal or property tax receipts within the college

district (In-District) or state (Missouri Resident).

FINANCIAL AID

Scholarships

Crowder College offers a variety of college sponsored scholarships. College sponsored scholarship recipients must have acceptance forms signed and on file in the Financial Aid Office by July 1. Some scholarships may require applications, auditions, etc. Students may only receive up to four semesters of college-sponsored scholarships.

A complete list of Crowder College scholarships and the application guidelines are in the Scholarship Handbook which is available on the Crowder College website and in the Financial Aid Office, first floor, Farber Building.

Pell Grants

Eligibility: Be a U.S. citizen or eligible non-citizen, have a high school diploma, high school equivalency, home-school certificate.

Amount: Awards vary based upon the need of individual students as determined by the U.S. Department of Education needs analysis formula in combination with the cost of the program involved. Pell Grant award amounts are determined yearly by the U.S. Department of Education. Areas of family information that determine eligibility are: Family size, number in college, income and assets.

Apply To: Interested students must file an application for Federal Student Aid, available online at www.fafsa.gov.

Federal Supplemental Educational Opportunity Grants (FSEOG)

Eligibility: FSEOG funds are awarded to the earliest eligible applicants with the greatest need. The student will indirectly be applying for these funds as part of the Pell Grant process and will be notified of any award by Crowder College.

Amount: Awards are generally made from \$200 - \$400 per year depending on the residency status of the eligible student.

Federal Work-Study Program

Eligibility: Students with demonstrated financial need may be eligible for work-study hours. The number of hours a student may work per week is determined by the expected family contribution which comes directly from the Student Aid Report, the "cost of education" as figured by the school, and all other sources of aid.

Amount: Work study jobs pay at least the Federal Minimum Wage. The yearly amount a student may earn is based upon his/her calculated need. The Financial Aid Office will determine the amount of a possible work-study award for each student applying for aid at Crowder College.

Apply to: Interested students must first complete the Free Application for Federal Student Aid.

Jobs: For available on-campus work-study positions, please see the Career and Transfer Services Center at the main Neosho campus.

Federal Direct Loan Program

Eligibility: Students must be enrolled at least half time (6 hours).

Amount: There is an annual base award amount for dependent students of \$3,500 for freshmen students and \$4,500 for sophomore students. Independent students may borrow additional unsubsidized funds up to a maximum of \$6,000 annually and dependent students may borrow additional unsubsidized funds up to a maximum of \$2,000 annually. Students may not be eligible for the maximum amounts due to their cost of attendance and other funding. The college encourages students to borrow no more than s/he reasonably needs. Part of the advantage of a low-cost institution such as Crowder College is that a student may further his or her education without incurring large amounts of debt.

Apply to: Applications are available on the Crowder College website.

Important: Students whose complete and accurate aid applications are submitted by the fall semester priority date (July 1), or the spring semester priority date (November 1), may reasonably expect Pell Grant/Student Loan payments around the sixth week of the affected semester.

Students completing the aid application process after July, but before the start of the semester may reasonably expect payment by midterm. Students completing the aid application process after mid-October may reasonably expect payment within four weeks after submissions are complete.

More detailed information about the application process for

each type of aid and the financial aid policies and procedures at Crowder College can be found in the Financial Aid Handbook available on the college website www.crowder.edu.

Notice to Students/Parents: Any student applying for financial aid (or the parent of a student) who purposely submits misrepresented information and/or altered documentation for the purpose of increasing his/her student aid eligibility or fraudulently obtaining federal funds will have the suspicions and evidence reported to the Office of the Inspector General, Washington, D.C. or to local law enforcement officials. Students will be liable and will be billed by the Crowder College Business Office for any aid funds which are received resulting from any type of overpayment which is caused by incomplete or inaccurate information submitted to the Financial Aid Office on all aid applications.

Honors Program

Students demonstrating high academic standards are invited to become members of the Crowder College Honors Program. The program has been designed to provide an arena for active participation in exploring a variety of in-depth subjects, assessing one's own strengths and weaknesses, and using critical thinking as a tool for problem solving. The program reinforces the validity of the scholarly approach and prepares participants for greater intellectual challenges. The Honors Program also fosters one-on-one instruction and mentor-based relationships. Honors students receive tuition and book scholarships each

semester and the Honors designation is transcribed at the time of graduation. Requirements for participation in the program have been established for high school graduates as well as transfer and non-traditional students. Those interested in the Honors Program should contact the college's Honors Program Coordinator. (417) 455-5570.

Veteran's Services

The Financial Aid Office acts as the Certifying Official for veterans enrolled at Crowder College. Information about academic assistance and counseling is available to anyone entitled to educational benefits from Veterans Administration (VA). Information about VA benefits may be obtained from the Financial Aid Office, (417) 455-5434.

STUDENT PROGRESS AND POLICIES

Student Progress Policies

Credits earned toward diplomas, certificates and transfer are determined by the amount of class or laboratory time specified for each course. Full-time students carry a minimum of 12 semester hours (credits).

Students with superior scholastic marks and advisor recommendation may register for more than 16 hours based on the following formula:

- 2.50 Cumulative Grade Point Average - 17 hours
- 2.75 Cumulative Grade Point Average - 18 hours
- 3.25 Cumulative Grade Point Average - 19 hours

Exceptions to the above guidelines must be approved by

the Vice President of Academic Affairs or the Vice President of Student Affairs.

Additional guidelines to be considered before registration:

1. Students should expect to study or work outside of class approximately two hours for each hour in class.
2. Regular class attendance and participation are strongly recommended. Excessive absences are detrimental to student progress and success.

Typically, Crowder College students may not earn more than a total of fifteen (15) credit hours through one or more of the following alternative learning experiences: Experiential Credit, Self-Directed Learning and Testing Out (Credit by Examination). Under unusual circumstances, application for exceptions can be approved and should be initiated by completing an Alternative Learning Form, which is available in the Office of Academic Affairs.

Credit Hour Policy

Expectation for students: Crowder College's assignment of credit hours shall conform to commonly accepted practices in higher education and the federal definition of a credit hour. For each credit hour, students should anticipate spending a minimum of 150 minutes per week based on a 16-week semester. The distribution of this time will vary based on the course and delivery method, but could include direct faculty instruction, classroom activities, web-based activities, laboratory work, research, writing papers and reports, reading text and articles, internship hours, clinical hours, studio work, or class and assessment preparation.

Grades

Grades are awarded on the following point system:

Work Quality	Grade	Grade Points
Excellent	A	4
Above Average	B	3
Average	C	2
Passing	D	1
Failure	F	0
Withdrawal	W	0
Repeat	R	0
Audit	Au	0
Credit	Cr	0
No Credit	NC	0
Pass	P	0
Incomplete	I	0

Grade Point Average (GPA)

A student's grade point average is computed at the end of each semester. The average is used in determining class rank, graduation, honors, academic alert, warning, probation and suspension. Repeated courses cancel the former grade and the most recent grade is used to compute the GPA. The original course that is repeated cannot be used to fulfill graduation requirements. Only the final attempt of a course may be used to fulfill graduation requirements. All grades including the original course and repeated course will appear on the transcript. A course may be repeated more than once; however, the most recent grade is always used in GPA calculations.

The semester grade point average is calculated by:

1. Multiplying the credit hours of a course by the points earned for the course grade.
2. Adding the points earned for each course.
3. Dividing the total points by the number of credit hours attempted.

Example:

ENGL 101 (B)

3 hrs x 3 grade points = 9

MATH 101 (A)

3 hrs x 4 grade points = 12

PSYC 101 (C)

3 hrs x 2 grade points = 6

HIST 106 (F)

3 hrs x 0 grade points = 0

BIOL 101 (D)

5 hrs x 1 grade point = 5

Total = 32 grade points (GP)

32 / 17hrs = 1.882 (GPA)

Cumulative grade point average is the total points earned in your college career divided by the total number of credit hours. Classes with course numbers below the 100 level are not figured in the semester and cumulative GPA and are not counted toward graduation. Records of student progress are kept on file in the Records Office.

Grade Reports

Final grade reports are issued at the end of each semester upon request. No final grade report will be issued, or credit granted, if the student has a financial obligation to the college or if the student file is incomplete.

Incomplete Grades

A grade of Incomplete may be assigned and submitted by the instructor when a student has completed and passed eighty-five percent (85%) of the work required for a course but, for reasons beyond the student's control, cannot complete the entire course during the official scheduled dates of the class. Incomplete grades are contingent upon instructor approval, and instructors are under

no obligation to grant them. In cases where an instructor agrees to assign an "I" grade, it is important to arrive at an agreement about exactly what is required in order to finish the course and what percentage of the grade will be based on the remaining work. The deadline for final submission of all material to remove the Incomplete will be determined by the instructor, but no longer than one semester. Failure to complete the assigned work within one semester will result in an "I" being converted to an "F."

Satisfactory Progress

Satisfactory progress toward graduation is required for a student to remain in school. Minimum progress standards:
1-15 sem. credits attempted = 1.50 cumulative GPA
16-30 sem. credits attempted = 1.75 cumulative GPA
31-45 sem. credits attempted = 1.90 cumulative GPA
46-60 sem. credits attempted = 2.00 cumulative GPA

Academic Warning

Students with a term GPA below a 2.0 having a cumulative GPA higher than a 2.0 will be initially placed on academic warning.

Academic Probation

Students on academic warning with a term GPA below 2.0 will be placed on academic probation regardless of the cumulative GPA. This applies also to students transferring in with a GPA below a 2.0. After being placed on academic probation, the student must maintain a 2.0 GPA each term to avoid being placed on academic suspension. Students on academic

probation must enroll in College Connections (LOC 103) in the subsequent term. Students who are placed on academic probation and maintain a 2.0 term GPA, will be placed on probation-continued until their cumulative GPA is a 2.0 or above.

Academic Suspension

Students with a cumulative GPA and term GPA below 2.0 after a semester of probation will be placed on academic suspension for one semester. Students may appeal the suspension. (See Student Handbook for additional details)

If the student was previously on suspension one time and is placed on suspension a second time, the student will be not be allowed to enroll for one year. The student must then petition for re-admittance through the suspension committee. If the student was previously on suspension twice and is placed on suspension a third time the student is not eligible for re-admission to Crowder College. A student suspended three times may appeal to the Vice President of Student Affairs.

Readmission, Suspension and Appeal Process – Refer to Student Handbook.

Academic Forgiveness

Extenuating circumstances may justify a student being able to recover from an academic deficiency in ways which do not penalize his/her academic standing. The student's academic transcript; however, will be a full and accurate record of the student's academic career. For students receiving academic forgiveness, the transcript will

record the graduation GPA excluding forgiveness courses or semester.

Academic forgiveness may be granted only for one (1) semester and one (1) time during a student's academic career and must be requested prior to graduation. The student must contact an academic advisor prior to submitting the academic forgiveness form to receive advisement on graduation requirements.

For students not concurrently enrolled, academic forgiveness will be granted following a one (1) year absence or upon completing twelve (12) credit hours at any post-secondary institution with a "C" grade in all courses between the period in which the grades were earned and the academic forgiveness request is made.

For students continuously enrolled, academic forgiveness will be granted following completion of twelve (12) credit hours and achieving a "C" grade in all courses between the period in which the grades were earned and the academic forgiveness request is made.

Academic forgiveness cannot be used to forgive ineligibility for financial aid, athletics, or other department scholarships which may result from academic deficiencies. Academic forgiveness will only apply to the academic records.

Please refer to the Academic Forgiveness form located in the Records Office for restrictions.

Attendance

Students are expected to attend all class sessions and report to each session on time. If an absence occurs, students are responsible for all work missed. Excessive

absences may result in a lowered or failing grade in the class.

Dean's List/Honors

Full-time students with a 3.50 or better semester grade point average are placed on the Dean's List. Students with high academic records are eligible for membership in the Crowder Chapter of Phi Theta Kappa, national scholastic honor society. Associate degrees and certificates are awarded "With Honors" to students earning the following cumulative GPAs the semester before graduation:

4.0 – Summa Cum Laude

3.85-3.99 – Magna Cum Laude

3.5-3.84 – Cum Laude

For a May graduate, the cumulative GPA from the fall semester will be used to determine honors. For a December graduate, the cumulative GPA from the spring or summer semester, whichever is most recent, will be used to determine honors.

GRADUATION

Degree/Program Requirements

Candidates for Associate in Arts, Associate in Science and Associate in Applied Science degrees must earn a minimum of sixty (60) hours with at least a 2.00 cumulative GPA on all coursework. Certificate graduates must also earn a cumulative GPA of 2.0 on all coursework. Crowder College must provide a minimum of fifteen hours of the final thirty (30) hours. Students in A.A.S. programs must complete at least 12 credit hours from the program's core technical classes through Crowder College.

For multiple degrees or majors see the Glossary of College Terms.

Graduation Application

Graduation Applications must be initiated by the student and are processed in the Records Office prior to the semester of intended graduation. Students completing their course work in August or December will be invited to participate in the Fall graduation ceremony. Students completing their course work in May will be invited to participate in the Spring graduation ceremony.

1. Complete a Graduation Application in the Records Office or online via My Crowder per the following dates:
 - DEC graduates - MAR 1
 - MAY graduates - OCT 1
 - AUG graduates - MAR 1
2. Pay the graduation fee in the Business Office by:
 - DEC graduates - OCT 1
 - MAY graduates - FEB 1
 - AUG graduates – JUL 1
3. Sign up for and take the exit exam. Dates for exit exams will be posted in the ARC and on the Crowder College web site.
4. Have all outstanding accounts cleared in the Cashier's Office, Library, and Bookstore.
5. Students who received Stafford Loan proceeds must complete an exit interview with the Financial Aid Office.

It is ultimately the responsibility of the student to monitor graduation requirements and see that these requirements are met.

Transcripts

The Records Office will send official transcripts to other schools or

employers with written permission of the student. In compliance with Public Law 93-380, the Family Educational Rights and Privacy Act of 1974, Crowder College affords all students the right to inspect official records directly relating to them and the right to challenge any statement considered to be inaccurate, misleading or inappropriate. The college requires written student consent before releasing college records. Complete information regarding student records is available by contacting the Records Office. See Student Handbook "Rights to Privacy and Educational Records".

CAMPUS SERVICES AND RESOURCES

Career Services

Career assessment evaluation is offered for students who are unsure what major they wish to pursue. To help students prepare for their job search, the Center also offers resume and cover letter writing assistance, mock interviewing, salary negotiation practices, job listings, and over 500 career related resource materials. The Career Services Center can be contacted at (417) 455-5618.

Faculty/Academic Advisors

Each student is assigned an academic/faculty advisor who is knowledgeable in his/her field of interest. These advisors assist in developing realistic educational and career goals and selecting coursework that best fits student abilities and needs. Students without clear career goals will receive enrollment forms from assigned general education

advisors. The student is expected to contact his/her advisor prior to each registration period for assistance in planning appropriate course work. The advisor's approval may be required for students to register.

Academic Resource Center (ARC)

The ARC offers a wide range of assistance and resources to all Crowder students. The ARC offers tutoring services, make up testing, special accommodations testing, a computer lab, retention and student success services. It also serves as a valuable resource to faculty and staff at all Crowder campuses. Assistance with the admission process is the initial service offered through academic assessment and placement. The ARC staff is eager to assist students who desire to arrange tutoring, testing, or supplemental instruction. The PLATO Learning Systems and HAWKES math software is available in the computer lab for all students. The ARC can be reached at (417) 455-5602.

Learning Resources Center (LRC)

Found in the Bill and Margot Lee Library the LRC serves students, faculty, and staff at all campuses by providing access to information resources, instruction, technology, and services that support teaching and learning in the mission of the college. Library instruction is provided to classes, small groups and individuals.

The library collections include approximately 38,000 books, 20,354 e-books, 155 current periodical subscriptions, 2500 art prints, over 170,000 units of microforms, approximately 3700

audiovisual programs including recorded books, VHS and DVDs, and online research databases. Library electronic resources expand the periodicals collections to include many online full-text articles in magazines, journals, and newspapers, as well as online encyclopedias, dictionaries and atlases. For students and staff, remote access allows the internet-based full-text databases to be searchable from any campus computer or from home.

Traditional interlibrary loan services are available for resources not found in the LRC. The LRC is affiliated with MOBIUS, a statewide consortium of academic libraries. MOBIUS libraries share a common library platform that allows students and staff to borrow library materials from among the 60 member libraries with access to the books within three days. The SWAN online library catalog is the gateway to sharing resources among the nine libraries in the cluster that includes the Crowder College library.

There are 28 computer workstations available for student research. Many of the stations have application software to support classes. The library is typically open 66 hours per week for research, individual and small group study, leisure reading, viewing audiovisual programs, and computer usage.

The LRC receives support from the Foundation through private gifts and donations and from the Friends of the Library.

Student Support Services (SSS)

The SSS program is designed to improve retention, graduation, and successful transfer of participants. SSS provides a supportive environment where participants

can have their academic, career and personal needs met. SSS offers a wide variety of services including: academic support, study groups and individualized tutoring, personal advisement, cultural opportunities, computer lab, college transfer assistance, community service opportunities, scholarship information, technology check out, and weekly workshops on a wide variety of topics, all at no cost to the participant.

Eligibility requirements apply. Enrollment is limited. SSS is located at the Cassville Center, Nevada Center, Neosho main campus, and Webb City Center. Call (417) 451-3223 for contact information. (A federally funded Student Support Services TRIO program)

College Assistance Migrant Grant Program (CAMP)

CAMP is a federally funded program designed to provide an opportunity for students of migrant families to attend college. Crowder College's program recruits students from Missouri, Oklahoma and Arkansas. CAMP assists students in successfully completing their first year of college.

CAMP is located on the 2nd floor of Newton Hall.

Student Housing

Brown Residence Complex applications and information are available in the Campus Life Office, (417) 455-5644.

Office of Disability Services

The Office of Disability Services (ODS) is committed to ensuring that students with disabilities have equal access and reasonable accommodations to goods, services, and facilities. In addition, ODS will ensure that students with disabilities are not excluded, denied services, segregated or otherwise treated differently than other people. ODS also makes information accessible to and useable by people with communication disabilities.

The ODS office is located in the Student Services department in the Farber Building, and can be contacted at (417) 455-5733. For more information, please review the Student Handbook on Policies and Procedures: Accommodations, Accessibility, and Testing online at www.crowder.edu. (See Student Handbook)

Student Clubs and Organizations

There are many opportunities for students to become involved in extra-curricular activities and organizations on campus. It is

important to find a good balance between academic and non-academic activities, but both are important to maximizing the college experience. Information regarding clubs and organizations can be obtained from the Campus Life Office, (417) 455-5644, or from the Student Services Office at the off-campus sites. Upcoming events will be posted to the campus events calendar at www.crowder.edu.

Cassville, Nevada, and Webb City Campus Services

Full associate degrees in general studies are available as well as courses in office, business, teacher education, and computer applications.

- Traditional day, evening, weekend, on-line and continuing education courses available.
- Fully networked computer labs.
- Admissions counselors available.
- Student support services are available on a rotating schedule, including financial aid, career placement testing, COMPASS testing, bookstore and seminars.
- AEL/high school equivalency classes (Cassville site only)
- High school equivalency testing (Nevada and Cassville sites)

Catalog, Program, Course, and Policy Changes

The information in the catalog was accurate at the time of publication. The College reserves the right to make changes affecting policies, fees, curricula or any other matters cited in the catalog. The College will give reasonable and adequate notice to students to allow time to adhere to any changes in the catalog. Fees, deadlines, academic requirements, courses, degree programs, and other matters described in the catalog may change with reasonable notice. Not all courses are offered each academic year and faculty assignments may change without notice.

GLOSSARY OF COLLEGE TERMS

Academic Forgiveness – The procedure by which a semester of low GPA classes taken at Crowder College can be excluded from your cumulative GPA.

Academic Load – The number of credit hours taken each semester. For instance, English Composition I is 3 credit hours. A normal academic load is 12 to 16 hours a semester, although less can be taken.

Academic Probation – A student whose academic progress falls below minimum academic requirements will be placed on academic probation. After being placed on academic probation, the student must maintain a 2.0 GPA each semester to avoid being placed on academic suspension. Students on academic probation must enroll in College Connections (LOC 103) in the subsequent term.

Academic Suspension – Students with a cumulative GPA below 2.0 after a semester of probation will be placed on academic suspension. The student will be required to halt their academic pursuit for one semester and then must petition the suspension committee to be considered for re-admittance. Students with a probation status who do not achieve a 2.0 term GPA will be placed on suspension.

Academic Warning – Students with a cumulative GPA below a 2.0 but higher than the minimum academic progress standards will be placed on academic warning.

Academic Year – From August to May, including fall and spring semesters.

Associate in Arts Degree (A.A.) – The degree given to students who have completed requirements as listed in the catalog. Usually given to those who concentrate in liberal arts or business courses on the college transfer level. The degree requires at least 60 units of credit (credit hours).

Associate in Applied Science Degree (A.A.S.) – The degree given to students who have completed the requirements as listed in the catalog. Requires at least 60 units of credit (credit hours).

Associate of Science Degree – This degree has been developed for transfer to specific universities and programs. Consult with an advisor about pursuing this degree.

Auditing a Class – Attending a course without expectation of credit. People who audit usually do not have to do the outside assignments or take the examinations. Fees are the same as for regular enrollment. Audits must be declared by the end of the second week of the semester.

Co-requisite – An academic course strongly recommended or in some cases required to be taken in conjunction with the listed course. Student should check with an Academic Advisor as to whether the co-requisite is recommended or required for the student's degree.

Credit – A way of counting how much each course is worth toward graduation. Usually, credit hours are assigned to courses according to how many hours a week the course meets; however, in some fields you are required to attend class for more hours than announced credit. In art, for instance, you may spend four hours a week in class for two hours of credit. Your tuition is based on the number of credit hours for which you register.

Curriculum – A group of required courses according to the program selected.

Dean's List – A list of all the students taking at least 12 credit hours and receiving a 3.50 grade point average for that semester.

Disciplinary Probation – A warning to a student who violated a college rule. Probation may include special restrictions. If the student violates probation, s/he may be dismissed from the college.

Dismissal – Being refused permission to attend college. A record of the dismissal becomes part of the student's permanent record.

Double (or Multiple) Degrees – In order to gain multiple degrees at Crowder College a student will need to meet all the requirements of the new degree and have an additional 15 credit hours taken at Crowder College that were not counted toward another Crowder degree.

Dropping A Course – Official process for withdrawing from a course. In order to drop a course, students must fill out the appropriate forms in the Admissions Office, Student Affairs Office. Students who qualify may drop courses through My Crowder during allowed periods of time.

Elective – A course chosen to take but that is not a required part of the regular curriculum. Electives count toward the hours needed for graduation, but cannot replace the courses that are required in your program.

Extracurricular Activities – Opportunities the college offers as a part of its service to students. Usually free with a student ID card. Can include such things as movies, sports, clubs, student government, dances, parties, etc.

Finals – Examinations given at the end of a semester.

Financial Aid – Financial aid may include grants, loans or jobs.

Freshman – Students who have completed less than 28 hours of credit.

Full-time Student – Any student taking 12 credit hours or more.

Grade Point Average (GPA) – The average of a student's grades calculated by assigning a value of 4 points for an A; 3 points for a B; 2 for C; 1 for D; and 0 for an F.

Graduate – A student who has finished the required curriculum, completed the necessary hours and received a degree.

Grant – Money given to help students attend college. Usually grants do not have to be repaid.

Humanities – Courses dealing with such things as literature, music, art, foreign languages, philosophy, and language.

Intramural Activities – Usually games and sports limited to people attending Crowder College.

Life Sciences – Courses dealing with physical development and health, including biology, nursing, dental hygiene, etc.

Major – The field of study in which a student chooses to specialize such as general studies, business, or automotive.

Part-time Student – Any student taking less than 12 credit hours in a semester.

Pre-registration – Enrolling in courses before a semester starts. Payment will not be due for these courses until the beginning of the enrolled semester.

Prerequisite – A course that must be completed before taking a more advanced course in the same field. English Composition I is a prerequisite for English Composition II, for instance.

Registration – Completing the forms and paying the fees necessary to enroll in a class.

Scholarship – A sum of money or other aid granted to a student because of merit, need, etc. to pursue his/her studies.

Social Sciences – Courses dealing with how people live, including things such as sociology, economics, political science, history, psychology, etc.

Sophomore – A student who has completed more than 28 credit hours, but less than the number required for an Associate Degree.

Special Student – A student who has not yet completed a high school diploma or equivalency, or one who has completed two or more years of approved college work.

Suspension – A college disciplinary action that prevents a student from attending classes or coming to school activities.

Transcript – A permanent record of the courses attempted, the grades received, and the courses from which withdrawn.

Transfer Credit – Courses which four-year colleges will accept as meeting part of their requirements.

Twilight Classes – Any class with a meeting time that begins after 3:00 p.m., i.e., 3:15 or 3:30.

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Course descriptions are listed on the following pages under headings, which indicate areas of instruction. Headings are arranged alphabetically. Courses with numbers less than 100 do not fulfill degree requirements toward graduation and do not transfer as part of an associate degree. Course Credit notations, as shown within the parentheses; explain how many hours are required in a lecture and/or lab-type setting. For example, for a regular 16-week semester, a course with a (3-2) notation typically requires students to attend 3 hours of lecture and 2 hours of lab each week.

ADDICTION COUNSELING

S OCC 201

Introduction to Dynamics of Addiction & Criminal Behavior (3-0) 3 Credits

This course will introduce concepts regarding addictive processes as it relates to each aspect of the biological, psychological, social, environmental model. Students will receive information to enhance their understanding of addiction, addictive processes, pharmacology, legal issues, and treatment modalities currently available. (Prerequisites: PSYC 101) (Fall)

S OCC 210

Ethics and Legal Issues (3-0) 3 Credits

This course will introduce the criminal and juvenile justice continuum. Students will apply professional codes of ethics to professional conduct through case studies. The guidelines presented are designed to aid the professional in behaving in an ethical manner. An introductory overview of the court systems, their role, and function will be presented (Prerequisites or Co-requisites: SOCC 201) (Fall)

S OCC 220

Counseling Theory and Practice of Group Dynamics (3-0) 3 Credits

Students will gain knowledge of counseling theories and develop techniques to establish a therapeutic relationship with the client and other significant individuals in order to achieve treatment and/or criminal justice objectives. Students will evaluate concepts and strategies of group dynamics and practice techniques with regard to individual and group counseling. (Prerequisites: SOCC 201) (Spring)

S OCC 230

Assessment, Intake, and Screening (3-0) 3 Credits

Students will learn to conduct a comprehensive interview, collect and evaluate data, and document information in order to determine eligibility and appropriateness for placement in programs or services. Students will gain skill in using standardized instruments, interviews, and other methods in order to identify any coexisting conditions (medical, psychiatric, physical) that indicate the need for additional professional assessment and/or services. (Prerequisite: SOCC 220) (Fall)

S OCC 250

Case Management Practicum (0-3) 3 Credits

This course provides students the opportunity to observe and participate in the case management of clients in the criminal justice and counseling fields with regard to substance abuse. The student will receive regular clinical and administrative supervision and consultation. Students will choose three four-week blocks (totaling 125 hours) from the following settings: substance abuse treatment; Drug Court; social services;

probation; law enforcement or related fields. (Prerequisites: SOCC 210 & SOCC 230) (Spring)

ADVANCED MANUFACTURING TECHNOLOGY

AMT 102

Introduction to Industrial Electricity (2-2) 3 Credits

This course is designed to provide a broad range of basic information and hands-on practice to beginning students in industrial electricity. Topics covered at the introductory level will include basic electrical circuits, electrical measurements, electrical relay control logic, residential and industrial wiring. (Co-Requisites: AMT 111, MATH 60, COMM 80)

AMT 104

Electrical Motor Controls (2-2) 3 Credits

This course is designed to provide a broad understanding of electric motor control operations. The topics covered will include interpretation of schematics, diagnostic trouble shooting, electronic sensing devices, safety, three phase power, ladder logic and timer controls. (Prerequisites: AMT 102; Co-Requisites: MATH 50/70)

AMT 111

Introduction to Industrial Safety (1-0) 1 Credit

This course is designed to give the students the basic safety knowledge to obtain an "OSHA 10" card (OSHA = U.S. Occupational Safety and Health Administration). Students will access a selected on-line training site and complete the requirements to obtain OSHA 10 certification.

AMT 112

Occupational Safety (1-3.5) 3 Credits

This course provides information and training to address the hazards found in renewable energy, construction, and industrial jobs. Topics include: working at heights, assisted and self-rescue, working around heavy equipment, first aid/CPR, and basic firefighting.

AMT 122

Basic Machining (2-2) 3 Credits

This course is designed to provide a working knowledge of basic machine tools and their safe operation. Topics covered will include: shop safety, basic mathematics, blueprint reading, precision measurement, metal sawing, drills and drilling, bench grinding, engine lathes, and milling machines. (Co-Requisites: AMT 111, MATH 60, COMM 80)

AMT 132

Industrial Hydraulics (2-2) 3 Credits

This course is designed to provide a broad range of basic information and hands-on practice to beginning students in

manufacturing hydraulics. Topics covered will include hydraulic power systems, basic hydraulic circuits, principles of hydraulic pressure and flow, hydraulic speed control and pressure control circuits. Students will design, build, test, troubleshoot, and repair a typical hydraulic system. (Prerequisites: AMT 111; Co-Requisites: AMT 102, MATH 50/70)

AMT 142

Manufacturing Mechanics (2-2) 3 Credits

This course is designed to provide the students with basic knowledge of automated manufacturing power transmission and conveyance devices. Topics covered will include: belt drives, chain drives, bearing types, precision shaft alignment, types of seals, lubricants, product conveyance devices and gear reduction. (Prerequisites: AMT 111; Co-Requisites: MATH 50/70)

AMT 162

Industrial Process Control I (2-2) 3 Credits

This course is designed to provide a broad understanding of Industrial Process Control as it relates to automated manufacturing. A commercially available hands-on trainer coupled with online course content will be used to cover industrial safety, interpretation of schematics, loop controllers, current to pressure converters, instrument calibration, and automatic control methods. (Prerequisites: AMT 102 or permission of instructor; Co-requisite: MATH 104)

AMT 182

Introduction to Automated Robotics (3-0) 3 Credits

This course is designed to provide a working knowledge of industrial robotics. Topics covered will include: robotic and industrial safety, applications, manipulators, end effectors and programming examples. (Prerequisites: AMT 102; Co-Requisites: MATH 50/70)

AMT 204

Programmable Controllers (2-2) 3 Credits

This course is designed to provide a working knowledge of Programmable Logic Controllers (PLCs) with hands-on practice for students in the various technical programs. Topics covered will include: PLC operation, applications, configuration, programming examples, and troubleshooting. (Prerequisites: AMT 102; Co-Requisites: AMT 104, MATH 104)

AMT 206

Programmable Logic Controllers II (2-2) 3 Credits

This course is designed to provide advanced training in programmable logic controllers as they are used in industry to manage multiple automated processes. This is the second course covering programmable logic controllers (PLCs) and will provide a working knowledge of current industry applications. (Prerequisites: AMT 204 or Permission of Instructor)

AMT 284
Automated Robotic Programming (2-2)
3 Credits

This course is designed to provide entry level knowledge of industrial robotic programming. Topics covered will include the utilization of special "teach pendant" accessories for remote programming, robotic axis interfacing, and program optimization relative to cycle times and other functions. Students will practice the interchange and calibration of various system components on a robotic trainer and modify "pick and place" programs using override function keys. (Prerequisites: AMT 182; Co-Requisites: MATH 104)

AMT 290
Manufacturing Internship (0-7.5)
3 Credits

This course provides direct hands-on experience in a structured environment under the direct supervision of experienced tradesmen employed by a hosting organization. The course requires that 120 clock-hours be spent at the hosting location(s) during the term of study. (Prerequisites: Sophomore Standing (i.e. Completed 28 semester hours) or Permission of Instructor)

INTC 197, 198, 199, 297, 298, 299
Topics in Industrial Technology (0-8 to 3-0)
1-3 Credits

This is a variable content course with areas of study that reflect current needs of individual students in the area of Industrial Technology. Topics are identified in the course description. (Prerequisite: Permission of instructor)

AGRICULTURE

AGEC 123
Principles of Agriculture Econ (3-0)
3 Credits

This course is an introduction to fundamental principles of microeconomics with emphasis on application to agriculture; adjustment to forces by consumers, farmers and businessmen planning, producing, marketing, and consuming products. (Prerequisites: MATH 50 or placement scores that indicate a readiness for MATH 100 or higher) (Spring)

AGEC 213
Farm Business Management (3-0)
3 Credits

Economics and management principles are applied in this course to planning and operating agricultural farms and businesses. Consideration is given to decisions involved in the organization and operation of the business and the correct use of available information in making decisions. Attention is given to problems of labor management, mechanization, rental arrangements, contract farming and credit financing for different sizes and types of agricultural businesses. (Prerequisite:

AGEC 123 or permission of instructor) (Fall)

AGEC 223
Agriculture Computer Applications (2-2)
3 Credits

This course covers computer use in the workplace with emphasis on agribusiness situations. Computer applications including word processing, spreadsheet, databases, and presentation managers will be covered. Also included will be accessing information through the Internet and World Wide Web, telecommunications, an introduction to web page design and other software appropriate to agribusiness.

AGMC 205
Agricultural Mechanics (2-2)
3 Credits

This course provides students instruction in basic agricultural skills that are required in various occupational areas related to the production of agricultural commodities. The course will cover basic metal working, carpentry, electricity, plumbing, preventive maintenance, and combustion engine operation. This course is a prerequisite for Supervised Occupational Experience 212. (Fall)

AGRI 105
Problems in Agriculture (1-0) 1 Credit

This course provides an opportunity for students to participate in directed problems and research in an area of special interest from the field of agriculture business, ag engineering, crops, horticulture, soils and livestock.

AGRI 106
Problems in Agriculture (2-0)
2 Credits

This course provides an opportunity for the students to participate in directed problems and research in an area of special interest from the field of agriculture business, ag engineering, crops, horticulture, soils and livestock.

AGRI 107
Problems in Agriculture (3-0)
3 Credits

This course provides an opportunity for the students to participate in directed problems and research in an area of special interest from the field of agriculture business, ag engineering, crops, horticulture, soils and livestock.

AGRI 108
Problems in Agriculture (4-0)
4 Credits

This course provides an opportunity for the students to participate in directed problems and research in an area of special interest from the field of agriculture business, ag engineering, crops, horticulture, soils and livestock.

AGRI 111
Ag Career Orientation (1-0) 1 Credit

This course is required for all agriculture degree-seeking students within their first semester of enrollment at Crowder College. Transfer students that have

successfully completed a similar college orientation course elsewhere or have a cumulative grade point average of 2.0 on a minimum of 12 credits are exempt from this course. This course is designed to provide students with information they will need to function as a Crowder College student, as well as career exploration and the identification of personal short and long term goals the student will need to be successful.

AGRI 123
Agriculture Chemicals (3-0)
3 Credits

This course will introduce principles of the safe use, handling, and storage of chemicals that are needed in the production and storage of plant and animal products, along with the impact of agricultural chemicals on the environment (Spring - Evenings)

AGRI 190
World Food and Society (3-0)
3 Credits

A study of economic issues in international agriculture including the world food problem, agricultural development, agricultural and food trade and policy, food production and distribution and its relationship to societal advancements in developed and developing nations. (Prerequisite: ENGL 101)

AGRI 202
Agriculture Capstone (2-0) 2 Credits

This course is designed for all agricultural majors with emphasis on job placement. Areas of discussion include goal setting, leadership development, human relations, résumé development, interview skills development, making transitions, team dynamics, and exit interviews. (Spring)

AGRI 204
Internship in Agriculture (0-0)
(180 contact hours) 4 Credits

The student will receive on-the-job experience in a designated training site. The student will apply his or her training in an occupational setting, applying previous learned skills and knowledge to the work place. (Prerequisite: AGRI 202 or permission from instructor)

AGRI 212, 222
Supervised Occupation Experience (SOE) (1-0) 1 Credit

Students majoring in Agri-Business or Farm Management must enroll in one credit hour SOE experience per semester. Those without a part-time job in their field of training may get SOE credit on the college farm with 40 clock hours of work experience per semester. (Fall-Spring)

AGRI 223**Public Relations in Agri-Business (3-0)
3 Credits**

This course addresses the principles and techniques used to create and maintain public good will and acceptance are analyzed. Emphasis is placed on how business functions in the interests of society, and on the process of creating a favorable image in the public mind. (Spring)

AGRI 233**Travel Seminar in Agriculture (0-3)
3 Credits**

This course is for all agriculture majors with an emphasis in exposing students to a broad spectrum of agricultural production, processing, and marketing outside of the four-state region. The course is comprised of a week of travel to a predetermined region of the U.S. and focuses on the major agricultural activities found in that region. Students are required to keep a daily journal of the seminar and after seminar, complete a written summary based on the journal. **Course will be graded as a "pass" or "fail" only.**

AGRI 299**Topics: Travel Credit (0-3) 3 Credits**

This class provides students the opportunity to see a variety of production, processing and marketing agricultural strategies not found in the Four State area. Students will be travelling from 7 to 12 days. They are required to research and write a paper on assigned topics determined by the region which will be toured. A daily journal is required of the travel time as well as a summary paper to be written after the travel is completed. Travel may include national and/or international destinations. Course will be graded as a "pass" or "fail" only. (Prerequisite: AGRI 233 or permission of the instructor) (Spring/Summer/Fall)

AGRN 113**Crop Science (2-2) 3 Credits**

This course provides students with principles of production and management of various grain and forage crops. The nature, importance and ecology of various crop plants are discussed. The laboratory includes identification and study of plants and plant parts. (Fall)

AGRN 121**Crop Evaluation (0-2) 1 Credit**

Students become proficient in crop, weed, and disease identification, seed analysis, and grain grading through extended lab experience. (Prerequisite: AGRN 113 or permission of the instructor) (Spring)

AGRN 214**Fundamentals of Soil Science (3-2)
4 Credits**

This course presents basic concepts of all aspects of soil science including: composition and genesis; physical, chemical, and biological properties; soil water; classification and mapping; soil conservation and management practices; soil fertility and productivity (liming, nature

and use of fertilizers and manures, and soil testing). It also introduces the relationship of the soil to current concerns such as environmental and water quality in both agriculture and non-agricultural land uses. (Prerequisite: CHEM 101 or 104, or 111 or permission of the instructor) (Fall)

AGRN 221**Soil Evaluation (0-2) 1 Credit**

Soil Evaluation is a field-laboratory oriented course that focuses on the techniques used to (1) describe soil morphology, and site and profile characteristics, (2) make land use interpretations based on soil characteristics, and (3) classify soils. (Prerequisite: AGRN 214 or permission of the instructor) (Spring)

AGRN 223**Grain Crops (3-0) 3 Credits**

This course is a detailed study of the botany, origins of domesticated types, cultivation, adaptation, distribution, production practices and utilization of cereal grain crops. (Prerequisite: AGRN 113) (Fall, even years)

AGRN 243**Forage Crops (3-0) 3 Credits**

This course is a study of the major crops grown for forages and their identification, culture, management, preservation and utilization. (Prerequisite: AGRN 113) (Spring, even years)

ANSC 101, 121**Livestock Selection (0-2) 1 Credit**

Students practice judging: oral and written discussions on beef cattle, dairy cattle, swine, sheep and horses for competition. (Prerequisite: Permission of the Instructor) (Spring)

ANSC 114**Animal Science (3-2) 4 Credits**

This course is an introduction to the livestock industry. Fundamental and essential concepts of livestock production, selection and its relation to production, types, market classes, and grades of cattle, swine, sheep and goats.

ANSC 143**Dairy Production (2-2) 3 Credits**

This course covers fundamentals of the dairy industry, including basic principles of nutrition, reproduction, milk production, health and management of dairy herds. (Prerequisite: ANSC 114 or ANSC 113 or ANSC 123) (Spring, even years)

ANSC 153**Beef Cattle Production (2-2) 3 Credits**

Students will learn breeding, feeding, management and marketing of commercial and seed stock beef cattle. (Prerequisite: ANSC 114 or permission of instructor) (Spring, odd years)

ANSC 203**Meat Science and Products (1-4)
3 Credits**

This course covers the processing, grading, inspection, preservation, nutritive value and economical value of meats and meat products. (Fall)

ANSC 213**Feeds and Nutrition (3-0) 3 Credits**

Students will learn the principles of animal nutrition, feed composition and formulation of balanced livestock rations and feeding of farm animals, including the various feed nutrients and their functions, digestion, and metabolism. (Spring)

ANSC 223**Farm Animal Health (3-0) 3 Credits**

This course is designed to explain the role of animal scientists, veterinarians and farm managers in the control and prevention of farm animal diseases and parasites. It also provides an understanding of different types of diseases, their causes, identification, diagnosis and treatment of sick animals. (Fall)

ANSC 230**Agri Waste Management (3-0)
3 Credits**

This course covers principles of managing, handling, treating and applying agricultural and organic industrial and municipal waste materials from an engineering perspective. It also explores waste characterization, descriptions of systems and technology, land application principles, preparation of waste management plans, biochemical/biological processes, and potential impacts on the environment. (Fall)

ANSC 232**Artificial Insemination and Reproduction (1-4) 3 Credits**

This course provides practical application of artificial insemination in cattle. This covers structure and function of the reproduction system of domestic animals, semen handling, processing and preservation. (Prerequisite: ANSC 114 or permission of instructor) (Fall)

ANSC 233**Horse Science (3-0) 3 Credits**

This course is designed to introduce the horse industry and to study fundamental problems and essential concepts of horse production, brood mare management, selection and judging of horses. (Spring)

ANSC 243**Dairy Facilities and Equipment (2-2)
3 Credits**

This course covers the necessary planning, operating and maintenance of dairy facilities including the basic operating and maintenance principles of modern milking equipment, feed handling equipment and waste management equipment. Design and use of dairy housing also included. (Prerequisite: ANSC 114 or ANSC 113 or ANSC 123) (Spring, odd years)

ANSC 263**Swine Production (2-2) 3 Credits**

This course covers the breeding, feeding, management and marketing of commercial pork production in a confinement setting. (Prerequisite: ANSC 114 or ANSC 113 or ANSC 123) (Spring, even years)

HORT 101**General Horticulture (3-0) 3 Credits**

This course surveys the general field of horticulture with emphasis on the growth and fruiting habits of horticulture plants. Principles and practices of propagation, fertilization, pest control, pruning and landscaping, turf planting, care and culture of fruit, vegetables, and ornamental crops are included. (Fall)

HORT 103**Floriculture (2-2) 3 Credits**

This course covers production and management of greenhouse floriculture crops and herbaceous landscape plants with principles and practices of floriculture design and marketing. Basics guidelines and principles of floral design are discussed including; balance, composition, harmony, focal point, proportion, line, rhythm, texture, form, space, and color. (Spring)

HORT 113**Greenhouse Management (1-4)****3 Credits**

This course focuses on factors involved in site selection, construction and management of greenhouses for the production of horticulture crops. (Fall)

HORT 204**Nursery Management/Landscape and Design (3-2) 4 Credits**

General principles and practices involved in the commercial production, management and marketing of landscaped plants and the fundamental principles of landscape design with practical exercises in planning and preparing master planting plans and cost estimates for the home grounds. Field trips will be required. (Spring)

POSC 103**Poultry Production & Processing I (2-2) 3 Credits**

This course introduces poultry management factors to be considered involving young birds and hatchery management. (Upon Request)

POSC 104**Introduction to Careers in Poultry Science (0-4) 2 Credits**

This course allows students to become familiar with career opportunities associated with the poultry industry, the allied poultry industry, as well as regulatory and research entities. This class includes field trips, lectures, guest speakers, interviews, oral presentations, and written reports. (Prerequisite: ANSC 114)

POSC 113**Poultry Production & Processing II (2-2) 3 Credits**

This course gives an introduction to poultry management factors involving mature birds. (Upon Request)

POSC 203**Supervisory Skills Development (3-0) 3 Credits**

Traditional as well as non-traditional students preparing for a career in supervision or management will study several management styles as well as keys in successful management strategies. (Upon Request)

POSC 206**Poultry Internship (0-0) (135 Contact Hours) 3 Credits**

This internship requires students to apply their training to a real life company who gives management trainee experience and hands-on problem solving opportunities. (Upon Request)

POSC 213**Poultry Products Tech (3-0) 3 Credits**

This course expands on the processing phase of the student's training to show how the further processing and production of poultry products impacts the industry. (Upon Request)

POSC 223**Poultry Nutrition (3-0) 3 Credits**

This course provides the student introductory training as to the nutritional requirements of poultry and hands-on experience in feed formulation and feed mill management. (Upon Request)

POSC 243**Diseases of Poultry (3-0) 3 Credits**

This course provides the student introductory training in recognition, diagnosis and treatment of major diseases affecting poultry. (Upon Request)

POSC 101**Poultry Judging & Selection I (0-2)****1 Credit**

This course is an introductory training of students to judge live chickens and turkeys, ready to cook chickens and turkeys, and interior and exterior quality of eggs. (Upon Request)

POSC 201**Poultry Judging & Selection II (0-2)****1 Credit**

This course expands the selection and judging process to compete with other schools in national contests. (Upon Request)

ALLIED HEALTH

CNA 101**CNA Techniques (4-2) 5 Credits**

This course is a preparatory course to enable the student to work in a hospital, clinic, nursing home, or home health care setting providing basic nursing care. This course will introduce the student to the

health care delivery system, health care team work, medical observation, documentation and reporting techniques, and patient assessment. Certified nursing assistants (CNA), also known as nurse's aides, orderlies, patient care technicians and home health aides, work under the supervision of a nurse and provide assistance to patients with daily living tasks.

CNA 102**CNA Clinical Experience (1-2)****2 Credits**

This course is a clinical preparatory course to enable the student to gain experience in a hospital, clinic, nursing home, or home health care setting providing basic nursing care. This course requires 100 hours of clinical experience in the health care delivery system, health care team work, medical observation, documentation and reporting techniques, and patient assessment.

CNA 103**Home Health Aide (3-0) 3 Credits**

Home Health Aide teaches basic nursing care for the disabled, chronically ill, cognitively impaired, and older adults who may need assistance living in their own homes or in residential facilities. The basic nursing skills taught include communication skills, infection control, safety and emergency procedures, and basic personal care skills. (Co-requisite: CNA 104)

CNA 104**Home Health Aide Clinical (0-2.5)****1 Credit**

Home Health Aide Clinical provides practical experience for the student in basic nursing care for the disabled, chronically ill, cognitively impaired, and older adults who may need assistance living in their own homes or in residential facilities. This includes communication skills, infection control, safety and emergency procedures, and basic personal care skills. This course requires 40 hours of clinical field work. (Co-requisite: CNA 103)

CNA 106**Phlebotomy Techniques (2-2)****3 Credits**

Phlebotomy Techniques is a course that introduces the student to phlebotomy, proper venipuncture procedures, and laboratory tests. The course will be conducted as a combination lecture/lab class where students are introduced to the concept and then given opportunity to develop the basic skills.

CNA 107**EKG (2-2)****3 Credits**

EKG is a course that introduces the student to electrocardiography (EKG), proper lead placement, and normal and abnormal heart rhythms. The course will be conducted as a combination lecture/lab class where students are introduced to the concept and given the opportunity to develop the basic skills.

CNA 110**Restorative Nurse Assistant (1-2)****2 Credits**

The Restorative Nurse Assistant (RNA) is an expanded role for the Certified Nurse Assistant. The RNA acquires special knowledge, skills, and techniques in therapeutic rehabilitation as prescribed and supervised by licensed personnel. (Prerequisites: CNA 101; CNA 102 or Active CNA Certification)

CNA 111**Restorative Nurse Assistant Clinical Experience (0-2.5) 1 Credits**

The RNA 102 course is a clinical preparatory course to enable the student to gain 40 hours of clinical experience in a hospital, clinic, nursing home, or health care setting providing basic restorative nursing care. (Prerequisites: CNA 101; CNA 102 or Active CNA Certification)

CNA 120**Certified Medication Technician (3-2)****4 Credits**

The Certified Medication Technician course is an expanded role of the Certified Nurse Assistant. This course is a preparatory course to prepare the individual for employment as a certified medication technician in an intermediate care or skilled facility. This course teaches skills in administration of non-parenteral medications that will qualify students to perform this procedure to assist licensed practical nurses or registered professional nurses in medication therapy. (Prerequisites: CNA 101; CNA 102 or Active CNA Certification)

ALTERNATIVE ENERGY

ENER 105**Introduction to Energy (3-0)****3 Credits**

Introduction to Energy is a research paper based course that presents key concepts that are applicable to alternative and renewable energy resources and the technology needed to harvest them. The course also considers their potential as an energy source, energy production, environmental concerns and other factors needed to make informed decisions about alternative and renewable energy systems. Topics include solar energy, bioenergy, wind, hydroelectricity, tidal power, waver energy and geothermal energy.

ENER 132**Introduction to Wind (3-0)****3 Credits**

This course will emphasize the basic concepts and principles of wind energy technology. Topics include the evolution of wind technology, basic turbine, blade, and tower components, tower/turbine siting and installation, wind energy transference and turbine output, along with proper safety techniques used in the wind industry.

ENER 134**Wind Turbine Troubleshooting (3-0)****3 Credits**

This course will cover the basic strategies and techniques used to troubleshoot, maintain, and repair mechanical and/or electrical problems in small to medium sized wind turbine. (Prerequisites: ENER 132, CNS 101)

ENER 140**Introduction to Biofuels (3-0)****3 Credits**

Introduction to the fundamentals of bio-based fuels. Emphasis is placed on proper handling and use guidelines, basic biology and chemistry of biofuels, production methods, and the social, environmental, and economic impacts of biofuels. Upon completion students should be able to demonstrate a general understanding of biofuels and their production.

ENER 150**Passive Solar Systems (3-0)****3 Credits**

This class provides an overview of passive solar space and domestic hot water heating systems. It provides a foundation in solar insulation theory, energy conservation, heat flow calculations, alternative architecture and design theory of passive solar systems. (Prerequisite: Placement scores must indicate proficiency level of Math 100 or higher or have completed Math 50)

ENER 151**Passive Solar Systems Lab (1-2)****2 Credits**

This class gives hands-on experience with construction, installation and evaluation of passive solar systems.

ENER 155**Applied Science Institute****1 Credit (1-1) 2 Credit (1-2) 3 Credit (2-2)**

This course presents alternative energy technology as applied to transportation. Technical and social issues are examined for electric and solar vehicles and alternative-fuel cars. The class includes hands-on experience with several types of alternatively powered vehicles. (This description represents a typical topic offering; course content varies by semester)

ENER 156, 157, 158**Projects in Alternative Energy****1 Credit (1-1) 2 Credit (1-2) 3 Credit (2-2)**

This course examines wind and solar-electric conversion devices for production of mechanical power and electricity. Site evaluation, system design, utility interface and energy management are studied. The course includes installation, operation and evaluation of wind and photovoltaic conversion systems. Students participate in team-based activities as they complete class projects. (This description represents a typical topic offering; course content varies by semester)

ENER 232**Wind Turbine Internship (1-5)****3 Credits**

The internship provides students with a supervised field experience. Students will gain hands-on experience with energy specific technologies and interaction with professionals in the energy field. This opportunity increases students' occupational competency, industry awareness and professionalism. Students will spend approximately 80 hours in the field during the semester. This course includes taking the Ramsay Corporation Wind Turbine Technician Test and reporting the score to Crowder College. (Prerequisites: Permission of Instructor; ENER 132)

ENER 242**Biodiesel Production (3-0) 3 Credits**

This course emphasizes proper handling and use guidelines, basic biology and chemistry of biodiesel, production methods, and the social, environmental, and economic impacts of biodiesel. Upon completion students should be able to demonstrate a general understanding of biodiesel production. (Prerequisites: ENER 140. (CHEM 101 or CHEM 111 as co-requisites)

ENER 244**Bioethanol Fuel Production (3-0)****3 Credits**

This course addresses the fermentation and distillation of ethyl alcohol (ethanol) for fuel production. Upon completion, students should be able to demonstrate an understanding of ethanol production by biological means. (Prerequisites: ENER 140) (BIOL 101 as co-requisite)

ENER 246**Biogas Production (3-0) 3 Credits**

This course covers biogas production and its social, environmental, and economic impacts. Biogas production using anaerobic (oxygen free) digestion is a biological treatment process to reduce odor, produce energy and improve the storage and handling characteristics of biomass. Upon completion, students should be able to demonstrate an understanding of biogas production. (Prerequisites: ENER 140) (BIOL 101 as co-requisite)

ENER 248**Biofuels System Technology (3-0)****3 Credits**

Students will utilize information to make decisions about biofuel production technology, biofuel plant equipment and operations, and biofuel marketing and business management. (Prerequisites: ENER 242, ENER 244, ENER 246)

ENER 250**Solar Thermal Systems (3-0)****3 Credits**

This class examines the design, installation, operation and maintenance of active solar equipment. Course topics include servicing hot water systems, residential and industrial heating, concentrating collectors, tracking equipment, and solar air conditioning. System design, sizing, economics, installation, operation and maintenance are among the areas examined in detail.

(Prerequisite: Placement scores must indicate proficiency level of Math 100 or higher or have completed Math 50)

ENER 251**Solar Thermal Systems & Lab (1-2)****2 Credits**

This laboratory accompanies Active Solar Systems as a "hands-on" application of solar principles to practical projects. The class provides experience in the construction and installation of solar heating systems suitable for homes or small businesses. A co-requisite of ENER 250 is required for this class.

ENER 256, 257, 258**Projects in Alternative Energy****1 Credit (1-1); 2 Credits (1-2); 3 Credits (2-2)**

This class examines energy storage strategies as applicable to small-scale alternative energy systems, especially in transportation applications. Storage systems include conventional and advanced batteries, hydrogen and fuel cells, and flywheels. The laboratory component of the class includes applications in electric vehicle use. Students develop and direct team based activities such as construction of and competing with solar and electric vehicles. (This description represents a typical topic offering; course content varies by semester)

ENER 260**Solar Electric Energy (3-0) 3 Credits**

Solar Electric Energy presents the key components of photovoltaic (PV) conversion systems to produce electricity from sunlight. Solar module types and properties, balance of system components, stand-alone and utility interface, energy management, and economics for a variety of PV applications are studied. The course includes details of installation, operation, and evaluation of photovoltaic systems. Students will participate in a team-based design project. The course includes preparation for the NABCEP (North American Board of Certified Energy Practitioners) PV exam. (Prerequisite: ENER 105; Placement scores must indicate proficiency level of Math 100 or higher or have completed Match 50)

ENER 261**Solar Electric Energy Lab (1-2)****2 Credits**

Solar Electric Energy Lab supplements ENER 260 to provide hands-on experience with the key components of photovoltaic (PV) conversion systems to produce electricity from sunlight. The course includes details of installation, operation, and monitoring of PV systems. Students will participate in a team-based design and installation project. The course includes preparation for the NABCEP (North American Board of Certified Energy Practitioners) PV exam. (Co-requisite: ENER 260)

PTEC 130**Process Safety, Health, and Environment 3 Credits**

The purpose of this course is to provide an overview or introduction into the field of Safety, Health and Environment within the Process Industry. Within this course, students will be introduced to various types of plant hazards, safety and environmental systems and equipment, and regulations under which plants are governed. Students will receive an OSHA 30 certification with Process Safety Management focus.

PTEC 140**Introduction to Process Technology****3 Credits**

This course provides an overview into the field of process operations within the process industry. The student will gain understanding in the roles and responsibilities of process operators, the environment in which they work, process equipment and systems, and basic scientific principles used in everyday operation and troubleshooting.

PTEC 150**Process Quality****3 Credits**

The purpose of this course is to provide an overview or introduction to the field of quality within the process industry. Within this course students will be introduced to many process industry-related quality concepts including operating consistency, continuous improvement, plant economics, team skills and statistical process control.

PTEC 210**Process Technology Instrumentation I****3 Credits**

The purpose of this course is to provide an overview or introduction into the field of instrumentation and covers process variables and the various instruments used to sense, measure, transmit and control these variables. This course also introduces the student to control loops and the elements that are found in different types of loops such as controllers, regulators and final control elements. This course concludes with a study of instrumentation drawings and diagrams and a unit on troubleshooting instrumentation. (Prerequisite: PTEC 140)

PTEC 220**Process Technology Instrumentation II****3 Credits**

The purpose of this course is to introduce the student to switches, relays annunciator systems, signal conversion, transmission, controllers, control schemes and advanced control schemes at a level appropriate for the process technician. The course covers digital control, programmable logic control and distributed control systems (DCS) with a discussion of instrumentation power supplies, emergency shutdown systems and instrumentation malfunctions. (Prerequisite: PTEC 210)

PTEC 230**Process Technology Equipment****3 Credits**

The purpose of this course is to provide an overview of equipment within the process industry. Students will be introduced to many process industry-related equipment concepts including purpose, components, operation, and the process operator's role for operating and troubleshooting the equipment. (Prerequisite: PTEC 140)

PTEC 240**Process Technology Systems****3 Credits**

The purpose of this course is to study the interrelation of process equipment and process systems. Specifically, students will be able to arrange process equipment into basic systems, describe the purpose and the function of specific process systems, explain how factors affecting process systems are controlled under normal conditions, and recognize abnormal process conditions. In addition, students are also introduced to the concept of system and plant economics. (Prerequisite: PTEC 230)

PTEC 250**Process Technology Operations****3 Credits**

The purpose of this course is to provide an overview of operations within the process industry. Students will use existing knowledge of equipment, systems, and instrumentation to understand the operation of an entire unit. Students study concepts relating to commissioning, normal startup, normal operations, normal shutdown, turnarounds, and abnormal situations, as well as the process operator's role in performing the tasks associated with these concepts within an operating unit. (Prerequisites: PTEC 220 and PTEC 240)

PTEC 260**Process Technology Troubleshooting****3 Credits**

Process troubleshooting involves instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause-effect relationships, and reasoning. (Prerequisites: PTEC 220 and PTEC 240)

ART & DESIGN

ART 101

Art Appreciation (3-0) 3 Credits

This course is a survey of major concepts in the visual arts and their relation to the societies that produced them. Art Appreciation is an introduction to the history of art, contemporary art, art theory, artworks, media, and creative processes. The student will develop an increased appreciation for the visual arts, the usage of media as a means of communication, and the parallel relation to specific styles, periods and cultures. This course partially fulfills Humanities general education requirements. (Required core for Art & Design/Graphic Design majors) (Fall-Spring-Summer)

ART 103

Introduction to 2-D Design (2-4)

3 Credits

This comprehensive visual arts foundation course introduces 2-D design theory. The studio and lecture presents the elements of composition, principles of organization and color theory. Contemporary and historic models of expression are explored with an emphasis on creativity. (Required core for Art & Design/Graphic Design majors) (Fall-Spring)

ART 104

Introduction to 3-D Design (2-4)

3 Credits

This comprehensive visual arts foundation course introduces three-dimensional design theory. The studio and lecture course presents the elements of art and principles of design as applicable to three-dimensional forms. The aesthetics of contemporary and historic models of expression are explored with an emphasis on creativity. (Required core course for Art & Design/Graphic Design majors) (Fall-Spring)

ART 105, 205

Topics in Art (1-3) 3 Credits

Variable content, appropriate to student needs, is included in this elective course. Lectures and/or studio projects in the fields of art history, computer art, design, drawing, fibers, graphic design, ceramics, sculpture, painting, and current art subjects may be used. (This course may not be used to fulfill a major in art requirement. Consult the registration schedule for specific topics when class is offered) (Fall-Spring)

ART 106

Drawing I (2-4) 3 Credits

Drawing I is a beginning level, fundamental art department course investigating a variety of media, techniques and subjects. The course explores perceptual and descriptive possibilities with consideration to drawing as a developmental process as well as an end in itself. (Required core for Art & Design/Graphic Design majors) (Fall-Spring)

ART 107

Painting I (2-4) 3 Credits

Painting I highlights composition and visual concepts through historical and contemporary applications. Visual elements and design principles are investigated in directed studies, which include the still life, landscape, portrait, abstract, and non-objective concepts. Drawing and design skills are emphasized. (Required core for Art & Design majors) (Fall-Spring)

ART 110

Ceramics I (2-4) 3 Credits

This course introduces Ceramics through hand-built and wheel-thrown methods of construction. Clay and glaze preparation, construction techniques, and use of the potter's wheel are emphasized. The historic and theoretic applications of clay design and ceramics as a fine art medium are explored through sculptural and functional applications. (Required core for Art & Design majors) (Fall-Spring)

ART 111

Sculpture I (2-4) 3 Credits

Sculpture I introduces the fundamental development of three-dimensional design forms. Sculptural and environmental relationships are explored. Expressive concepts are encouraged with various media and techniques. (Required core for Art & Design majors) (Fall)

ART 206

Drawing II (2-4) 3 Credits

Drawing II is an intermediate level fundamental art and design course investigating a variety of media, techniques and subjects, exploring perceptual and descriptive possibilities with consideration of drawing as a developmental process as well as an end in itself. (Prerequisite: ART 106 or permission of the instructor) (Fall-Spring)

ART 207

Painting II (2-4) 3 Credits

Painting is continued with more advanced theories. Design problems include greater visual and conceptual complexity. Individual styles, personal drawing and painting techniques are emphasized in directed studies. Historical and contemporary aesthetics are explored through lecture, discussion and application. (Prerequisite: ART 107 or permission of the instructor) (Fall-Spring)

ART 210

Ceramics II (2-4) 3 Credits

A continuation of Ceramics I, this course is offered to students who wish to continue their studies in ceramics and fine art. An advanced exploration of materials and processes associated with clay, glaze, and firing operations are emphasized. Students will develop their own concepts through advanced studies in aesthetic, historical, functional, and sculptural ceramic applications. (Prerequisite: ART 110 or permission of the instructor) (Fall-Spring)

ART 211

Sculpture II (2-4) 3 Credits

A continuation of sculptural form features more advanced three-dimensional design theories. Aesthetic mass and space relationships utilize a wide range of materials and techniques. (Prerequisite: ART 111 or permission of instructor) (Fall)

ART 215

Graphic Design I (2-4) 3 Credits

Graphic Design I is an introductory course with an emphasis in computer graphics and desktop publishing. Students will utilize current graphic design software to create electronic illustrations. Graphic Design I focuses on desktop publishing, page layout, type and image applications. (Required core for Graphic Design majors) (Fall-Spring)

ART 216

Graphic Design II (2-4) 3 Credits

Graphic Design II is an introductory computer graphics course with an emphasis in digital image/photo editing and web design. Students will utilize current graphic design software to create, alter, manage, and store digital images and creative illustrations. Graphic Design II includes the design/production and layout skills necessary to generate and maintain a web site. (Required core for Graphic Design majors) (Fall-Spring)

AUTOMOTIVE TECHNOLOGY

AUTO 114

Auto Fuel Systems (2-4) 4 Credits

A course designed for the automotive student or practicing automotive technician. Areas of study will include engine air/fuel requirements, tanks and lines, evaporative controls, fuel pumps and filters, air cleaners, carburetion, electronic engine management and electronic fuel injection systems. Emphasis is given to emission control and electronic engine management systems. Practice is provided with live service and repair in the automotive laboratory. (Fall)

AUTO 115

Engine Repair (2-6) 5 Credits

Engine Repair is designed to teach the student accepted methods of service and repair of the engine and related systems: engine overhaul, cooling, lubrication, fuel, ignition and exhaust systems. It includes instruction in tool selection, usage, maintenance, and shop safety. Practice is provided with live service and repair in the engine repair laboratory. (Fall)

AUTO 124
Automotive Brake Systems (2-4)

4 Credits

A course designed for the automotive student or the practicing automotive technician. This course is a study of the principles involved in the braking systems of the modern automobile. Instruction is given in the skills needed to diagnose and repair braking systems. Special emphasis is given to hydraulic theory, computerized anti-lock systems and the use and application of modern test equipment in the diagnosis and repair of these systems. (Spring)

AUTO 125
Automotive Electrical Systems (2-6)

5 Credits

This is a concentrated course in automotive electrical systems. Included is a review of basic electrical principles. Systems studied include charging, starting, ignition, lighting and fuel. Emphasis is given to electronic ignition and electronic fuel injection. Practice is provided with live service and repair in the automotive laboratory. (Spring)

AUTO 197, 198, 199, 297, 298, 299
Topics in Automotive Technology (0-8 to 3-0)

1-3 credits

This is a variable content course with areas of study that reflect current needs of individual students in the area of Automotive Technology. Topics are identified in the course description. (Prerequisite: Permission of instructor)

AUTO 214
Automotive Air Conditioning (2-4)

4 Credits

A course designed for the automotive technology student or the practicing automotive technician. A general introduction to the principles of automotive heating and air conditioning systems. The application of major components and control systems to automobiles is taught. Practical servicing, overhaul and replacement of units are emphasized, as are the recent changes in refrigerant and refrigerant handling. (Fall)

AUTO 215
Automotive Emission Control Systems (2-6)

5 Credits

A course designed for the automotive technology student or the practicing automotive technician. The course is designed to give the student a working knowledge of, and practical experience in, the diagnosis and repair of automotive emission control systems. Emphasis is given to the electronic control systems found on later model vehicles. Practical experience is provided with live service and repair in the automotive laboratory. (Fall)

AUTO 223
Automotive Power Train Systems (2-2)

3 Credits

A course designed for the automotive technology student or the practicing automotive technician. The theory of

operation, design construction and malfunction diagnosis of power transmitting units: clutches, standard and automatic transmissions, drivelines, differentials and rear axles. (Spring)

AUTO 224
Computerized Engine Control (2-4)

4 Credits

A course designed for the automotive technology student or the practicing automotive technician. A study in the principles of computerized engine control, the course will help the student/technician to grasp the operation, diagnosis and repair of these complicated systems. The use and application of modern test equipment are taught in relation to their use in the diagnosis and repair of these systems. (Spring)

AUTO 225
Automotive Suspension and Steering (2-6)

5 Credits

A course designed for the automotive technology student or the practicing automotive technician. This class is a study of the principles involved in the steering and suspension mechanisms of the modern automobile. Instruction is given in the skills needed to diagnose and repair steering and suspension components, replace steering and suspension system components and alignment of the wheels. The application of modern equipment is taught in relation to its use in the repair of these systems. (Spring)

AUTO 240
Auto Tech Internship (0-3 to 0-13)

1-5 Credits

This phase of the student's training includes work experience in an automotive business with weekly discussions of various on-the-job problems. (One credit per forty work hours) (Upon request)

AUTO 241, 251
Problems in Automotive Technology (0-2)

1 Credit

This class provides an opportunity for students to participate in independent study and research in their field of special interest within automotive technology. (Prerequisite: permission of instructor) (One credit may be earned in each of two semesters)

BIOLOGY

BIOL 101
General Biology (4-2)

5 Credits

General Biology is an introduction to the study of biology and covers principles of life science from the chemical basis of life to the interactions between living organisms and their environment. The unifying biological principles of cell structure and function, genetics, development, metabolism, reproduction, and ecology are addressed. This course fulfills the life science general education requirement and is required for biology majors. A practical laboratory component emphasizes scientific investigations and

supports lecture material. (Fall-Spring-Summer)

BIOL 110
General Zoology (3-4)

5 Credits

General Zoology introduces Kingdom Animalia, surveying the diversity of the kingdom with an emphasis on the classification and ecology of major animal groups. Animal-like Protists are also discussed. Topics include evolution, natural and sexual selection, symbiotic relationships, and environmental issues relating to members of the animal kingdom. General Zoology is a requirement for the biology degree. (Prerequisite: BIOL 101) (Fall)

BIOL 120
General Botany (3-4)

5 Credits

General Botany is an introduction to the discipline of botany and includes the study of plants, algae, fungi, and bacteria. Topics covered include principles of cell biology, fundamentals of metabolism, basic plant anatomy and physiology, plant taxonomy, a systematic survey of the plant kingdom, and ecology. An extensive laboratory section supports and extends the lecture material. General Botany is a requirement for the biology degree. (Prerequisite: BIOL 101) (Spring, odd numbered years)

BIOL 152
Human Anatomy & Physiology I (4-2)

5 Credits

Human Anatomy and Physiology I is the first course in a two-course sequence, covering the unifying principles of biochemistry, cell structure and function, genetics, development, and metabolism, as well as the structure and function of various organ systems of the human body. A practical laboratory component emphasizes inter-relationships between systems and how the entire body functions as a unit. This course is required for students entering health-related professions but is not recommended for science majors. This course fulfills the life science general education requirements for some majors. (Fall-Spring-Summer)

BIOL 220
General Microbiology (3-4)

5 Credits

This course addresses topics ranging from the biochemistry and molecular biology of viruses and bacteria to the epidemiology of human disease. General Microbiology presents a wide-ranging examination of the microbial world, with emphasis on the relationship between microorganisms and human health and disease. This course covers principles of microbiology including basic biochemistry, cell structure and metabolism, the cultivation and control of microorganisms, a survey of the microbial world, epidemiology, and host defense. General Microbiology is a requirement for biology, nursing, and pre-professional degrees. (Prerequisite: BIOL 101, BIOL110, BIOL 120, or BIOL 152) (Fall-Spring-Summer)

BIOL 252**Human Anatomy and Physiology II (3-4)
5 credits**

Human Anatomy and Physiology II is the second course in a two-course sequence, covering the structure and function of various organs systems of the human body not covered in the Human Anatomy and Physiology I. These include the nervous, cardiovascular, lymphatic, respiratory, endocrine, digestive, urinary, and reproductive systems. A practical laboratory component emphasizes inter-relationships between systems and how the entire body functions as a unit. This course is required for students entering health-related professions but is not recommended for science majors. (Prerequisite: BIOL 152) (Fall-Spring)

BIOL 260, 261, 262, 263**Problems in Life and Health Sciences
(1-0) 1 Credit**

This course gives interested students an opportunity to work on a special project in Biology, typically beginning research. (Prerequisite: BIOL 220 or Permission of the instructor) (Upon request)

BUSINESS

ACCT 101**Practical Accounting (3-0) 3 Credits**

This course is designed for students with no prior accounting course work or experience. Practical Accounting counts toward graduation in some disciplines and serves as a solid introduction to other accounting principles courses. Counts as three-hour elective in Business Administration. (Fall-Spring-Summer)

ACCT 160**Payroll Accounting (3-0) 3 Credits**

This course introduces the subject of payroll by presenting the federal rules and regulations governing employment, compensation, and payroll taxes using a computerized practice set. It takes the student step-by-step through the entire payroll process—from timekeeping, computation of gross earnings, determining federal income tax and other payroll tax withholdings; to preparing and distributing the payroll; to the vital step of recording or accounting for wages, tax liabilities, and payments or deposits. (Spring)

ACCT 165**QuickBooks (2-2) 3 Credits**

This course includes computerized double-entry accounting systems and concepts for service and mercantile business enterprises using current accounting software. Journals, ledgers and basic financial statements are covered. (Prerequisite: ACCT 101 or higher) (Fall-Spring)

ACCT 201**Principles of Accounting I (3-0)****3 Credits**

This course includes double-entry accounting systems and concepts for

service and mercantile business enterprises. Journals, ledgers and basic financial statements are covered. (ACCT 101 or 1 year of High School accounting with a “C” or higher is strongly recommended, but not required) (Fall-Spring-Summer)

ACCT 202**Principles of Accounting II (3-0)****3 Credits**

This course is designed to provide an understanding of accounting information and its use for business decision making. The emphasis is on where accounting data is obtained, what kind of information is needed, and how it is used in the management process. (Prerequisites: ACCT 201) (Fall-Spring-Summer)

ACCT 245**Tax Accounting (3-0) 3 Credits**

This course acquaints students with the economic and social policy implications of the tax systems by which governments raise revenues. In addition, it familiarizes students with federal income tax as it applies to the individual. Students will learn how to prepare individual federal income tax returns. (Fall)

ACCT 250**Certified Bookkeeper Review (3-0)****3 Credits**

This is a capstone course for the accounting program and will prepare students for the Certified Bookkeeper Exam and leads to a national certification in bookkeeping through the American Institute of Professional Bookkeepers (AIPB). This certification is a practical way to demonstrate a high level of skill and experience to advance an accounting career. If you choose to be a candidate for the Certified Bookkeeper designation, you must pass the exam which consists of two tests offered at a third-party testing center plus two workbook exams offered onsite. Taking the Certified Bookkeeper national exam is optional and is not a requirement to pass this course. (Prerequisites: ACCT 202 or permission of instructor) (Spring)

ACCT 255**Intermediate Accounting I 3 Credits**

This course comprehensively covers financial accounting for business enterprises (with emphasis on the corporation). The course is organized in these areas: (1) environment of financial accounting and basic theory underlying financial accounting; (2) accounting process from transaction analysis to financial statements; (3) statement analysis and revenue recognition; and (4) accounting for certain assets. (Prerequisite: ACCT 202 with a “C” or better; Co-requisite: MATH 111) (Fall)

ACCT 290**Accounting Clerk Internship (1-2)**

Supervised work experience allows the student to apply skills and office procedures in an actual office situation. Students will be required to gain experience in the area in which they are

seeking a degree. Students will meet once a week in class and will work 80 hours during the semester in supervised work experience. (Sophomore level) (Fall-Spring-Summer)

BSAD 103**Professional Development (2-0)****2 Credits**

This course is centered around the technique and personal qualities students need to find and keep the best possible job. We will also address common employer concerns and provide basic skills for success on the job. Course work centers primarily in the business fields. (Sophomore level) (Fall-Spring)

BSAD 104**Introduction to Computers (1-0)****1 Credit**

This class familiarizes students with the basic techniques involved in the operation of a computer. Students will learn basic computer components and file management functions. Installing, downloading, and updating software, and utilizing the internet and email will also be covered in this course. Students in any academic or career-vocation major can take the class.

BSAD 108**Personal Finance (3-0) 3 Credits**

Consumer finance topics are designed to provide students with guidance in handling such everyday problems as taxes, insurance, buying a home or automobile, borrowing, saving, social security, budgeting and estate planning. (Fall-Spring)

BSAD 110, 111, 210, 211**Leadership Development and Service Learning (1-0) 1 Credit**

This course provides leadership experience through participation in a student business organization. Students elect to participate in activities such as the following: individual or group research projects, panel discussion, and promotional projects. (May be taken each of four semesters) (Fall-Spring)

BSAD 121**Business Mathematics (3-0)****3 Credits**

This course teaches the application of business math used in accounting, finance, management, consumer economics, and retailing. Fundamental concepts addressed are interest, bank discount, payrolls, and markup. Also, the students will learn the touch system and principles of the electronic calculator. (Prerequisites: Placement scores must indicate proficiency level of Math 100 or higher or completed MATH 50) (Fall-Spring)

BSAD 125
Computer Applications (2-2)

3 Credits

Students are introduced to word processing, database and spreadsheet and presentation applications. Learning is enhanced through the use of current business software and hands-on experience with PC-compatible computers. Students must have access to the version of Microsoft Office being used at Crowder College. This includes Word, Excel, Access, and PowerPoint. Software used in this course is best suited within a Windows environment. (Fall-Spring-Summer)

BSAD 130
Business Communications (3-0)

3 Credits

Effective communication techniques as applied in business correspondence and reports are taught in this course. (Prerequisite: ENGL 100, or ENGL 101) (Fall-Spring)

BSAD 150
Introduction to Business (3-0)

3 Credits

This course surveys American business enterprises. Emphasis is on the characteristics, functions and problems of modern business. (Fall-Spring-Summer)

BSAD 215
Spreadsheets (2-1)

2 Credits

This course allows students to refine their skills in spreadsheet applications. Microsoft Excel will be used to teach advanced concepts in this software package. The course will include applying concepts to real life situations. (Prerequisites: BSAD 125) (Fall -Spring)

BSAD 216
Database Management (2-1)

2 Credits

This course allows students to refine their skills in database applications. Microsoft Access will be used to teach advanced concepts in this software package. The course will include all concepts of using and creating database tables, reports, forms, and queries. (Prerequisites: BSAD 125) (Fall)

BSAD 217
Web Design (2-2)

3 Credits

An introduction to web site design and development utilizing current web based software. The student will learn to create and deploy professional-grade web sites and will utilize current graphic design software to create, alter, manage, and store digital images. Recommended: basic working knowledge of Windows, word processing, browsers and file management.

BSAD 230
Business Law (3-0)

3 Credits

Business Law covers legal principles operative in common business situations, including the law of contracts, agency and business organization. (Fall-Spring)

BSAD 236
Business Statistics (3-0)

3 Credits

Business Statistics addresses the collection, analysis, interpretation, and presentation of data related to business. Topics include measures of central tendency and dispersion, frequency distribution, hypothesis testing, and sampling distribution. Spreadsheet software will be utilized in analysis of a variety of application problems. (Prerequisites: MATH 111) (Fall)

BSAD 197, 198, 199, 297, 298, 299
Topics in Business Administration

(1-3) 1-3 Credits

A variable content course with topics that can change from semester to semester. Topics are identified by title in the class schedule. This course may be repeated if the topic is different to a total of six hours.

BMGT 175
Management (3-0)

3 Credits

This course is an introduction to the management of organizations of various sizes. The focus is on the four management functions: planning, organizing, leading, and controlling, and how to deal with the constant state of change in the workplace and in the competitive environment. (Fall-Spring)

BMGT 200
Marketing (3-0)

3 Credits

This course is an introduction to the marketing process and organization of different types of businesses. The focus is on the identification of the marketing techniques and attitudes necessary to make a marketing plan successful. This course provides a detailed examination of the strategies necessary for businesses to compete in today's environment. This class will also examine various marketing tactics including pricing, promotion, advertising, and salesmanship. (Fall-Spring)

BMGT 223
Business Ethics (3-0)

3 Credits

The focus of this course will be the ethical dilemmas faced by businesses. The methods used to evaluate ethical alternatives can be applied by the students to their individual situations as well as in preparation to direct companies in ethical decision-making. (Fall-Spring)

BMGT 230
Advertising (3-0)

3 Credits

This course will include a study of fundamental advertising and promotional principles. Analysis of advertising media, the preparation of advertising, and formulation of advertising campaigns will be used to enhance the course. (Spring)

BMGT 285
Human Resource Management (3-0)

3 Credits

This course emphasizes various uses of a firm's human resources. Personnel Management evaluates and compares personnel policies in recruiting, selecting, transferring, promoting, classifying,

motivating and training. (Prerequisite: BSAD 150) (Spring)

BMGT 290
Business Management Internship (1-2)

2 Credits

Supervised work experience allows the student to apply skills in an actual business or office situation. Students will be required to gain experience in the area in which they are seeking a degree. Students will meet once a week in class and will work 80 hours during the semester in supervised work experience. This course should be taken during the student's final semester. (Fall-Spring-Summer)

BMGT 295
Business Management Capstone (3-0)

3 Credits

The course is a capstone course for Management majors. Emphasis is on bringing together student's knowledge of various business disciplines (Management, Marketing, Accounting, Financing, and Human Resource Management). The course re-instills these disciplines by bringing them together through a comprehensive textbook and business simulation. (Prerequisite: BMGT 175) (Spring)

BMGT 197, 198, 199, 297, 298, 299
Topics in Business Management (1-3)

1-3 Credits

Instruction will be provided as the need arises on topics in Business Management. Topics are identified by title in the class schedule. This course may be repeated if the topic is different.

OFFICE ADMINISTRATION

OA 102
Filing Systems and Records Management (2-2)

3 Credits

Students are introduced to the knowledge and skills needed in modern-day records management in various work settings. This comprehensive course studies basic filing rules, procedures, equipment, and manual and computerized management of records. (Spring)

OA 105
Introduction to Keyboarding (2-2)

3 Credits

Students gain basic experience on computers while developing the touch system involved in using the alphanumeric keyboard and 10-key pad. Basic word processing functions, letter, and manuscript formats are addressed. (Intended for all academic or vocational majors) (Fall-Spring)

OA 107
College Keyboarding (2-2)

3 Credits

Students continue to develop decision-making and production skills through preparation of documents representative of various businesses. (Fall)

OA 108**Introduction to Transcription (2-2)****3 Credits**

Methods of transcription, review and application of English skills, composition and proofreading of business letters, memos, and short reports strengthen knowledge of good communication and force thinking and judgment while transcribing correspondence. (Fall)

OA 113**Desktop Publishing (2-2) 3 Credits**

Students will produce on the computer high-impact, attention-getting documents such as letterhead, newsletters, and flyers. Graphic features and text features will be incorporated in various assignments. (Fall)

OA 170, 171, 270, 271**Topics in Business and****Office Administration (1-3)****1-3 Credits**

Instruction will be provided as the need arises on topics in business and office administration. If needed, the computer facilities at the college or at the business will be utilized. The course may be repeated if the topic is different.

OA 200**Word Processing I (2-2) 3 Credits**

Students are introduced to word processing concepts, applications and skills. Speed and accuracy are improved through the production of business documents using IBM compatible computers. (Fall)

OA 208**Medical Transcription (2-2) 3 Credits**

This course utilizes transcribers and materials which relate to the medical area to develop skills in machine transcription. Correspondence, vocabulary and English skills are emphasized throughout the course. (Prerequisite: OA 108 and OA 215 with a "C" or better) (Spring)

OA 210**Office Administration Transcription (2-2) 3 Credits**

This course utilizes transcribers and materials which relate to a variety of specialty areas to develop skill in machine transcription. Correspondence, vocabulary and English skills are emphasized throughout the course. (Prerequisite: OA 108) (Spring)

OA 211**Secretarial Office Procedures (3-0)****3 Credits**

This course is designed to prepare the student to carry out the normal duties in a business office including a broad variety of business documents from memos and letters to comprehensive reports. Students practice a wide range of skills, such as: proofreading for errors, composing original documents, checking calculations, using organizational skills and decision making. (Spring)

OA 212**Medical Office Procedures (3-0)****3 Credits**

This course enhances the medical office specialist curriculum. Various reports and forms processed through medical records are examined as to format and content. An introduction to basic medical terminology is included to facilitate lab practice. A discussion of legal and ethical aspects stresses the parameters of responsibility in processing medical reports. (Spring)

OA 215**Medical Terminology (3-0) 3 Credits**

This course introduces and explains basic medical terminology. Roots, combining vowels, prefixes and suffixes are examined. Basic anatomy, spelling and abbreviations are included. (Fall-Spring)

OA 231**Office Administration Internship (1-2)**

Supervised work experience allows the student to apply skills and office procedures in an actual office situation. Students will be required to gain experience in the area in which they are seeking a degree. Students will meet once a week in class and will work 80 hours during the semester in supervised work experience. (Sophomore level) (Fall-Spring-Summer)

OA 233**Medical Office Internship (1-2)****2 Credits**

Supervised work experience allows the student to apply skills and office procedures in an actual office situation. Students will be required to gain experience in the area in which they are seeking a degree. Students will meet once a week in class and will work 80 hours during the semester in supervised work experience. (Sophomore level) (Fall-Spring-Summer)

CHEMISTRY

CHEM 101**Survey of Chemistry (4-2) 5 Credits**

This course for non-science majors satisfies part of the general education science requirement. The scope of the course is quite broad with emphasis on descriptive rather than theoretical chemistry. Topics illustrating the impact of chemistry on society and aspects of chemistry applicable to everyday living are taken from inorganic, organic and biochemistry. Credit may not be earned for both CHEM 101 and CHEM 104. (Fall-Spring-Summer)

CHEM 104**Chemistry for Health Sciences (4-2)****5 Credits**

This course for students planning to enter certain health fields satisfies part of the general education science requirement. The scope of the course is quite broad with emphasis on descriptive rather than theoretical chemistry. Topics are taken from inorganic, organic and biochemistry

with emphasis on those concepts that have application in human health. Credit may not be earned for both Chemistry 101 and 104. (Fall- Spring)

CHEM 111**General Chemistry I (4-2) 5 Credits**

This class emphasizes the fundamental principles of chemistry. It includes a study of atomic and molecular structure, chemical bonding, stoichiometry, gases, liquids, solids, changes of state, solutions, colloids, chemical equilibria and acid-base chemistry. General Chemistry I is required of all science and engineering majors. (Co-requisite: MATH 111 or 150; high school chemistry or its equivalent is recommended) (Fall)

CHEM 112**General Chemistry II (3-4) 5 Credits**

A continuation of Chemistry 111, this course includes a study of oxidation reduction reactions, electrochemistry, thermodynamics, kinetics, nuclear chemistry, and a survey of inorganic chemistry. The laboratory includes qualitative analysis. (Prerequisite: CHEM 111) (Spring)

CHEM 201**Quantitative Analysis (0-4) 5 Credits**

A beginning course in Analytical Chemistry, this course includes discussions and laboratory work in gravimetric, volumetric, spectrophotometric, electrochemical and chromatographic methods of analysis. This class is taught on a self-directed learning (SDL) basis. (Prerequisite: CHEM 112) (Upon request)

CHEM 271, 272, 273**Topics in Chemistry 1-3 Credits**

A variable content course with areas of study that reflect current issues. Topics are identified in the course schedule and prerequisites are spelled out in the syllabus.

COLLEGE SKILLS

COLL 101**College Orientation (1-0) 1 credit**

Successful completion of the College Orientation course and its Service Seed component are required for all degree or certificate seeking students within their first semester of enrollment at Crowder College. Transfer students who have successfully completed college orientation elsewhere or have a cumulative grade point average of 2.0 on a minimum of 12 credits are exempt from this course. The course is designed to acclimate new students to the Crowder College environment, provide them with information they will need to function as a Crowder College student, and encourage further evaluation of their character.

COLL 103**Practical Communication (2-0)****2 Credits**

Upon successful completion of this integrated communication class, students will demonstrate mastery of entry-level, workplace knowledge and skills in the areas of reading, writing, listening, and speaking. Credit earned in this course only applies toward the completion of specified certificate programs and cannot be used as an elective in an AA or AS degree program.

COLLISION REPAIR**CLRP 102****Collision Repair I (2-2) 3 Credits**

This course serves as an introduction to collision repair and incorporates selected topics from each of the three broad areas of non-structural repair, structural repair, and painting/refinishing. Students become familiar with safe practices in the shop as well as the various tools and equipment used in the trade including lifting, measuring, cleaning, and finishing devices. Steel straightening, damage analysis, and the preparation of customer estimates are also covered. Classes are built around learning modules licensed from I-CAR (Inter-Industry Conference on Auto Collision Repair) which include both classroom and hands-on shop exercises with competencies cross-indexed to ASE/NATEF (Automotive Service Excellence/National Automotive Technicians Education Foundation).

CLRP 104**Collision Repair II (2-2) 3 Credits**

This course builds on the introductory material provided in CLRP 102 by extending damage analysis/repair coverage to frontal impact and interior damage, exterior trim/hardware repairs, use of plastic adhesives, and advanced measurement systems. Classes are built around learning modules licensed from I-Car (Inter-Industry Conference on Auto Collision Repair) which include both classroom and hands-on shop exercises with competencies cross-indexed to ASE/NATEF (Automotive Service Excellence/National Automotive Technicians Education Foundation).

CLRP 202**Collision Repair II (2-2) 3 Credits**

This course moves into the repair of bolted-on components and other areas requiring the use of gas-metal arc welding (GMAW). Additional time is also devoted to the advanced use of body fillers and repairs to both fixed and moveable glass components. Classes are built around learning modules licensed from I-CAR (Inter-Industry Conference on Auto Collision Repair) which include both classroom and hands-on shop exercises with competencies cross-indexed to ASE/NATEF (Automotive Service Excellence/National Automotive Technicians Education Foundation).

CLRP 204**Collision Repair II (2-2) 3 Credits**

This course covers aligning/repairing the vehicle frame, working with aluminum body parts, and the final steps in the painting/finishing process. Finding and repairing wind noise and water leaks is also addressed. Classes are built around learning modules licensed from I-CAR (Inter-Industry Conference on Auto Collision Repair) which include both classroom and hands-on shop exercises with competencies cross-indexed to ASE/NATEF (Automotive Service Excellence/National Automotive Technicians Education Foundation).

COMPUTER PROGRAMMING

Students are expected to schedule additional time outside of class in the computer lab to complete assignments.

COMP 111**Introduction to Computer Science****(3-2) 4 Credits**

Instruction is given on the techniques of structured and object-oriented programming. The class assumes no prior programming experience. It is required for Computer Science and Information Science majors and is recommended for students in any academic or career vocational major who need to have skills on how a computer can be programmed as a problem solving tool. The course topics will include: elementary syntax, functions, classes, objects, control structures, user defined data types, arrays and data structures. (Prerequisite: MATH 111) (Co-requisite: Math 111 or Math 150)

COMP 140**RPG Programming (2-2) 3 Credits**

Introduces the programming language RPG/400 that is designed for quick and efficient production of business reports. Includes language syntax and practice in preparing, compiling and executing applications of increasing complexity. (Prerequisite: COMP 111 and MATH 111) (Spring, even years)

COMP 200**COBOL (2-2) 3 Credits**

Computer programming concepts in the COBOL language, a widely used business oriented language, are examined. Instructional topics include: programming methodologies, program divisions, control breaks and file maintenance. (Prerequisite: COMP 111; MATH 111) (Spring, odd years)

COMP 271, 272, 273**Topics in Computer Science****1-3 Credits**

A variable content course with areas of study that reflect current issues. Topics are identified in the course schedule and prerequisites are spelled out in the syllabus. (Prerequisite: Permission of instructor)

COMPUTER AND NETWORK SUPPORT**CNS 101****Introduction to Electronics (2-2)****3 Credits**

This course introduces the fundamental laws of scientific atomic structure, electricity and electrical safety. It builds upon those fundamentals by the study of Ohm's Law, current, voltage, resistance, power sources, and DC (direct current) measuring instruments. An introduction to complete series, parallel, and series-parallel circuits, the laws, mathematical formulas, and methods used to analyze these circuits. A study of how AC (alternating current) voltages and currents are generated, introducing the science of magnetism, and the effect of AC on electronic components such as inductors and capacitors. AC testing procedures will be emphasized. (Co-requisites: CNS 111, CNS 115, MATH 40/60, COMM 80)

CNS 105, 106**Technical Career Development (1-0)****1 Credit**

These classes guide students through employability skills activities that are covered in seven levels of the series. The activities help meet the competencies outlined by the U.S. Secretary of Labor's Commission on Achieving Necessary Skills (SCANS). It includes a school-to-work curriculum and provides the tools to strengthen school-based learning work-based learning and connecting activities as outlined in the School to Work Opportunities Act. Lessons include self-assessments in communications skills, ethics, conflict resolution, government awareness, time management skills, career research and others. (Fall)

CNS 111**PC Basics I (2-2) 3 Credits**

This course covers the fundamentals of the internal PC hardware and peripheral devices (PC = "Personal Computer" = Intel-based X86 architecture), and also provides an introduction to operating system concepts. Through hands-on labs, desktop learning tools, and extensive Internet-based research, students develop critical thinking and complex problem-solving skills. (Co-requisites: CNS 101, CNS 115, MATH 40/60, COMM 80)

CNS 112**PC Basics II (2-2) 3 Credits**

This course addresses the software side of the PC by focusing on the operating system, basic networking concepts, and PC security. The course also provides an introduction to selected additional concepts including troubleshooting methods, "help desk" or "call center" procedures, and ethical considerations in computer technology. (Prerequisites: CNS 111 or Permission of Instructor; Co-requisites: MATH 50/70)

CNS 115**Cisco Networking I (2-2) 3 Credits**

This course is the first of four courses (CNS 115/116/217/218) leading to the Cisco Certified Network Associate (CCNA) certification and introduces the OSI Model, industry standards, network topologies, IP addressing, and subnet masks. The material will give the student the ability to construct cables, identify computer and network components, and construct a simple network. (Co-requisites: CNS 101, CNS 111, MATH 40/60, COMM 80)

CNS 116**Cisco Networking II (2-2) 3 Credits**

This course is designed to provide a solid foundation of skills in individual router configuration; configuring networks of routers; building and troubleshooting simple networks. (Prerequisite: CNS 115) (Fall-Spring)

CNS 125**Programming For CNS Technicians (2-2) 3 Credits**

This course provides basic computer programming skills for computer technology students who are not enrolled in a computer science-based program and whose math skills incorporate only introductory algebra. Emphasis will be placed on learning basic program structures, flow charting, and development of simple applications using an entry-level programming language. (Co-requisites: MATH 104 or Appropriate Placement by ACT/ COMPASS testing)

CNS 217**Cisco Networking III (2-2) 3 Credits**

This course is designed to provide an in-depth foundation of knowledge and skills in: configuring switches and routers; configuring IGRP, access List, IPX on routers. (Prerequisite: CNS 116) (Fall-Spring)

CNS 218**Cisco Networking IV (2-2) 3 Credits**

This course is designed to prepare students to be Cisco network administrators. Provides advanced knowledge and skills in: Configuring switches and routers; configuring IGRP, access list, IPX on routers. Knowledge of WANS and CCNA exam-related learning. (Prerequisite: CNS 217) (Fall-Spring)

CNS 250**Linux Network Administration (2-2) 3 Credits**

This course covers the installation, configuration, and maintenance of a Linux-based operating system in a networked, multi-user environment. Primary focus will be on user/group management, file system utilization, system security, and utilization of various popular Linux server functionalities. (Co-Requisite: CNS 112)

CNS 260**Microsoft Network Administration (2-2) 3 Credits**

This course is designed to prepare students for the responsibilities of being a

network administration technician using the Microsoft Windows Server family of server operating systems. It provides hands-on experience incorporating Microsoft's client/server-based products such as Active Directory (AD), Internet Information Services (ISS), and Distributed File System (DFS). (Co-requisites: CNS 112, CNS 116, or Permission of Instructor)

CNS 265**Microsoft Exchange Administration (2-2) 3 Credits**

This course covers the installation, configuration, and day-to-day administration of Microsoft Exchange Server, Microsoft's broad-based, database-oriented messaging service. This service provides both an efficient e-mail component as well as easily manageable/scalable interfaces to modern devices such as cellular telephones, personal digital assistants, and the like. Students will receive hands-on practice in all aspects of Microsoft Exchange administration. (Prerequisites: CNS 260 or Permission of Instructor)

CNS 270**Network Security (2-2) 3 Credits**

This course provides a broad view of the entire field of information security, background on many related elements, and enough detail to facilitate an understanding of the topic as a whole. This course will cover the terminology of the field, the history of the discipline, and the strategies for managing an information security program. (Prerequisites: CNS 112)

CNS 271, 272, 273**Topics in Computer and Network Support Technology (0-8 to 3-0) 1-3 Credits**

This is a variable content course with areas of study that reflect current needs of individual students in the area of Computer and Support Technology. Topics are identified in the course description. (Prerequisite: Permission of instructor)

CNS 275**Enterprise Administration (2-2) 3 Credits**

This course provides instruction in the design, setup, equipping, and maintenance of a network server center. Focus will be on the selection of the various types of network server computers, peripheral devices, and software necessary to provide the services required by both network administrators and users. (Prerequisites: CNS 260 or Permission of Instructor; Co-requisites: CNS 217)

CNS 277**Data Management (2-2) 3 Credits**

This course introduces the fundamental concepts necessary for designing, using, and implementing database systems and database applications. The student will be introduced to database management software, including Basic Structured Query Language (SQL). Through a combination of classroom lectures, hands-on labs, and

desktop learning tools, students will develop both critical thinking and problem-solving skills. (Prerequisites: CNS 125; Co-Requisites: BSAD 125, MATH 104)

CNS 285**Computer Network Support Internship (0-10) 4 Credits**

This course provides direct hands-on experience in a structured environment under the direct supervision of experienced business/industry professionals employed by a hosting organization. The course requires that 160 clock-hours be spent at the hosting location(s) during the term of study. (Prerequisites: CNS 260 and Sophomore Standing (i.e.-Completed 28 semester hours) or Permission of Instructor; Co-Requisites: CNS 218)

CRIMINAL JUSTICE

CJ 101**Introduction to the Criminal Justice System (3-0) 3 Credits**

This course is an introduction to the history, nature, structure, and function of the criminal justice system in the United States. An examination of the various aspects of the administration of justice systems, including law enforcement, courts and correctional agencies, including probation and parole, will be made. (Fall-Spring)

CJ 200**Criminal Investigations (3-0) 3 Credits**

This course will cover the concept of criminal investigative work from the early days up to present practices. Areas of emphasis will be the history of criminal investigation, identification, documentation and collection of physical evidence, statutory guidelines, the criminal investigator as a witness, and the different methods of investigation for each type of felony crime. (Spring)

CJ 210**Criminal Procedures (3-0) 3 Credits**

This course will examine the U.S. Constitution, cases, statutes, and other sources of regulation in the field of criminal procedure. These regulatory documents will be examined and considered as to how they apply to criminal law and the administration of justice. Specific issues to be covered include search and seizure, interrogations and confessions, grand jury investigations, identification procedures, and the right to counsel. (Spring)

CJ 250**Criminal Law (3-0) 3 Credits**

Criminal Law is an introduction to the purposes and functions of United States Criminal Law. The course highlights the rights and duties of officers and citizens in relation to local, state and federal laws. Students will examine the development, applications and enforcement of the various laws throughout Missouri and the United States. (Spring)

CJ 265**Ethics in Criminal Justice (3-0)****3 Credits**

This Criminal Justice course identifies and examines the ethical considerations that face the criminal justice practitioner. Areas of emphasis will include determining moral behavior, developing moral and ethical behavior, ethics and law enforcement, ethics and the courts, ethics and corrections and the ethics of punishment. Other areas of emphasis will be policy and management issues, professionalism, pride and ethics for practitioners.

CJ 270**Drug Investigation (3-0) 3 Credits**

Drug Investigation is an introduction to the study of the use, abuse, and history of legal and illegal drugs in the United States and abroad and how it has affected communities. Principles of Statutory and Constitutional Law as they pertain to the investigation of drug related crime, and controversial issues concerning criminalization, legalization and taxation will be discussed. Principles of treatment and programs for first-time up to career offenders will be discussed and what the cost-benefit is for both the offender and the community in which they live. Methods of identification, detection, investigation and presentation of legally admissible evidence will be addressed. This course is recommended for law enforcement/criminal justice majors.

CJ 275**The Juvenile Justice System (3-0)****3 Credits**

The Juvenile Justice System is designed to provide an overview of the juvenile justice system as it operates within the criminal justice system. The course will introduce you to the historical evolution and theoretical perspectives of the juvenile justice system. It will also survey the roles of law enforcement, the courts, and juvenile corrections, as well as programs, prevention and the future of the juvenile justice system.

CJ 290**Police Supervision and Management (3-0) 3 Credits**

This course will focus on police managerial systems; theory and styles as well as operation, leadership skills, and suggestions to create a better understanding of what is required to have an efficient, effective law enforcement agency. Organizational policies and procedures will be presented. Various law enforcement agencies will be examined, analyzed and comparisons made, and contrasts will be evaluated. (Fall)

PM 101**Introduction to Public Management****3 Credits**

This course is an introduction to the ideas and theories of public administration in the United States. Students will examine the relation between the three branches of government, the role of the bureaucracy in our democracy, the differences between

public and private organizations, management of human resources, government budgeting and finance, and ethics and decision making in the public sector. (Fall)

DIESEL TECHNOLOGY

AGDI 111**Shop and Shop Safety (1-0) 1 Credit**

An unsafe employee is a costly employee. This course is designed to promote safety attitudes in the work place. Study will include first aid, fire safety, use of lifts and power tools, as well as proper handling of hazardous materials.

AGDI 153**Harvesting & Tillage (2-2) 3 Credits**

This course provides an overall look at modern agricultural machinery that relates to tillage, planting and harvesting. Machine operation, adjustment and repair are discussed in lecture and students learn the actual applications through troubleshooting and repair of various equipment. Hay and forage equipment are included in the section on harvesting. (Spring)

DIES 124**Preventive Maintenance (2-4)****4 Credits**

Preventive Maintenance is the key to keeping today's high tech diesel equipment in the field and on the road. This course covers the procedures for a major inspection including the selection of filters, evaluation of lubricants, oil sampling, selection of fuels, inspection of tread wear patterns, and adjustment of the various components. (Fall)

DIES 134**Diesel Hydraulics (2-3) 4 Credits**

This course studies hydraulics commonly used on industrial and agricultural machinery. Topics include basic principles, design, and construction of hydraulic pumps and motors. Cylinders, valves and other control devices are discussed. Troubleshooting and testing procedures complete the course. (Spring)

DIES 144**Diesel Engines I (2-4) 4 Credits**

This course is designed to acquaint the student with diesel engines and the processes that are needed to properly overhaul an engine. Topics include disassembly, parts identification, measurement of parts, parts reusability, rebuilding of various sub-assemblies, and proper re-assembly of the engine. (Fall)

DIES 164**Diesel Brake Systems (2-4) 4 Credits**

This course acquaints the student with the various brake and suspension systems found on today's heavy-duty trucks and equipment. Hydraulic and air brake systems are discussed along with componentry of each system. (Spring)

DIES 184**Electrical/Electronics I (2-4) 4 Credits**

Theory, operation and testing of various electrical systems found on industrial and trucking equipment will be covered. Topics covered include: basic electricity, batteries, circuit types, starting motors, generators, alternators and regulators, lighting and auxiliary circuits. (Fall)

DIES 204**Diesel Powertrains (2-4) 4 Credits**

To allow the engine to give its best performance, the powertrain must be able to direct the power where it is needed. This course covers the basic powertrains as they are used in industrial applications. Components such as clutches, mechanical transmissions, hydraulic assist transmissions, differentials, final drives and other drives are studied. Adjustments such as end play, backlash and preload are examined as well as the different fluids used for lubrication and fluid drive. (Fall)

DIES 224**Diesel Steering and Suspension (2-4)****4 Credits**

This course will cover the basic theories and applications of steering and suspension systems used on today's heavy duty trucks. Steering component adjustment and replacement will be discussed along with the various types of suspension systems found on heavy duty trucks. The interaction of these components and how they affect truck alignment will complete the course. (Spring)

DIES 234**Air Conditioning (2-4) 4 Credits**

This study of the theory and operation of air conditioning systems as they are used with industrial equipment examines basic system components, controls and air movement devices. Troubleshooting, testing and basic tool use such as pressure gauge sets and refrigerant recovery are also covered. (Fall)

DIES 244**Diesel Internship (0-10) 4 Credits**

The student will receive on-the-job experience in a designated training site. This will allow the student to practice and utilize the skills and knowledge learned in the previous semesters. This work experience will be supervised by the instructor one period per week. (Prerequisite: Permission of Instructor) (Summer-Fall-Spring)

DIES 284**Diesel Electrical/Electronics II (2-4)****4 Credits**

Theory, operation and testing of various electrical systems found on industrial and trucking equipment will be covered. Topics covered include the following: truck and trailer lighting systems, instrumentation and warning systems, electrical accessories, ignition systems, and computer control systems. (Spring)

DIES 294**Diesel Engines II (2-4) 4 Credits**

A follow-up course to Diesel Engines I, this course has the student studying operational engines with various problems installed by the instructor. Students disassemble the engine, check for worn or damaged parts, correct these problems and bring the engine back to operational condition. Students are also required to explain the reasoning behind the replacement of parts. (Spring)

DRAFTING AND DESIGN TECHNOLOGY

DRFT 101**Introduction to Engineering Drawing and Print Reading (2-2) 3 Credits**

This course provides a foundation for all engineering and technical design courses. This study includes basics of freehand sketching and CAD Drafting, and print reading. This study also includes all principles using section, auxiliary and pictorial views to better describe the product. (Fall-Spring)

DRFT 102**Descriptive Geometry (2-2) 3 Credits**

This course adds to the introduction of drafting fundamentals. The primary focus is on entry-level geometry construction techniques for board and AutoCAD Command usage, drawing commands, viewing commands and modifying commands. Topics include drawing layouts, 2-dimensional drawing, editing and viewing commands, drafting practices and standards, file management practices and practical uses of CAD drawings. (Fall)

DRFT 103**Technical Drawing (2-2) 3 Credits**

This course is the second introduction to drafting class. The primary focus is on entry-level Board and Auto CAD Command usage, drawing commands, viewing commands and modifying commands. Topics include drawing the different types of fasteners, springs, cams, welding symbols, steel details and basic structural drawing. Editing and viewing commands, drafting practices and standards, file management practices and practical uses of CAD drawings. (Spring)

DRFT 105**Architectural Drafting (2-2) 3 Credits**

This course is an introduction to residential construction and house design. Students are required to interview prospective clients, write a project description, and draw a set of architectural plans that include floor plans, electrical plans, elevations and construction details. The course will include components from both traditional (manual) and Computer Assisted Drafting (CAD). (Co-requisite: MATH 50 or MATH 70 and COMM 80)

DRFT 115**Basic Computer Aided Drafting (2-2) 3 Credits**

This course is an introduction to Computer Aided Drafting. The primary focus is on entry-level AutoCAD Command usage, drawing commands, viewing commands, and modify commands. Topics include drawing layouts, 2-dimensional drawing, editing and viewing commands, drafting practices and standards, file management practices and practical uses of CAD drawings. (Fall or on demand)

DRFT 120**Basic Civil Drafting (2-2) 3 Credits**

This course is an introduction to Basic Civil drafting utilizing Computer Aided Design (CAD) with Land Desktop and Eagle Point software which is used primarily to create drawings for civil engineering projects. Command usage, drawing methods, commands, viewing commands, and modifying commands will be covered. Topics include terminology, surveys, contouring, project development, drafting practices and standards, file management practices and practical uses of the software. (Prerequisite: DRFT 101) (Fall)

DRFT 141**Assembly Drawings (1-2) 2 Credits**

This course builds a foundation for all engineering and technical design courses. This study builds knowledge and understanding of assembly drawings, the procedures for producing any of the assembly drawings. (Prerequisite: DRFT 101) (Fall-Spring)

DRFT 144**Weldment and Structural Drawings (.5-1) 1 Credit**

This course introduces specialized areas of drafting such as: threaded fasteners, assembly sections, welding drawings, electrical drawings, piping drawings and structural drawings. (Prerequisite: DRFT 101) (Fall-Spring)

DRFT 197, 198, 199, 297, 298, 299**Topics in Drafting and Design Technology (0-8 to 3-0) 1-3 credits**

This is a variable content course with areas of study that reflect current needs of individual students in the area of Drafting and Design Technology. Topics are identified in the course description. (Prerequisite: Permission of instructor)

DRFT 202**Machine Design (2-2) 3 Credits**

This course is designed to bring together the practical applications, skills and knowledge developed in previous drafting and design courses. The electrical and mechanical components, which are commonly utilized in a machine, which will convert a power source to work output, will be discussed. These components will then be applied to machine design projects. (Prerequisite: sophomore standing) (Fall-Spring)

DRFT 203**Tool and Die Design (2-2) 3 Credits**

This course is designed to give the drafting student a basic functional background important in the design of jigs & fixtures. General practices followed in the design of jigs & fixtures used in the production of consumer products will be covered. (Prerequisite: DRFT 101, 141) (Spring)

DRFT 205**Intermediate Computer Aided Drafting (2-2) 3 Credits**

This course is designed as a continuation of Basic Computer Aided Drafting (DRFT 115) with the addition of Auto CAD's advanced capabilities including: Associate Dimensioning, "Trace", calculating strategy, Building Blocks, Symbol library creation, Bill of Materials generation, Isometrics and other three dimensional drawings. (Spring or on demand)

DRFT 215**Advanced Computer Aided Drafting (2-2) 3 Credits**

This course is designed to introduce the student to a variety of new activities using Computer Aided Drafting which include: (1) 3D-Drawing (2) 3D-Modeling, (3) Review of Auto CAD's Release 12, (4) Review of new types of CAD software, (5) Creating custom screen menus, (6) A look at Auto LISP, (7) Translating drawings via DXF and IGES. (Spring [odd years] or on demand)

DRFT 220**Introduction to Geometric Dimensioning & Tolerancing (3-0) 3 Credits**

Geometric Dimensioning and Tolerancing is the study of the international standards for specifying the location and size of part features. This course is a general orientation to the concepts involved. (Prerequisite: DRFT 101) (On Demand)

EARLY CHILDHOOD DEVELOPMENT

ECD 101**Foundations and Theories in Early Childhood Education (3-0) 3 Credits**

This course is an introduction to early childhood education including a historical perspective of early childhood education, relating to parents and other professionals in the community, and advocating or children and families. (Prerequisite: Reading at least at Reading Level 1)

ECD 103
Health, Safety, & Nutrition of Young Children (3-0) 3 Credits

This course covers a review of health/safety practices recommended for childcare and includes information on common diseases and health problems. Guidelines and information nutrition and developmentally appropriate activities are also studied in the course. (Prerequisite: Reading at least at Reading Level 1. Successfully complete first aid and CPR certification for adult, child and infant by the end of the semester)

ECD 101
Curriculum for Early Childhood Programs (3-0) 3 Credits

The goals of this course are to introduce students to the appreciation and assessment of young children's thinking, to provide opportunities to develop competencies in promoting the learning and overall development of young children individually as well as in groups, and to increase levels of professionalism as educators. (Prerequisite: Reading at least at Reading Level 1; ECD 101 and ECD 103 or current CDA)

ECD 203
Early Childhood Practicum (2-0) 2 Credits

By actively participating in the care and education of young children in an early childhood program, students will become more proficient in administrative skills, increase their awareness of contemporary issues in early childhood, and will demonstrate a high level of competence as a head teacher. Students will serve a total of 45 hours in field experience and 16 hours in seminar during the semester. (Prerequisite: Reading at least at Reading Level 1 and provide a current copy of the criminal background check. Concurrent enrollment in ECD 201 is expected)

ECONOMICS

ECON 201
Principles of Economics I (3-0) (Macro) 3 Credits

This basic course in aggregate economics emphasizes national income theory, fiscal policy, money and monetary policy, business cycles and economic growth. Students successfully completing this course partially fulfill Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading Level 1) (Fall-Spring)

ECON 202
Principles of Economics II (3-0) (Micro) 3 Credits

A continuation of Economics 201, this course emphasizes price, theory, competition models, wage, rent, and profit determination, international trade and balance of payments theory, and special international problems. Students successfully completing this course partially fulfill Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading

Level 1) (Note: ECON 201 is not a prerequisite for ECON 202) (Fall-Spring)

EDUCATION

NOTE: The state of Missouri may require all teacher education students to complete additional specific general education courses. Students are advised to work closely with their education advisor to select courses to meet current state certification requirements.

Students must register with FCSR and have a clearance letter before completing any observation in schools.

EDUC 203
Foundations of Education (3-0) 3 Credits

This course is designed to examine the historical, philosophical, sociological, political, economic, and legal foundations of the American public education system. Students will explore the nature of school environments, design, and organization of school curricula and characteristics of effective schools and instruction in grades P-12. Educational structures, practices, and projections for the future will be studied. (Prerequisite: ENGL 101)

EDUC 205
Music for Elementary Teachers (3-0) 3 Credits

Students study and use the methods, materials and skills involved in the integration of music into the elementary classroom curriculum. This course is DESE approved for Elementary Education majors. (Prerequisite: Reading at least at Reading Level 1) (As needed)

***#NOTE: Reading Level 1 is reading at least the 10th grade level or have completed LOC 50. Reading at the College Level is reading at least the 12th grade level or have completed LOC 90**

EDUC 206
Literature for Children (3-0) 3 Credits

This study of literature for elementary grades is recommended for, but not restricted to, Elementary Education majors. Students evaluate literature as a developmental tool. This course does not fulfill the literature portion of the general education Humanities requirement. This course is DESE approved for Elementary Education majors. (Prerequisite: ENG 101 or higher and reading at least at Reading Level 1) (As needed)

EDUC 207
Art for Children (3-0) 3 Credits

This course will survey issues and trends related to teaching art in the elementary public school, promoting an appreciation for the visual arts in the educational process and acquainting the student with art media, process of art production, curriculum integration, and the methods of instructing art to children. This course is DESE approved for Elementary Education majors. (Prerequisite: Reading at least at Reading Level 1) (As needed)

EDUC 210
Technology for Teachers (3-0) 3 Credits

In this course students will learn how to integrate instructional technology into the P-12 classrooms. Students will study a variety of software programs, presentation technology, and telecommunication tools. The focus will also be on social, ethical, legal, and human issues surrounding the use of technology. (Prerequisite: ENGL 101)

EDUC 230
Educational Psychology (3-0) 3 Credits

This course is designed to help students relate the application of psychological principles to teaching, learning, and assessment and the educational practice in P-12 classrooms. It will focus on the learner and the learning process, teacher characteristics, and classroom processes that increase student motivation. Student diversity and appropriate instructional strategies for students with special needs will also be introduced. (Prerequisite: PSYC 101)

EDUC 240
Education of Exceptional Learners (3-0) 3 Credits

This survey course is an introduction to exceptional learners and their education in grades P-12. Students will attain knowledge, skills, and dispositions that will enable them to work effectively with exceptional learners in general education or special education. (Prerequisite: EDUC 230)

EDUC 250
Teaching Profession with Field Experience (3-0) 3 Credits

This course provides students an opportunity to observe teaching and learning for thirty (30) hours or more in P-12 classrooms. Students are introduced to the requirements for teacher preparation and certification. Students will examine characteristics of effective teaching. The course is designed to assist students in determining if a career in teaching is an appropriate goal. (Prerequisite: ENGL 101)

The following classes have not been approved by DESE and are not required for degrees in Elementary or Secondary Education. Students should contact representatives at their transfer college to determine how the courses will transfer. The State Board of Education has not approved these classes as core classes for Teacher Education majors.

EDUC 100, 101, 200, 201
Topics in Teacher Education (1-3) 1-3 Credits

These courses involve the study of selected teacher education topics that require greater emphasis, different methodology, or are not covered in other classes.

EDUC 211**Peer Tutoring (1-0)****1 Credit**

This course is designed for the above average student interested in helping other students with academic course work. The class will meet for 12 hours the first three weeks of the semester and will have four more meeting times throughout the semester. Students can make application to the ARC for employment as a peer tutor.

EMERGENCY MEDICAL SERVICES

EMR 101**Emergency Medical Responder****3 Credits**

The emergency medical responder (EMR) course is designed to teach emergency medical responder lifesaving skills as stated in the course competencies. Upon successful completion of the course and subsequent testing with the National Registry of Emergency Medical Technicians (NREMT), the student will gain certification to practice as an EMR. (Prerequisite: Must be 16 years of age and hold an American Heart Association CPR Healthcare Provider Level card)

EMT 101**Emergency Medical Technician 101****(9-0)****9 Credits**

CPR certification is required by the state of Missouri before this course can be taken. The Emergency Medical Technician Program includes a twelve (12) hour hospital observation in the emergency room as well as thirty-six (36) hours in an ambulance. Topics of the course span human anatomy and physiology; vital signs and their interpretations; cardiopulmonary resuscitation; control of bleeding, bandaging and splinting; effects of medical emergencies on the body and their treatments, including heart attack, stroke, communicable diseases, child birth and child patients, diabetes, myelitis and chronic obstructive pulmonary disease. This course is approved by the Missouri Department of Health, Bureau of Emergency Medical Services and will allow successful students to sit for the state certification exam for licensure. (Prerequisites: AHA Healthcare Provider Level CPR certification, fingerprint background check at the cost of the student PRIOR to acceptance into program, ACT score of 18 or equivalent COMPASS of 80) (Fall-Spring)

EMTP 201**Emergency Medical Technician-Paramedic (12-0)****12 Credits**

This is the first of three courses of a 27 week program which follows the United States Department of Transportation Paramedic National Standard Curriculum. In this course the students will be exposed to the roles and responsibilities of a paramedic within an EMS system, apply the basic concepts of development pathophysiology and pharmacology to

assessment and management of emergency patients, be able to properly administer medications, and communicate effectively with patients. (Prerequisites: EMPT 299 or equivalent and Current EMT Licensure) (Spring-Summer)

EMTP 202**Emergency Medical Technician-Paramedic (12-0)****12 Credits**

This is the first of three courses of a 27-week program which follows the United States Department of Transportation Paramedic National Standard Curriculum. In this course the students will be exposed to the roles and responsibilities of a paramedic within an EMS system, apply the basic concepts of development pathophysiology and pharmacology to assessment and management of emergency patients, be able to properly administer medications, and communicate effectively with patients. (Prerequisite: EMTP 201) (Spring)

ENERGY EFFICIENT BUILDING TECHNOLOGY

CONS 102**2 Credits****Introduction to Green Building (1-2)**

Provides an introductory survey of new and existing building technologies which enhance energy efficiency, livability, and sustainability of a structure. The course will incorporate materials from the NCCER (National Center for Construction Education and Research) Modules "Your Role in the Green Environment" and "Introduction to Weatherization". Particular emphasis will be placed on those technologies and best practices endorsed by the US DOE (U.S. Department of Energy), the USGBC (U.S. Green Building Council), and the LEED (Leadership in Energy and Environmental Design) Certification Program. Students will learn how weatherization goals can be met by reducing heating/cooling losses through improved insulation and the minimization of air infiltration.

CONS 105**Introduction to Construction****Technology (2-2)****3 Credits**

This course is built around NCCER's (National Center for Construction Education and Research) introductory "Core" material and is a pre-requisite for obtaining NCCER registration. As such, it is designed to provide a broad range of introductory information and hands-on practice to beginning students in construction technology. Topics covered at the introductory level include safety, shop math, hand tools, power tools, blueprints, rigging, basic communication, and basic employment skills. (Co-requisite: MATH 40 or MATH 60 and COMM 80)

CONS 111**Carpentry Fundamentals I (2-2)****3 Credits**

This course is the first part of NCCER: Carpentry Fundamentals-Level 1 and is designed to provide a broad range of information and hands-on practice to students in construction. Topics covered at this particular level include trade orientation, building materials, fasteners/adhesives, hand and power tools, reading plans/elevations, and floor systems. (Prerequisite: CONS 105)

CONS 114**Carpentry Fundamentals II (2-2)****3 Credits**

This course is the second part of NCCER (National Center for Construction Education and Research) Level 1 Carpentry Fundamentals designed to provide a broad range of information and hands-on practice to students in the fundamentals of construction. Topics covered include introduction to concrete, reinforcing materials, windows and exterior doors, wall/ceiling framing, roof framing, and basic stair layout. (Prerequisite: CONS 111 or Permission of Instructor, Co-requisite: CONS 102 and MATH 50 or MATH 70 or Permission of Instructor)

CONS 115**Carpentry Framing and Finishing I (2-2)****3 Credits**

This course is the first part of NCCER (National Center for Construction Education and Research) Level 2 Carpentry Fundamentals: Framing and Finishing designed to provide a broad range of information and hands-on practice to students in the fundamentals of construction. Topics covered include roofing applications, thermal/moisture protection, exterior finishing/siding, and cold-formed steel framing. (Prerequisite: CONS 105)

CONS 117**Carpentry Framing and Finishing II (2-2)****3 Credits**

This course is the second part of NCCER (National Center for Construction Education and Research) Level 2 Carpentry Fundamentals: Framing and Finishing and is designed to provide a broad range of information and hands-on practice to students in the fundamentals of construction. Topics covered include drywall installation/finishing, doors/door hardware, suspended ceilings, trim for windows, doors, floors and ceilings, and cabinet fabrication/installation. (Prerequisite: CONS 115 or Permission of Instructor, Co-requisite: MATH 50 or MATH 70 and ENGL 100)

CONS 122**Masonry I (2-2)****3 Credits**

This course is the first part of NCCER's (National Center for Construction Education and Research) Level 1 Masonry curriculum. Topics covered in the course include introduction to masonry/masonry units, masonry tools/equipment, measurements, basic installation, drawings/specifications, and mortar. (Prerequisite: CONS 105)

CONS 124**Masonry II (2-2)****3 Credits**

This course is the second part of NCCER's (National Center for Construction Education and Research) Level 1 Masonry curriculum. Topics covered in the course include masonry units and installation techniques. (Prerequisite: CONS 122, Co-requisites: MATH 50 or MATH 70 and ENGL 100)

CONS 132**Plumbing I (2-2)****3 Credits**

This course is the first part of NCCER's (National Center for Construction Education and Research) Level 1 Plumbing curriculum. Topics covered in this portion include an introduction to the plumbing profession, safety practices, plumbing tools/math/drawings, and working with plastic pipe and fittings. (Prerequisite: CONS 105 or AMT 111 or AMT 112 or Permission of Instructor)

CONS 134**Plumbing II (2-2)****3 Credits**

This course is the second part of NCCER's (National Center for Construction Education and Research) Level 1 Plumbing curriculum. Topics covered in this portion include copper/cast-iron/carbon steel/stainless piping/fittings, fixtures/faucets, DWV (Drain, Waste, and Ventilation) systems, and water distribution systems. (Prerequisite: CONS 132, Co-requisite: MATH 50 or MATH 70 and ENGL 100)

CONS 142**Electrical I (2-2)****3 Credits**

This course is the first part of NCCER's (National Center for Construction Education and Research) Level 1 Electrical curriculum. Topics covered in this portion include an introduction to the electrical trade, safety, basic circuits/theory, introduction to the NEC (National Electrical Code), device boxes and conduit bending/installation. (Prerequisite: CONS 105 or AMT 111 or AMT 112 or Permission of Instructor)

CONS 144**Electrical II (2-2)****3 Credits**

This course is the second part of NCCER's (National Center for Construction Education and Research) Level 1 Electrical curriculum. Topics covered in this portion include raceways/fittings, conductors/ cables, electrical drawings, residential services, and test equipment. (Prerequisite: CONS 142, Co-requisite: MATH 50 or MATH 70 and ENGL 100)

CONS 155**Basic HVAC (2-2)****3 Credits**

This is an introductory course on basic Heating, Ventilation, and Air Conditioning (HVAC) concepts utilizing curriculum from the National Center for Construction Education and Research (NCCER-HVAC Level 1). Students will learn by coupling traditional classroom activities with practical hands-on laboratory experiences. Topics covered include basic electrical principles, fundamental HVAC concepts, working with various types of tubing/piping, and air-handling systems. (Prerequisite: CONS 105 or AMT 111 or Permission of Instructor, Co-requisite: AMT 102 and MATH 50 or MATH 70)

CONS 161**Weatherization Technology (2-2)****3 Credits**

This course explains how to seal the envelope of a home to minimize air from entering and leaving the home, and how to add insulation to water pipes, forced-air ducts, water heaters, and other building components, thereby reducing heat loss and heat gain. These actions result in a more comfortable home that uses less energy for heating and cooling. Students are also provided with introductory overviews of wood/masonry construction methods and thermal/moisture protection practices. The course is based upon NCCER's (National Center for Construction Education and Research) "Weatherization Technician-Level 1" series. (Prerequisite: CONS 102 and CONS 105 or Permission of Instructor, Co-requisite: MATH 50 or MATH 70 and ENGL 100)

CONS 173**Carpentry Forms I (2-2)****3 Credits**

This course is the first part of NCCER: Carpentry Forms-Level 3 and is designed to provide a broad range of information and hands-on practice to students in construction technology relative to concrete forms and placement. Topics covered include rigging practices/equipment, concrete properties/reinforcement, handling/placing concrete, and trenching/excavating. (Prerequisite: CONS 105)

CONS 175**Carpentry Forms II (2-2)****3 Credits**

This course is part two of NCCER (National Center for Construction Education and Research) Level 3 Carpentry Fundamentals: Forms and is designed to provide a broad range of information and hands-on practice to students in construction technology relative to concrete forms and placement. Topics covered include foundations and slab-on-grade, vertical formwork, horizontal formwork, and tilt-up wall panels. (Prerequisite: CONS 173 or Permission of Instructor, Co-requisite: MATH 50 or MATH 70 and ENGL 100)

CONS 231**Site Layout I (2-2)****3 Credits**

This course covers NCCER's (National Center for Construction Education and Research) Level 1 Site Layout materials and is designed to provide extended information beyond the core classes and hands-on experience to students in the fundamentals of site layout. Topics covered include distance measurement and leveling, measurement conversion, and proper tool/equipment handling. (Co-prerequisite: CONS 114 and DRFT 105 and MATH 100 and ENGL 100)

CONS 235**Site Layout II (2-2)****3 Credits**

This course covers NCCER's (National Center for Construction Education and Research) Level 2 Site Layout materials and is designed to provide extended information beyond the core classes and hands-on experience to students in the fundamentals of site layout. Topics covered include advanced surveying math/operations, basic data collection/computer entry skills, concrete properties, and means/methods. (Prerequisites: CONS 231, Co-requisite: MATH 111)

CONS 243**Project Supervision (2-2)****3 Credits**

This course provides introductory material relevant to front-line supervision in construction technology and is built upon NCCER's (National Center for Construction Education and Research) Project Supervision module. Topics covered include orientation to the job, human relations, problem solving, safety, quality control, contract/construction documents, document control/estimating, planning/scheduling, and resource control/cost awareness. (Prerequisite: CONS 114)

CONS 244**Project Management I (2-2)****3 Credits**

This course utilizes NCCER's (National Center for Construction Education and Research) project management materials to expand front-line supervision concepts by incorporating topics relating to the broader scope of project management. Topics covered include introduction to project management, safety, interpersonal skills, issues/resolutions, and construction documents/planning. (Prerequisite: CONS 243, Co-requisite: MATH 100)

CONS 246**Project Management II (2-2)****3 Credits**

This course utilizes NCCER's (National Center for Construction Education and Research) project management materials to expand front-line supervision concepts by incorporating topics relating to the broader scope of project management. Topics covered in this course include cost estimation/control, scheduling, resource/quality control, and continuous improvement. (Prerequisite: CONS 244, Co-requisite: MATH 111)

CONS 248**Sustainable Construction (0.5-1)****1 Credit**

This course instructs construction supervisors on sustainable construction management techniques, especially as they relate to the construction-phase LEED (Leadership in Energy and Environmental Design) points targeted for their projects. Key content includes coverage of project sustainability goals, green building materials/technologies, and green building methods/processes. The course is based upon NCCER's (National Center for Construction Education and Research) "Sustainable Construction Supervisor" materials. (Prerequisite: CONS 102 and CONS 105 or Permission of Instructor, Co-requisite: MATH 100 and ENGL 100)

CONS 264**Geothermal Heat Pump Systems (2-2)****3 Credits**

This course provides an overview for designers of geothermal or ground-source heat pump systems (GSHP) and addresses fundamental principles, physical/thermal constraints, design/configuration of ground loops/piping, determination of building heating/cooling requirements, integration of ground and building systems, typical installation procedures, and environmental/regulatory issues. Instruction will consist of lecture/lab sessions and, as much as practical, scheduled field trips to observe GSHP installations in progress. (Prerequisite: CONS 155 or Permission of Instructor, Co-requisite: MATH 100 and ENGL 100)

CONS 265**Alternative Energy Techniques (2-2)****3 Credits**

Provides an overview of the various alternative energy technologies currently available or on the verge of becoming economically viable. This course introduces students to the Power Industry in general and the overall concepts of alternative energy usage and economics. Topics covered in the course include Biomass and Biofuels, Nuclear Power, Solar Power, and Wind Power with special focus on those technologies (Wind and Solar) most adaptable to energy efficient building applications. This course is based upon NCCER's (National Center for Construction Education and Research) materials for Alternative Energy. (Prerequisite: CONS 102 and CONS 105 or Permission of Instructor, Co-requisite: MATH 100 and ENGL 100)

CONS 266**Energy Usage Auditing I (2-2)****3 Credits**

This is the first of two courses based on NCCER's (National Center for Construction Education and Research) Building Auditor, Level 2, materials and provides background information on heating/cooling, chimneys/vents/flues, hydronic systems, and energy conservation equipment. This course prepares students to move into the second

course in the series where procedures for performing a building energy audit are presented. (Prerequisite: CONS 155 and CONS 161 or Permission of Instructor, Co-requisite: MATH 100 and ENGL 100)

CONS 267**Energy Usage Auditing II (2-2)****3 Credits**

This is the second of two courses based on NCCER's (National Center for Construction Education and Research) Building Auditor, Level 2, materials and provides background information on indoor air quality and alternative heating/cooling systems. This course also provides detailed guidance for the performance of a complete building energy audit including interviewing, testing, and reporting. (Prerequisite: CONS 266, Co-requisite: MATH 111)

CONS 290**Construction Internship (0-10)****4 Credits**

Provides direct hands-on experience in a structured environment under the direct supervision of experienced tradesmen employed by the hosting organization. Students are required to provide regular reports of work tasks attempted/completed as well as the overall time spent at the host's work location. Hosts agree to provide a safe, supervised work environment with students addressing tasks directly related to energy efficient building and the specific option being pursued by the student: General Construction, Construction Management, or Alternative Technologies. At the end of the internship, hosts will complete and submit a written evaluation of the student's performance. This course requires that 160 clock-hours be spent at the hosting location(s) during the term of study. (Prerequisite: Sophomore standing (> 28 Hours) or Permission of Instructor)

ENGLISH AND LITERATURE

ENGL 100**Mechanics of Composition (3-0)****3 Credits**

This course focuses on an in-depth study of traditional grammar and mechanics of composition, including an intensive analysis of subjects, verbs, sentence structure, and punctuation. The course is required of students scoring below the placement cut-off score, is recommended for students returning to school from a prolonged absence, and is beneficial for elementary or secondary education majors. The course does not fulfill communications requirements for the AA degree and may be taken concurrently with ENGL 101. (Fall-Spring-Summer)

ENGL 101**English Composition (3-0) 3 Credits**

The primary aim of this freshman writing course is to give students instruction and practice in writing mechanically correct, well organized, and well-developed expository themes on topics of importance and significance. This course fulfills a portion of communications general education requirements. (Prerequisites: ENGL 100 or an appropriate score on the placement exam; OA 105 or an appropriate keyboarding placement score) (Fall-Spring-Summer)

ENGL 102**Advanced English Composition (3-0)****3 Credits**

This writing course continues the study of clearly effective written expository prose for those who have successfully completed English 101. In addition, students advance to study more complex methods of thesis development, particularly argument. Research and documentation procedures are integral subject matter. This course fulfills a portion of communications general education requirements. (Prerequisite: ENGL 101 and OA 105 or appropriate keyboarding placement score) (Fall-Spring-Summer)

ENGL 104**Honors English Composition (3-0)****3 Credits**

This honors English course taken in conjunction with a traditional English 102 course continues the study of clearly effective written expository essays for those who have successfully completed English 101 and are participants in the Crowder College Honors Program. In addition, students advance to study more complex methods of thesis development, particularly argument. Research and documentation procedures are integral subject matter. This course fulfills a portion of communications general education requirements and requires students to complete an additional research component. (Prerequisite: Limited to Honors Program Participants and completion of ENGL 101) (Spring)

ENGL 109**Introduction to Literature I (3-0)****3 Credits**

Introduction to Literature emphasizes enjoyment, appreciation, and understanding of various types of literature: poetry, drama, and fiction. This course partially fulfills general education humanities requirements. (Fall-Spring-Summer)

ENGL 113, 114, 213, 214**Topics in Language and Literature****1-4 Credits**

An opportunity to participate in a variety of topics and/or projects pertaining to language and literature offers specialized, in-depth study. Students design the course in conference with instructor and division chair. (Arranged)

ENGL 120**Masterpieces of World Literature I (3-0) 3 Credits**

Selected reading in Greek and Roman literature emphasizes epics, dramas, and mythology as well as the Divine Comedy, Don Quixote, and a Shakespearean masterpiece. The time period studied begins with the Classical Age and continues through the Renaissance. This course partially fulfills general education humanities requirements. (Spring)

ENGL 125**Masterpieces of World Literature II (3-0) 3 Credits**

A survey of landmarks of world literature from the eighteenth century to the twentieth century Western thought. Readings are selected from Moliere, Swift, Voltaire, Chekhov, Ibsen, Tolstoy, Kafka, and others. This course partially fulfills general education humanities requirements. (Fall-Summer)

ENGL 203**Technical Report Writing (3-0) 3 Credits**

Students are introduced to the practical aspects of preparing business and industrial reports in this course. Techniques of collecting and presenting data are emphasized through quality communication: formal and informal reports, demonstration, presentation and discussion. This course fulfills a portion of A.A.S. Communications general education requirements. (Prerequisite: ENGL 101 or permission of instructor) (Keyboarding skills are necessary) (Fall-Spring)

ENVIRONMENTAL HEALTH TECHNOLOGY

ERC 124**Water Lab (1-2) 2 Credits**

The course emphasizes the lab tests required for the monitoring and reporting requirements involved with drinking water. The student learns the approved testing procedures; jar tests and data analysis in terms of finished water quality determination. (Spring)

ERC 132**Wastewater Lab (1-2) 2 Credits**

The course emphasizes the lab tests required for NPDES reporting and process control tests, which are used to optimize the treatment process. The student learns the approved testing procedures and how to set up a quality control program for the lab. The interpretation of lab data for process control and troubleshooting is also included in this course. (Fall)

ERC 140**Basic Water Treatment (3-0) 3 Credits**

This course will introduce the processes of water treatment. The focus will be geared toward professionals seeking a lower level

state license in drinking water treatment, or background knowledge for environmental science study of water purification. Topics in this course will cover water source parameters including: Hydrologic cycle, groundwater management, water protection, well construction and protection. Additional areas of chemistry of dissolved minerals and gasses, flow measurement, disinfection and microbiology will provide the background information required. The course will also cover assessment of treatment techniques to include; aeration, softening, disinfection, fluoridation, iron and manganese removal, taste and odor control. This class emphasizes municipal plant operations. The student will be required to test for a state certification in drinking water either class "D" or "C" based on years of experience. (Prerequisite: Math 50 or appropriate score) (Spring)

ERC 141**Water Distribution (2-0) 2 Credits**

This course explains the components, operation, and maintenance of water distribution systems. Specific topics include water storage, valves, hydrants, water service connections, and flow metering. The class covers many common bacteriological collection procedures and monitoring requirements as well as regulatory compliance through state and federal agencies. (Spring)

ERC 142**Basic Wastewater Treatment (3-0) 3 Credits**

This course will introduce the processes of wastewater treatment. The focus will be geared toward professionals seeking a lower level state license in wastewater treatment, or background knowledge for environmental science study of wastewater purification. This class explains the physical, biological, and chemical treatment of wastewater. Topics for class discussion include flow measurement, preliminary treatment, screening and grit removal. The second stage process of primary treatment includes sedimentation basins and solids handling. The final treatment stages of secondary biological treatment processes include; trickling filters, rotating biological treatment, waste stabilization ponds, clarification and disinfection. This class emphasizes municipal plant operations. The student will be required to test for a state certification in wastewater either class "D" or "C" based on years of experience. (Prerequisites: Math 50 or appropriate placement score) (Fall)

ERC 221**Chlorine and Disinfection (2-0) 2 Credits**

This course explains the disinfection of water and wastewater from an operational perspective. Topics include breakpoint chlorination, ozonation, ultraviolet disinfection, equipment operation and maintenance. Emphasis on safety practices associated with the proper

operation of chlorination equipment concludes the course. (Spring)

ERC 222**Utility Management (2-0) 2 Credits**

This course offers instruction in the fundamental practices which are important to good management and necessary for efficient, business-like operation of treatment works. Topics include business communications, personnel management, budgeting, procurement, asset management, consulting engineers, and public relations. Additional topics will include sanitary surveys and communication with regulatory agencies. (By Request)

ERC 224**Water Internship (0-5) 2 Credits**

During the water treatment semester, students spend 80 hours working in a water treatment plant. This on-the-job training allows students to observe and participate in the operation of a treatment system as an operator. The student will job shadow operations, laboratory, and maintenance personnel in understanding their job function and duties. (Spring)

ERC 225**Water/Wastewater Pumps & Motors (2-0) 2 Credits**

This course will provide a comprehensive coverage of the operation and maintenance of pumps and motors. The basic concept of motor function, design and operation will be covered with emphasis on preventative maintenance and troubleshooting of electric controls. Material will be presented on efficient operation and preventative maintenance of pumps. The course will apply to both water and wastewater treatment operations. (Fall-Spring)

ERC 231**Land Application of Waste (2-0) 2 Credits**

This course includes all processes for sludge treatment and handling. Specific requirements for the land application of sludge, such as site characteristics, application rate and testing requirements will be discussed. (Fall)

ERC 232**Industrial Pretreatment (3-0) 2 Credits**

The course presents the basics of industrial waste treatment processes and waste reduction as well as the inspection, sampling, regulation and enforcement requirements of the Industrial Pretreatment Program required by the EPA. Both industrial and municipal perspectives are presented. (By Request)

ERC 234**Wastewater Internship (0-5) 2 Credits**

During the wastewater treatment semester, students spend 80 hours working in a wastewater treatment plant. This on-the-job training allows students to observe and participate in the operation of a treatment system as an operator. The student will job shadow operations, laboratory and maintenance personnel in understanding their job function and duties. (Fall)

ERC 240**Industrial Health & Safety (3-0)****3 Credits**

This course provides an overview of the Occupational Safety and Health Standards (29 CFR, Parts 1900 to 1910). Emphasis is placed on identifying applicable OSHA regulations, interpreting these regulations and developing strategies to ensure compliance. (By Request)

ERC 253**Hydraulics (3-0)****3 Credits**

This college course introduces the basic principles of hydraulic systems. These basic concepts will be developed and applied to the design, operation, and maintenance of water/wastewater systems. Students will use hydraulic calculations in the application of these concepts. (Fall-Spring)

ERC 260**Computer Use in Water/Wastewater****(2-0)****2 Credits**

This class familiarizes students with the basic techniques involved in the operation of a microcomputer and a commercially available software program often used in home and small business applications. The class can be taken by students in any academic or career-vocational major. (By Request)

ERC 271**Advanced Wastewater Treatment (3-0)****3 Credits**

This course is designed for the wastewater professional seeking higher certification in state licensing for wastewater treatment. The core topics that will be covered in-depth are; disinfection/bacteriological, hydraulics, laboratory, regulations, mechanical systems, general science, municipal, industrial, and combined sewer systems, and specialty treatments. The course will also cover assessment of treatment techniques to include; preliminary treatment, primary treatment, fixed film treatment, activated sludge, biological nutrient removal, chemically enhanced treatment. This class emphasizes municipal plant operations. The class will cover additional concepts in design, facility upgrades, new technology and complying with more stringent National Pollutant Discharge Elimination System (NPDES) permits. (Prerequisites: ERC 135 or ERC 142 or have obtained a class C wastewater certification (or equivalent)) (By Request)

ERC 272**Advanced Water Treatment (3-0)****3 Credits**

This course is designed for the water professional seeking higher certification in state licensing for drinking water. The core topics that will be covered in-depth are: disinfection/bacteriological, hydraulics, laboratory, regulations, mechanical systems, general science, ground water treatment systems, surface water treatment systems, management, water distribution, and specialty treatments. This course will also cover assessment of treatment techniques to include; taste and odor, coagulation, flocculation, sedimentation, and filtration. This class emphasizes municipal plant operations. The class will cover additional concepts in design, facility upgrades, new technology and increased water quality standards. (Prerequisites: ERC 125 or ERC 140 or have obtained a Class C Water Certification (or equivalent)) (By Request)

ERC 280**Water Source Planning, Design and Management (3-0)****3 Credits**

This course is designed for management and planning of a water or wastewater resource for municipal or industrial user. Topics covered in-depth will be water resource planning for surface and ground water, water reuse, microbial risk assessment, and sanitary surveys. The course will help professionals working with consulting engineers to better design systems from technological, regulatory, and financial perspective. The student will consider effects of life cycle costs, water availability, industrial users, and discharge limitations. (By Request)

ERC 281**Storm Water Management (3-0)****3 Credits**

This course is designed for management of storm water programs in accordance with small municipal separate storm sewer systems (MS4) permit communities. Topics discussed will be state and federal regulations, permit requirements, reporting, and storm water pollution prevention plans. In-depth coverage of best management practices for storm water, spreadsheet tool for estimating pollutant loads (STEPL) software for determining total maximum daily loading rates (TMDL) loading, and the 9 critical elements of a watershed plan. (By Request)

ERC 298**Wastewater Collection Systems (2-0)****2 Credits**

This course develops a working knowledge of the components and various types of mechanical equipment used in wastewater collection systems. The course focuses on preventative and corrective maintenance of the pipes and pumping systems involved in the collection and transport of wastewater. (Fall)

FIRE SCIENCE**FSCI 102****Building Construction Related to Fire Service (3-0)****3 Credits**

This course provides the components of building construction that relate to fire and life safety. The focus of this course is on firefighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. (Prerequisite: Firefighter I & II)

FSCI 103**Fire Investigations (3-0)****3 Credits**

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene analysis and interpretations, including recognizing and conducting origin and cause, preservation of evidence, evidence collection, scene documentation, scene security, motives of the fire setter, and types of fire causes. (Prerequisites: Firefighter I & II)

FSCI 108**Fire Protection Systems (3-0)****3 Credits**

This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers.

FSCI 109**Legal Aspects of Emergency Services (3-0)****3 Credits**

This course introduces the Federal, State, and local laws that regulate emergency services, national standards influencing emergency services, standard of care, tort, liability, and a review of relevant court cases.

FSCI 107**Fire Service Hydraulics & Fire Pump Operations (3-0)****3 Credits**

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.

FSCI 111**Firefighter I and II (4-4) 6 Credits**

This course places emphasis on those skills and related information necessary to develop a recruit firefighter into a usable member of the firefighting team. The course is divided into 21 subject areas. Recruit firefighters will gain essential knowledge through both lecture and practical skill development. Topics include: fire behavior, building construction, firefighter safety, rescue, extrication, fire control, hazardous materials, and EMS. Successful completion of this course will prepare recruit firefighters for the International Fire Service Accreditation Congress (IFSAC) Certifications for Firefighter I, Firefighter II, Hazardous Materials Awareness, and Hazardous Materials Operations.

FSCI 202**Hazardous Materials (3-0) 3 Credits**

A second semester of the review of basic fundamentals of chemistry used in fire science emphasizes less common special hazards. Topics covered include nuclear reactions, ionization, radiation detection equipment, peace time uses of radioactive materials, and control of resulting hazards.

FSCI 205**Tactics & Strategies (3-0) 3 Credits**

This course provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire ground. The course will cover aspects of incident command, company operations, special situations and occupancies, and post incident activities. (Prerequisites: FSCI 108)

FSCI 207**Fire Prevention/Code Enforcement (3-0) 3 Credits**

This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education. (Prerequisite: FSCI 108)

FSCI 208**The Company Officer (3-0) 3 Credits**

This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis will be placed on fire service leadership from the perspective of the company officer. (Prerequisite: FSCI 109)

FSCI 210**Fire Service Instructor (3-0) 3 Credits**

This course covers the roles of a fire service instructor, the characteristics of an effective instructor, various aspects of communication, challenges facing emergency services instructors, different aspects of professional development, the

importance of instruction, and common instructional techniques. (Prerequisite: SPCH 101)

FSCI 212**Occupational Safety & Health for the Fire Service (3-0) 3 Credits**

This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. Upon completion of this course, students should be able to establish and manage a safety program in an emergency service organization.

FSCI 260, 261, 262, 263**Problems in Fire Science 1-4 Credits**

Course content is assigned by the instructor and approved by the Associate Dean of Technical Education.

GEOGRAPHY

GEOG 101**Principles of Geography (3-0) 3 Credits**

Emphasis in this study of the realms, regions and nations of the world includes geographical factors such as natural environments and human cultural patterns, which affect life on the earth. Students successfully completing this course partially fulfill Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading Level 1) (Fall-Spring)

GEOLOGY

GEOG 115**Introduction to Geology (4-2) 5 Credits**

This class introduces students to the basic concepts of Geology. Students will use these concepts to gain an understanding of: (1) the Earth's dynamic processes of formation and change, (2) how those changes are reflected and identified as its geologic history, and (3) environmental challenges on the planet. This course will partially fulfill the science requirements for the Associate of Arts degree. (Fall-Spring-Summer)

GEOG 210**Earth and Space Science For Teachers (2-4) 4 Credits**

A laboratory intensive course designed to give students an understanding of the processes of science and the basic concepts of Earth science (Geology, Oceanography, and Atmospheric Science) and Astronomy. This course is designed primarily for students intending to major in elementary education. One-day field trips and some night-time astronomical observations will be required. (Prerequisite: PHYS 101)

HEALTH INFORMATION TECHNOLOGY

HIT 110**Introduction to Health Information Technology (3-0) 3 Credits**

This course is designed to expose students to the educational requirements and professional credentials for the health information management profession, as well as ethics and professional organizations. The organizational structure of the American Health Information Management Association (AHIMA) is reviewed along with member services provided. Analysis of health records with emphasis on record format, content, documentation guidelines, and procedures for quantitative and qualitative analysis of the record are also examined. Other topics addressed include the Master Patient Index, data sets, numbering and filing systems, record tracking, retrieval and retention and release of information. (Prerequisites: Admission to the Health Information Technology program) (Fall)

HIT 115**Health Information Management Systems (3-0) 3 Credits**

This course provides an overview of computerized health information systems, computer-based patient records including architecture and design, evaluation and acquisition, data integrity, security and privacy concepts, automated registries and applications in Health Information Technology. Students are introduced to state and federal initiatives, regulations and guidelines related to information systems for healthcare delivery systems. Also examined are topics of data dictionaries, data modeling, data warehousing, screen design, personal health records and micrographics, electronic or imaging technology for data/record storage and retrieval. (Prerequisites: HIT 110 and BSAD 125) (Fall)

HIT 200**Alternative Healthcare Delivery Systems (3-0) 3 Credits**

This course will examine the alternate care settings in healthcare including physician practice, ambulatory, long-term and managed care, mental health, rehabilitation medicine and hospice, home health and dental care with respect to accrediting agencies, regulatory guidelines, and professional associations. Topics discuss include documentation requirements, systems and administrative procedures, software and technological tools and professional practice standards related to management of health information in each of the settings. (Prerequisites: HIT 110) (Spring)

HIT 205**Human Anatomy and Physiology I for HIT (3-0) 3 Credits**

This course introduces the student to the structure and function of the human body from the basics of cellular and molecular functions, cell structure and the pathophysiology for the organs and organ systems. The course will emphasize the: (a) integumentary, (b) musculoskeletal, (c) histological and (d) neurological and special senses systems of the human body. The course will address the inter-relationships between systems and how the entire body functions as a unit. Credit earned in this course cannot be used to satisfy the AA or AS science requirement. (Prerequisites: *Enrollment in the Health Information Technology Program*) (Fall)

HIT 206**Human Anatomy and Physiology II for HIT (3-0) 3 Credits**

This course is the second course in a two-course sequence covering the structure and function of various organ systems in the human body not covered in the Human Anatomy and Physiology I for HIT course. The course will emphasize the: (a) endocrine, (b) blood/circulatory and cardiovascular, (c) lymphatic and immune, (d) respiratory, (e) digestive and metabolism, and (f) urinary and reproductive systems of the human body. The course will address the inter-relationships between systems and how the entire body functions as a unit. Credit earned in this course cannot be used to satisfy the AA or AS science requirement. (Prerequisites: *HIT 205*) (Spring)

HIT 210**Pathophysiology with Pharmacology for HIT (3-0) 3 Credits**

This course is an introduction to human disease processes and treatment. Students will become familiar with common diseases by understanding the etiology (cause), signs and symptoms, diagnostic criteria, tests and procedures, associated complications and treatment regimens including surgical procedures and/or medications. Drug classification and adverse drug reactions are examined as are the implications of diagnostic test results. This course will prepare the student for coding by focusing on etiology, signs and treatment of diseases of the human body. (Prerequisites: *OA 215; HIT 206 as co-requisite*) (Spring)

HIT 220**ICD Coding (2-2) 3 Credits**

This course introduces the student to the coding conventions, coding principles and Centers for Medicare and Medicaid Services (CMS) official (inpatient) coding guidelines using the International Classification of Diseases (ICD) system. The coding principles of every section of the ICD system will be practiced. Topics discussed include MDCs (major diagnostic categories) and DRGs (diagnostic related groups). Students will be required to assign ICD codes to diagnosis/procedure using the ICD manual and web-based

assignments assisting in the development of basic skills needed for accurate coding for medical billing purposes. (Prerequisites: *OA 215; HIT 210 co-requisite required for HIT program admitted students*) (Spring)

HIT 230**CPT Coding (2-2) 3 Credits**

This course introduces the student to the theory, structure and process of coding procedures using Current Procedural Terminology (CPT) and Healthcare and Financing Administration's (HCFA) Common Procedural Coding System (HCPCS). CPT coding guidelines, principles and conventions along with ambulatory services coding related to facility and professional services will be examined in detail. Students will also be exposed to HCPCS codes and the hospital chargemaster. (Prerequisites: *OA 215; HIT 220 as co-requisite*) (Spring)

HIT 240**Applied Coding (2-2) 3 Credits**

This course will introduce advanced coding concepts and address more complex issues related to the International Classification of Diseases (ICD) and Current Procedural Terminology (CPT) and Healthcare Common Procedure Coding System (HCPCS) coding. Web based assignments focusing on case studies, mock records and applying learning at a higher coding skill level. This course will prepare the student for their Clinical Application Experience course. (Prerequisites: *HIT 230*) (Summer)

HIT 250**Quality Management in Healthcare (3-0) 3 Credits**

This course introduces the concepts and theories of utilization management, quality management and performance improvement principles focusing on historical, theoretical and practical applications and methodologies. Students are introduced to quality improvement theory and techniques (departmental and hospital-wide) and to the "team concept approach" including a review of member and/or facilitator skills needed to successfully participate. Quality management and performance improvement principles, tools and techniques are applied to the collection and analysis of data; regulatory, accreditation and patient safety compliance; credentialing and utilization; case and risk management. (Prerequisites: *HIT 110 and ENGL 101*) (Fall)

HIT 260**Healthcare Law and Ethics (3-0) 3 Credits**

The focus of this course is on legal and ethical principles pertaining to healthcare, health information and the health record as a legal document. It will expose the student to the American legal system, the judicial process, liability, and statutes with practical application of these principles and concepts to health records. Patient privacy/confidentiality and security of health information is addressed as are the Health Insurance Portability and Accountability Act (HIPAA) regulations. Other topics include informed consents, special protections for patient records, release of information, response to subpoenas, admissibility, discoverability, negligence, living wills, advanced directives, compliance, fraud and abuse and electronic health information exchange (e-Health) issues. (Prerequisite: *HIT 110*) (Spring)

HIT 280**Healthcare Statistics and Research (3-0) 3 Credits**

This course is an introduction to healthcare statistics, including a review of mathematics, interpretation of healthcare statistical formulas, presentation of data, and application of medical research tools. Students are provided with the basic hospital and healthcare statistics including the sources, definitions and calculation of common rate and percentages. Examination of use of statistics in relation to long-range healthcare planning and development, application of automated systems, integration of reports and registration of vital statistics. Students are introduced to, and apply, knowledge-based research techniques and research protocol (Prerequisites: *HIT 110 and MATH 107 or MATH 111*) (Fall)

HIT 285**Clinical Application Experience (1-5) 3 Credits**

This course is a supervised work experience which allows the student to correlate the didactic experiences of previous and concurrent courses with an individualized professional practice experience in various healthcare settings. The student will complete 80 on-site hours in an approved clinical setting. Students will practice the application of clinical classification systems, coding, case mix analysis and use of coded and abstracted data. The supervised clinical experience focuses on coding patient care records. Included in this course will be a review of the coding principles and applications to prepare Medical Coding Certificate graduates for the American Health Information Management Association's (AHIMA) national Certified Coding Associate (CCA) examination. Students will use mock test questions, discussion boards and other resources to prepare them for the national exam. (Prerequisites: *HIT 110; and co-requisite in HIT 240; and a minimum cumulative GPA of 2.50 or permission of instructor*) (Summer)

HIT 290

Clinical Application Experience (1-5)

3 Credits

This course is a supervised work experience which allows the student to correlate the didactic experiences of previous and concurrent courses with an individualized professional practice experience in various healthcare settings. The student will complete 80 on-site hours in an approved clinical setting. Topics include confidentiality, privacy and security of health information, retention, retrieval, storage and release of health information, electronic health records and compliance with reimbursement, coding, case mix analysis, and use of coded and abstracted data in addition to regulatory and accreditation requirements for health information. Included in this course will be review of the health information principles and applications to prepare Health Information Technology graduates for the American Health Information Management Association's (AHIMA) national RHIT examination. Students will use mock test questions, discussion boards and other resources to prepare them for the national exam. (Prerequisites: *HIT 115, HIT 240, HIT 250, and HIT 280; and co-requisite in HIT 200 and HIT 260; and a minimum cumulative GPA of 2.50 or permission of instructor*) (Spring)

HISTORY

HIST 101

Western Civilization I (3-0) 3 Credits

In this history of Western Civilization from ancient times to the end of the Renaissance/Reformation era, the culture and institutional developments of the early civilizations and classical Europe are stressed. HIST 101 partially fulfills the Social and Behavioral Science or Humanities general education requirement, but not both simultaneously. (Prerequisite: Reading at least at Reading Level 1) (Fall-Spring)

HIST 102

Western Civilization II (3-0) 3 Credits

Cultural developments and the growth of social and political institutions of the post-Renaissance/Reformation Western world are stressed. HIST 102 is a foundation course for understanding contemporary world problems. HIST 102 is a Social Science, not a Humanities, course. (Prerequisite: Reading at least at college level) (Note: HIST 101 is not a prerequisite for HIST 102) (Spring)

HIST 106

U.S. History I (3-0)

3 Credits

This introductory course surveys the development of American culture from the Colonial Period through Reconstruction. The growth of political, social and economic institutions is emphasized. Successful completion of History 106 at an accredited Missouri college fulfills the Missouri State requirements in constitutional study and partially fulfills

Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level) (Fall-Spring-Summer)

HIST 107

U.S. History II (3-0)

3 Credits

History 107 surveys United States economic, social, political and diplomatic history from Reconstruction to the late twentieth century. Students successfully completing this course partially fulfill Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading Level 1) (Note: HIST 106 is not a prerequisite for HIST 107) (Fall-Spring)

HIST 111, 112, 113

Topics in History (1-3)

1-3 Credits

These courses provide an opportunity to study selected History topics not covered in the History curriculum or to study in greater depth topics addressed in introductory History courses. The content of these courses may vary from semester to semester and some may require a prerequisite. Check with the Division Chair, instructor or advisor regarding prerequisites for a specific topic course. These courses will transfer but may or may not meet specific degree or program requirements at other institutions. (Prerequisite: Reading at least at Reading Level 1) (Offered on demand)

HONORS

HONR 151, 152, 251, 252

Honors Seminar

1-4 Credits

Students who are participants in the honors program are required to participate in the Honors Seminar course. The class will utilize both a weekly online and traditional class format of instruction as students complete an in-depth examination of the current issues that follow the Phi Theta Kappa International honors topic for the year. For the participants in 252, students will also complete a capstone project that requires research project in their major. (Prerequisite: Must be a participant in the Honors program) (Fall-Spring)

HONR 103, 104, 203, 204

Special Topics in Honors

1-4 Credits

Various topics and modes will be used to explore and research contemporary issues which are of interest and importance to society and the student. (Prerequisite: Meet criteria for Honors Seminar and permission of instructor)

ENGL 104

Honors English Composition

3 Credits

This honors English course continues the study of clearly effective written expository essays for those who have successfully completed English 101 and are participants in the Crowder College Honors Program. In addition, students advance to study more complex methods of thesis development, particularly argument.

Research and documentation procedures are integral subject matter. This course fulfills a portion of communications general education requirements and requires students to complete an additional research component for all honors program participants. (Prerequisite: Limited to honors program participants and completion of ENGL 101) (Spring)

***#NOTE: Reading Level 1 is reading at least the 10th grade level or have completed LOC 50. Reading at the College Level is reading at least the 12th grade level or have completed LOC 90**

HONR 110, 111

Canterbury Study Abroad Program

12 credits

This program of study offers students a semester of study at Canterbury Christ Church University College in England. Students receive full credit toward a degree and gain experience with British life and culture. Students are limited to 12 hours of course work to allow time for excursions and local travel.

PLSC 104

National, State, Local Gov't- Honors

(3-0)

3 Credits

This is a political science class designed for honors students. The course content is the same as Political Science 103 except this class is writing intensive and, when appropriate, more varied instructional techniques will be used in this class. (Prerequisite: admission to Honors Program or consent of the instructor and reading at the college level) (Fall)

HUMANITIES

HUM 102

Cultural Diversity (3-0)

3 Credits

This class is designed to explore a variety of different cultures to gain an understanding and an appreciation of ideas that are similar and different from our own. With mass communication and mass transportation, we are moving to a more global society that requires an appreciation of diversity.

JOURNALISM AND PUBLIC RELATIONS

COMM 101

Introduction to Mass Communications

(3-0)

3 Credits

This course surveys the principles, history, and development of the mass media. The roles and effects of radio, television, newspapers, magazines, film, books, advertising, and the recording industry in the political, social, economic and philosophical life of today are examined. (Spring)

COMM 102**Introduction to Public Relations (3-0) 3 Credits**

This course introduces students to the theory and principles of public relations. It is designed for students interested in public relations or related fields in mass communications. (Fall)

COMM 111**Magazine Production (2-2) 3 Credits**

This course involves students in the magazine process from the collection of raw material through layout and design to the circulation of the finished product. (Prerequisite or co-requisite: ENGL 101) (Spring)

COMM 112**Magazine Production (2-2) 3 Credits**

This course involves students in the magazine process from the collection of raw material through layout and design to the circulation of the Quill, Crowder's community literary/art magazine. (Prerequisite: COMM 111) (Spring)

COMM 150**Introduction to Journalism (3-0) 3 Credits**

This is an applied journalism course in which the Sentry, the student newspaper, is used as a model for the forms and purposes of all phases of journalism: newsgathering, feature writing, layout, advertising and photography. (Prerequisite: OA 105 or appropriate keyboarding placement score and co-requisite or prerequisite: ENGL 101) (Fall)

COMM 151**News and Feature Writing (2-2) 3 Credits**

Instruction and practice of gathering news materials, writing news reports and logos, rewriting, and preparing photos for layout will be given in the production of the Sentry. (Prerequisite: COMM 150) (Fall-Spring)

COMM 152**Applied Journalism (2-0) 1 Credit**

By special arrangement with the instructor, students may work on the Sentry for one hour credit. They may work as a reporter, photographer, ad salesperson or computer operator. Students work independently through instructor assignments. Prerequisite or co-requisite: ENGL 101) (Fall-Spring)

COMM 160**Introduction to Broadcasting (3-0) 3 Credits**

This course will acquaint students with the historical development of the broadcasting industry, to help gain an appreciation of the roles of broadcasting in a free society and the role government and regulation played in the development of broadcasting. (Spring)

COMM 171, 172, 173, 271, 272, 273**Topics in Communication (2-0) 1-3 Credits**

This course involves the study of selected topics in communication, journalism, and media-related fields that require greater emphasis, different methodology or are not covered in regular classes. Topics are identified by title in the class schedule. May be repeated if a different topic is covered. (Arranged)

COMM 211**Magazine Production I (3-0) 3 Credits**

This course is designed for students who wish to continue their participation in the publication of the Crowder Quill. (Prerequisite: COMM 111 and 112) (Spring)

COMM 212**Magazine Production II (3-0) 3 Credits**

This course is designed for students who wish to continue their participation in the publication of the Crowder Quill. (Prerequisite: COMM 211) (Spring)

COMM 225**Internship (0-8) 3 Credits**

Students enrolled in this course gain first-hand experience on the job working 135 hours during the term in a program designed by the sponsor, student, and instructor as a capstone experience. Internships may be completed in newspaper techniques, broadcast, advertising, public relations, or other approved media-related fields. (Prerequisite: Successful completion of at least 15 credits in a related field and instructor approval. Pass/Fail)

COMM 220**Photocommunication I (3-0) 3 Credits**

An introduction to the essential processes and practices of photography, this course emphasizes digital imaging and manipulation as well as photojournalism principles and skills. Students are expected to provide their own digital single-lens reflex (DSLR) camera. Students should have a basic understanding of computer functions prior to enrolling in the class.

COMM 231**Photocommunication II (3-0) 3 Credits**

This course continues COMM 230 (Photocommunication I) with further emphasis on lighting and shooting procedures as well as digital darkroom techniques, such as editing, enhancing, and manipulation. Emphasis will also be placed on storytelling with newsworthy images. Students are expected to provide their own digital single-lens reflex (DSLR) camera. (Prerequisite: COMM 230)

COMM 250**Computer Journalism, Layout and Production (2-2) 3 Credits**

This course places emphasis upon the use of the computer, using desktop publishing programs. The Sentry will provide practical journalistic experience. (Prerequisite: COMM 150, COMM 151) (Fall-Spring)

COMM 251**Journalistic Editing (2-2) 3 Credits**

Emphasis is placed upon the practices and principles of copy reading, headline writing, illustration, staff selection, copy layout and printing through editorial experience on the Sentry. (Prerequisite: COMM 150) (Fall-Spring)

COMM 252**Applied Journalism (2-0) 1 Credit**

By special arrangement with the instructor, students may work on the Sentry for one-hour credit. Students work independently through instructor assignments. (Prerequisite: COMM 152) (Fall-Spring)

LANGUAGES

ASL 101**Beginning American Sign Language I (3-0) 3 Credits**

Beginning American Sign Language (ASL) I will focus on developing conversational skills between deaf and hearing individuals using both fingerspelling and ASL manual signs. Comprehension skills and linguistic features of the ASL language will be emphasized. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both.

ASL 102**Beginning American Sign Language II (3-0) 3 Credits**

Beginning American Sign Language (ASL) II will continue the development of ASL skills. Expressive and ASL receptive communication will be enhanced. Additional ASL vocabulary will be learned. (Prerequisite: ASL I) This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both.

FREN 101**Beginning French (3-0) 3 Credits**

This is a multimedia course that combines video, audio and print to teach French language and culture. It immerses the student in current, living French in everyday situations, spoken by natives. Its focus is on communication and proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Fall)

FREN 102**Beginning French II (3-0) 3 Credits**

This course continues the study of French language and culture. It immerses the student in current, living French in everyday situations. Its focus is on communication and proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: FREN 101) (Spring)

FREN 201**Intermediate French I (3-0) 3 Credits**

This course continues the study of French language and culture. It immerses the student in current, living French in everyday situations. Its focus is on communication proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: FREN 102) (Upon request)

FREN 202**Intermediate French II (3-0) 3 Credits**

This course continues the study of French language and culture. It immerses the student in current, living French in everyday situations. Its focus is on communication and proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: FREN 201) (Upon request)

FREN 103, 104, 105, 203, 204, 205**Topics in French 1-3 Credits**

This course covers topics not normally included in another class. Prerequisites are determined by the department and stipulated in the syllabus for each specific offering. May be repeated. (Upon request)

SPAN 100**Introduction to Spanish Vocabulary, Culture and Conversation (3-0)****3 credits**

This course introduces students to Spanish vocabulary, culture, and conversation. Audio and video materials supplement class practice. This is not a substitution for SPAN 101 and does not fulfill any requirements for a foreign language credit.

SPAN 101**Beginning Spanish (3-0) 3 Credits**

This is a multimedia course that combines video, audio, interactive software, and print to teach Spanish language and culture. It immerses the student in current, living Spanish in everyday situations, spoken by natives. Its focus is on communication proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Fall-Spring)

SPAN 102**Beginning Spanish II (3-0) 3 Credits**

This course continues the study of Spanish language and culture. It immerses the student in current, living Spanish in everyday situations. Its focus is on communication proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: SPAN 101 or permission of the instructor) (Fall-Spring)

SPAN 103**Introduction to Hispanic Culture (3-0)****3 Credits**

This course offers a brief introduction to Hispanic culture through examples of art, journalism, literature and music from and about Spain and Latin America. Knowledge of Spanish is not required.

SPAN 105**Conversational Spanish (3-0)****3 Credits**

This course is geared to those who have knowledge of the Spanish language. This course emphasizes idiomatic usage, vocabulary, grammar, and syntax. There is a focus on acquisition and development of skills necessary for effective oral and written communication. Hispanic culture, history, art, and literature will be highlighted in course materials, student presentations, and writing assignments. The material covered in this course is designed not only to meet the educational needs of traditional students of the language, but also the needs of the heritage language speakers who enter the Spanish program with some or all of the four language skills developed to varying degrees. (Prerequisites: SPAN 102 or equivalent) (Fall or upon request)

SPAN 106**Basic Conversational Spanish II (3-0)****3 Credits**

This is a continuation of Conversational Spanish I (SPAN 105) that includes conversational practice and cultural, historic, art and literary readings and discussions with student presentations and writing assignments. (Prerequisite: SPAN 105 or equivalent) (Spring or upon request)

SPAN 201**Intermediate Spanish (3-0) 3 Credits**

This course continues the study of Spanish language and culture. It immerses the student in current, living Spanish in everyday situations. Its focus is on communication proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: SPAN 102 or permission of instructor) (Fall or upon request)

SPAN 202**Intermediate Spanish II (3-0)****3 Credits**

This course continues the study of Spanish language and culture. It immerses the student in current, living Spanish in everyday situations. Its focus is on communication proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: SPAN 201 or permission of instructor) (Spring or upon request)

SPAN 107, 108, 109, 207, 208, 209**Topics in Spanish 1-3 Credits**

This course covers topics not normally included in another class. Prerequisites are determined by the department and stipulated in the syllabus for each specific offering. May be repeated. (Upon request)

SPAN 111**Introduction to Spanish for Health Care Workers (2-2) 3 Credits**

This is a multimedia course that combines video, audio, and print to introduce students to medical terms and elementary non-medical expressions in Spanish. This course is designed for students who work/plan to work in health care and who want to learn Spanish phrases as related to their daily activities. The course activities are divided into 2 major sections: First, basic language skills that are taught using the textbook, "an Introduction to Spanish for Health Care Workers"; Second, the memorization of dialogs related to specific medical tasks (e.g., assessing medical history, assessing health risks, making appointments, etc.). This course is not a Spanish language (grammar) course per se, but it designed to teach health care workers how to do specific tasks in Spanish. As such, there is no specific Spanish prerequisite to be enrolled in this course. All health care workers/students who are interested in acquiring the basic Spanish skills as related to their daily activities are encouraged to enroll in this course. Students who are interested in acquiring the Spanish language in general are invited to enroll in traditional Spanish language (grammar) courses. *This class may apply toward the Humanities Elective education requirement for the Nursing Program, or may apply toward an elective requirement for an A.A. in Spanish, but may not apply toward both.*

LEARNING OPPORTUNITIES

ELI 31

English for Non-Native Speakers I (12-0) 12 Credits

This course provides non-native speakers with intensive training in basic English skills to acquire vocabulary and apply knowledge of the English language structure and mechanics to understand basic spoken English, participate in oral communication at the beginning level, comprehend brief, simplified printed material, and produce short, clear and logical written text. (Placement by Assessment)

ELI 33

English for Non-Native Speakers II (Intermediate) (6-0) 6 Credits

This course provides non-native speakers with intensive training in intermediate English skills to acquire vocabulary and apply knowledge of the English language structure and mechanics to understand spoken English, participate in oral communication at the intermediate level, comprehend simplified printed material, and produce clear and logical written text. (Prerequisites: ELI 31 and/or placement by assessment)

ELI 35

English for Non-Native Speakers III (3-0) 3 credits

This course provides non-native speakers with intensive training in advanced English skills to acquire vocabulary and apply knowledge of the English language structure and mechanics to understand spoken English, participate in oral communication at the advanced level, comprehend printed material, and produce clear and logical written text. (Prerequisites: ELI 33 and/or placement by assessment)

ELI 37

English for Non-Native Speakers: Special Topics (3-0) 3 Credits

This course provides non-native speakers with specialized training in a focused set of English language skills. The special topics covered will be determined by the student's current language proficiency and expressed language acquisition goals in cooperation with the ELI instructor.

MATH 40

Arithmetic (2-0) 2 Credits

This college prep course is recommended for students needing to improve their basic skills in the use of whole numbers, fractions, decimals, simple geometry and number theory. Students whose placement scores indicate a need are required to enroll. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: An appropriate

math placement score) (Fall-Spring-Summer)

MATH 50

Basic Algebra (3-0) 3 Credits

This college prep course is recommended for students who have had no previous background in algebra and those whose placement scores indicate a need for beginning algebra. This course is offered on a credit/no credit basis, with 70% or better required to receive credit. This course cannot be applied to requirements for graduation. (Prerequisite: MATH 40, MATH 60, or an appropriate math placement score) (Fall-Spring-Summer)

MATH 60

Pre-Collegiate Math I (2-2) 3 Credits

This college prep course is recommended for students needing to improve their skills in basic math. Students whose placement scores indicate a need are required to enroll. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: An appropriate math placement score) (Fall-Spring-Summer)

MATH 70

Pre-Collegiate Math II (2-2) 3 Credits

This college prep course is recommended for students needing to improve their skills in basic algebra. The course is offered on a credit/no credit basis, with 70% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: MATH 40, MATH 60, or an appropriate math placement score) (Fall-Spring-Summer)

COMM 80

Introduction to Communications (2-0) 2 Credits

This course focuses on the study of basic grammar and mechanics of composition including an analysis of subjects, verbs, sentence structure, and punctuation. The course is required of some students as determined by scores on placement tests and is recommended for students returning to school from a prolonged absence. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. A letter grade will not be given and there will be no impact on the student's grade point average. Students must earn credit for the course or reach the appropriate Crowder placement score in order to take further composition courses. These credits cannot be applied toward graduation requirements. (Placement by Crowder Standard Placement Exam)

LOC 40

Reading Enhancement I (2-0)

2 Credits

Students will be taught basic reading strategies to facilitate comprehension of expository and narrative text. The course is offered on a credit/no credit basis, with 80% or better required to receive credit.

These credits cannot be applied to requirements for graduation. A letter grade will not be given and there will be no impact on the student's grade point average. (Prerequisite: Placement by Crowder Standard Placement Exam)

LOC 50

Reading Enhancement II (2-0)

2 Credits

This is a course for students needing to improve specific reading skills. Emphasis will be on adequate reading preparation, increasing reading speed and improving vocabulary and comprehension through the development of literal, critical and effective reading skills. These skills will be taught through a variety of textbook exercises, tests, computer software, quizzes and readings. In addition, outside reading/writing may be utilized to further ensure development of skills. The course is offered on a credit/no credit basis, with 75% or better required to receive credit. These credits cannot be applied to requirements for graduation. A letter grade will not be given and there will be no impact on the student's grade point average. (Prerequisite: LOC 40 or Placement by Crowder Standard Placement Exam)

LOC 90

Reading Across the Curriculum (3-0)

3 Credits

This course is designed to improve reading skills necessary to succeed in college level courses across disciplines. Emphasis is on critical reading techniques, content-specific vocabulary and efficient comprehension. A variety of readings, assessments, and supplemental exercises are included to enhance the development of the various reading skills. The course is offered on a credit/no credit basis, with 70% or better required to receive credit. These credits cannot be applied to requirements for graduation. A letter grade will not be given and there will be no impact on the student's grade point average. (Prerequisite: LOC 50 or Placement by Crowder Standard Placement Exam)

LOC 100

College Success (3-0) 3 Credits

This course is designed to increase success in college by assisting you in acquiring and mastering the skills necessary for you to reach your personal and educational goals. Course topics will include time and stress management, test taking, communication skills, study techniques, question-asking skills, community resources, college transfer issues, career planning, budget planning, and personal issues that one may face as a college student. Successful completion of College Success is required for students placing in three or more developmental courses.

LOC 103

College Connections (3-0) 3 credits

College Connections is designed as an academic intervention and application course. The course is required for students on academic probation. This course will assist you in acquiring and implementing many proven strategies for creating greater academic, professional, and personal success. To explore these strategies we will use individual and group discussions, activities, and assignments, guided journal writing, as well as personal one-on-one meetings. As a bonus, you will learn to express yourself more effectively in writing. You may never again have an opportunity quite like this one to discover how to create a rich, personally fulfilling life. I urge you to make the most of this extraordinary opportunity! If you do, you will dramatically change the outcome of your life – for the better! A grade of “C” or higher is required to meet academic status requirements. The course must be repeated until academic status is met. (Prerequisite: Only students on academic probation or returning from suspension may enroll in this course)

LOC 105

Career Directions (1-0) 1 Credit

This course is designed to help students discover what their personal interests, values and talents are, and to learn how to use this knowledge to help them in choosing a career. Taking this course can shape their educational experiences at Crowder College and help them understand how career choices can impact their lifestyle.

LOC 206

Career Exploration (0.5-1.25) 1 credit

This course provides students with the opportunity to refine their career plan, to practice job search skills such as interviewing and professional communication, and to evaluate their career goals. Students will complete a combination of an eight hour equivalent of class meetings and twenty hours of on-site field experience.

MATHEMATICS

MATH 40

Arithmetic (2-0) 2 Credits

This college prep course is recommended for students needing to improve their basic skills in the use of whole numbers, fractions, decimals, simple geometry and number theory. Students whose placement scores indicate a need are required to enroll. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: An appropriate math placement score) (Fall-Spring-Summer)

MATH 50

Basic Algebra (3-0) 3 Credits

This college prep course is recommended for students who have had no previous background in algebra and those whose placement scores indicate a need for beginning algebra. This course is offered on a credit/no credit basis, with 70% or better required to receive credit. This course cannot be applied to requirements for graduation. (Prerequisite: MATH 40, MATH 60, or an appropriate math placement score) (Fall-Spring-Summer)

MATH 60

Pre-Collegiate Math I (2-2) 3 Credits

This college prep course is recommended for students needing to improve their skills in basic math. Students whose placement scores indicate a need are required to enroll. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: An appropriate math placement score) (Fall-Spring-Summer)

MATH 70

Pre-Collegiate Math II (2-2) 3 Credits

This college prep course is recommended for students needing to improve their skills in basic algebra. The course is offered on a credit/no credit basis, with 70% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: MATH 40, MATH 60, or an appropriate math placement score) (Fall-Spring-Summer)

MATH 100

Intermediate Algebra (3-0) 3 Credits

This preparatory course for College Algebra is recommended for students successfully completing Basic Algebra or whose placement scores indicate a need for additional algebra. Topics include linear equations, graphing, systems of equations and polynomials. This course will not satisfy most degree requirements for mathematics. It will count as an elective on your transcript. (Prerequisite: MATH 50, MATH 70, or an appropriate math placement score) (Fall-Spring-Summer)

MATH 104

Technical Mathematics (3-0)

3 Credits

Technical Mathematics applies practical concepts of mathematics to a variety of real world problems. This class is specifically designed to meet the needs of students in the college's AAS Technology programs. This class will not satisfy the general education requirement for an Associate of Arts degree. (Prerequisite: MATH 50, MATH 70, or an appropriate placement exam score) (Spring)

MATH 107

Introduction to Mathematics (3-0)

3 Credits

This course emphasizes some of the basic concepts, principles and methods of mathematics. Topics include set theory,

geometry, statistics, probability, number systems and the metric system. (Prerequisite: MATH 100 or an appropriate placement exam score) (Fall-Spring-Summer)

MATH 111

College Algebra (3-0) 3 Credits

College Algebra involves the study of equations and inequalities; linear, quadratic, polynomial, rational, exponential, and logarithmic; and their applications. This course will satisfy most degree requirements in Mathematics and should transfer to any four-year institution. (Prerequisite: MATH 100 or placement by the placement exam) (Fall-Spring-Summer)

MATH 112

Trigonometry (2-0) 2 Credits

Trigonometry involves the study of the six trigonometric functions and their applications. (Prerequisite: MATH 100 or an appropriate placement score) (Fall-Spring)

MATH 150

Calculus I, Part I (2-0) 2 Credits

This course begins a sequence of calculus and analytical geometry courses. Topics include the derivative and its applications. (Prerequisite: MATH 111 or an appropriate placement exam score. Concurrent enrollment in MATH 112 will be required for those students with a limited background in trigonometry) (Fall-Spring)

MATH 160

Calculus I, Part II (3-0) 3 Credits

This course continues the study of Calculus, including applications of the derivative, L'Hopital's Rule, and the integral (Prerequisite: MATH 150) (Spring)

MATH 201

Calculus II (5-0) 5 Credits

This course continues the calculus/analytic geometry sequence. Topics include various methods and applications of integration, sequences and series, and vectors. (Prerequisite: MATH 160) (Fall)

MATH 202

Calculus III (5-0) 5 Credits

This course completes the calculus/analytical geometry sequence. Topics include vector-valued functions, graphing in three dimensions, calculus of multiple variables, line and surface integrals. (Prerequisite: MATH 201) (Spring)

MATH 210

Differential Equations (3-0) 3 Credits

Differential Equations provides methods for the solution of standard types of ordinary first and second order differential equations. The use of numerical techniques, the Laplace transform, power series and linear methods of solution are examined. (Prerequisite or co-requisite: MATH 202) (Spring)

Math 271, 272, 273**Topics in Mathematics 1-3 Credits**

A variable content course with areas of study that reflect current issues. Topics are identified in the course schedule and prerequisites are spelled out in the syllabus.

MUSIC

MUSC 100**Music Recital****0 Credit**

All music majors are required to attend and participate in seminars and recitals each semester.

MUSC 101**Music Appreciation (3-0) 3 Credits**

This survey of the development of music from the Middle-Ages to the present includes an examination of the cultural forces which shaped the musical expressions of each era. The course is designed to provide the students with the musical vocabulary and listening techniques for a meaningful and enriching understanding and appreciation of music literature.

MUSC 102**Fundamentals of Music (3-0)****3 Credits**

Students interested in acquiring a working knowledge of the basic written language of music cover music notations, scales, intervals, chords and rhythms. (Fall)

MUSC 103**Music Theory I (3-0)****3 Credits**

This beginning course in music theory studies intervals, triads, four-part diatonic harmony and connection of triads and their inversions. (Prerequisite: MUSC 102 or equivalent) (Spring)

MUSC 104**Music Theory II (3-0)****3 Credits**

This is a second course in music theory, continuing the subject matter of Music 103 and extending into areas of seventh chords and non-harmonic tones. (Prerequisite: MUSC 103) (Fall)

MUSC 105**Elementary Class Piano I (1-2)****1 Credit**

For the beginning pianist, dynamic group learning introduces the keyboard. Scales, chords and the harmonization of simple melodies are studied. (Fall-Spring)

MUSC 106, 107, 206, 207**Chorale (0-3)****1 Credit**

This course is open to all college students who like to sing. Functions include preparation and performance of a large variety of works. Credit is given for participation each semester in accordance with course number sequence shown. (Fall-Spring)

MUSC 108, 109, 208, 209**Special Topics in Music (1-0)****1-2 Credit**

Subject matter not covered in other courses is studied with permission of the instructor. Repeat for a total of 4 hours. Credit accepted if the topics are different. (Prerequisite: permission of the instructor) (Upon request)

MUSC 112**Voice for Theatre Majors****1 Credit**

This is a course for Theatre majors who need singing skills for musicals. The course will be offered as needed. (Prerequisite: permission of the instructor).

MUSC 113**Ear Training and Sight Singing I****1 Credit**

This beginning course in ear training and sight singing studies the identification of melodic and harmonic intervals, melodic and rhythmic dictation and sight singing. (Prerequisite: MUSC 102 or equivalent) (Fall)

MUSC 114**Ear Training and Sight Singing II****1 Credit**

This course is a second course in ear training and sight singing which studies identification of primary and secondary chords, identification of figured bass, melodic and rhythmic dictation and sight singing. (Prerequisite: MUSC 113) (Fall)

MUSC 115**Elementary Class Piano II (1-2)****1 Credit**

This course is a continuation of elementary Class Piano I with the study of beginning standard piano literature. (Fall-Spring)

MUSC 116, 117, 216, 217**Ensembles****1 Credit**

Open by audition or approval of the instructor, this course provides instruction for students interested in vocal, instrumental or keyboard ensemble music. (Arranged)

MUSC 118, 119, 218, 219**Music-Theatre Participation****1-2 Credits**

This course offers credit to students who participate in music-drama productions under supervision of the music instructor. Hours are to be arranged. A maximum of four credit hours may be applied toward graduation if the course is repeated. (Prerequisite: permission of the instructor) (Arranged)

MUSC 190, 191, 290, 291**Chromatix (0-2)****1 Credit**

Open to all college students upon audition, the Chromatix performs in many areas of public relations and recruitment for the college. Varieties of performance styles are offered. (Audition Only) (Fall-Spring)

MUSC 195, 196, 295, 296**Community Mixed Chorus (0-4)****1-2 Credits**

This course welcomes all students and community residents. Weekly rehearsals are scheduled in preparation for public performance on off-schedule basis. (Upon Request)

MUSC 203**Music Theory III (3-0)****3 Credits**

This course studies part writing, modulations and harmonic analysis. (Prerequisite: MUSC 104) (Spring)

MUSC 213**Ear Training and Sight Singing III (1-2)****1 Credit**

This course studies identification of seventh chords, harmonic dictation, continuation of melodic and rhythmic dictation and sight singing. (Prerequisite: MUSC 114) (Spring)

MUSIC, APPLIED**Private Lessons (Open to All Students)****1 Credit**

MUSC 120, 121, 220, 221 Piano
MUSC 140, 141, 240, 241 Voice
MUSC 180, 181, 280, 281 Guitar

2 Credits

MUSC 122, 123, 232, 244 Piano
MUSC 142, 143, 242, 243 Voice
MUSC 182, 183, 282, 283 Guitar

NURSING

ADN 163**Nursing Concepts I (3-0)****3 Credits**

This course provides exploration of the concepts and theories that support the nursing role. Emphasis will be on critical thinking and the nursing process. Professional, legal and ethical aspects of evidenced-based care will be introduced. This is an introductory course of normal growth and development from birth to the older adult. A holistic approach will be utilized encouraging the student to assess the client's physical, cultural, developmental, and psychosocial aspects of care. (Prerequisite: BIOL 152 and CNA 101 and CNA 102)

ADN 167**Clinical I (0-3)****1 Credit**

This course introduces the healthcare setting. The student will complete 32 hours of clinical practice in an approved medical facility, and additional simulation and dosage calculation experiences, for total of 48 contact hours. During the course the student is provided with clinical practice in providing basic nursing care for medical clients. The student will assess, plan, implement and evaluate nursing care. Legal documentation of care will be emphasized. The student will be given opportunity to develop skill in basic nursing procedures. (Prerequisite: BIOL 152 and CNA 101 and CNA 102)

ADN 169
Nursing Interventions I (3-1)

3 Credits

The focus of this course is acquisition of knowledge and skills to provide basic nursing care. Nursing procedures will be introduced during the lab component of this course. Emphasis will be on system-specific assessments. Application of principles of critical thinking and problem-solving skills will be practiced in simulation. Medical terminology and professional communication will be emphasized through documentation of assessments and procedures. (Prerequisite: BIOL 152, CNA101, and CNA102 or EMT or Paramedic License)

ADN 170
Nursing Interventions II (4-1)

4 Credits

This course applies the principles and skills related to advanced assessment in evaluating normal client health states. Incorporation of lab and diagnostic values will be emphasized. Initial interventions related to nursing care of clients will be included. Incorporation of support systems in client care will be stressed. Continued development of nursing skills will be emphasized throughout the lab component of this course. This course includes 64 hours of didactic and 16 hours of skills labs and simulations. (Prerequisite: BIOL 252 and ADN 169)

ADN 172
Family Development (2-0)

2 Credits

This course provides the principles of family-centered, maternal-newborn nursing. The course focuses on the physical, cultural, spiritual, and psychosocial needs of the pregnant woman, her family, and the newborn. Assessment and health promotion of the well child will be incorporated. (Prerequisite: ADN 163 & ADN 169)

ADN 175
Dosage Calculation I (1-0)

1 Credit

This course will provide introduction to basic dosage calculations. Emphasis will be placed on developing and expanding math skills as they relate to administering medications and dosage related medical terminology.

ADN 176
Dosage Calculation II (1-0)

1 Credit

This course will build on basic dosage calculations learned in Dosage Calculation I. Emphasis will be placed on calculation related to preparation of solutions, pediatric dosages, parenteral medications, enteral and intravenous infusions. (Prerequisite: ADN 175 or Instructor Approval)

ADN 177
Clinical II (0-12)

3 Credits

This course provides 180 hours of clinical practice in basic nursing skills in addition to dosage calculation, and simulation experiences. The student will be encouraged to apply growth and development principles in assessing,

planning, intervening, and evaluating nursing care. Emphasis will be on therapeutic communication and legal documentation. (Prerequisites: ADN 167)

ADN 200
Transition (LPN's only) (2-0)

2 Credits

This is a specially designed course for licensed practical nurses entering into professional nursing. This course provides essential concepts and skills to facilitate the assimilation of knowledge and incorporation of the professional nursing role. (Prerequisite: Student must be an LPN and admitted to the ADN program, BIOL 252 and CHEM 101 or CHEM 104 or CHEM 111)

ADN 260
Nursing Interventions III (4-0)

4 Credits

This course utilizes a nursing framework to plan care for the clients with altered health states throughout the life cycle. Nutritional and pharmacological aspects of care will be included. Methods of evaluating care based on expected outcomes will be emphasized. (Prerequisite: ADN 170 or ADN 200 and CHEM 101)

ADN 263
Nursing Concepts II

2 Credits

This course incorporates theories in leadership and management. Topics introduced in Nursing Concepts I will be further developed such as legalities and ethics. Collaboration, with the management team and other health professionals, delegation, prioritization, quality improvement, time management, and professional communication will be explored. Conflict management and assertiveness training will be included. (Prerequisite: ADN 163)

ADN 267
Clinical III (0-12)

3 Credits

This course provides 180 hours of clinical experiences in addition to simulation in promoting accountability, responsibility, and communication within the health care team. Dosage calculation instruction will be provided. The student will be given the opportunity to master nursing skills in a variety of settings. (Prerequisites: ADN 177 or ADN 200)

ADN 268
Pathophysiology (3-0)

3 Credits

This course utilizes principles of adult learning and a nursing framework to relate pathophysiologic concepts to nursing care. Disease processes are discussed in terms of nursing problems. (Prerequisite: BIOL 152)

ADN 272
Psychosocial Nursing

2 Credits

This course utilizes the nursing process to develop a safe plan of care for individuals with problems related to coping and adaptation throughout the life cycle. Emphasis will be on helping the student become more sensitive to human behavior and the therapeutic use of self. Pharmacological and nutritional aspects of

care will be included. (Prerequisite: PSYC 101 or SOC 101, successful completion of the third semester nursing courses)

ADN 277
Clinical IV (0-12)

3 Credits

This course provides 144 hours of clinical experiences and simulation in promoting accountability, responsibility, and communication within the health care team. Dosage calculation instruction will be provided. The student will be given the opportunity to master nursing skills in a variety of settings. Evidenced-based nursing care will be emphasized. (Prerequisite: ADN 267)

ADN 279
Nursing Interventions IV (3-0)

3 Credits

This course builds on the concepts introduced in Nursing Interventions III for the care of the adult medical-surgical clients with multi-system alteration. Advanced nursing skills in specialty units will be emphasized. (Prerequisite: ADN 260)

ADN 280
Advanced Pharmacology (3-0)

3 Credits

The advanced Pharmacology course offers an in-depth discussion of current medications being utilized with an emphasis on nursing responsibility in administering and monitoring them. Discussion of the way medications are absorbed, metabolized, distributed and excreted will be included. The student will review the physiology of major body systems and explore the interaction of medications with individual systems. Nursing considerations will be presented through the nursing process including nutrition, supportive care and patient teaching with application through the life span. (Prerequisites: Admission to the ADN Program or completion of an accredited licensed practical nursing program, or a Registered nurse or by permission of the instructor)

ADN 281
Dosage Calculation III (1-0)

1 Credit

This course will provide and build on basic dosage calculations learned in Dosage Calculation I & II. With emphasis on blood modifying and metabolic dosage calculations.

ADN 282
Dosage Calculation IV (1-0)

1 Credit

This course will build on basic dosage calculations learned in Dosage Calculations 1, II and III. With emphasis on developing and expanding critical dosage calculations as related to the Critical Care Setting.

OCCUPATIONAL THERAPY ASSISTANT

OTA 101

Principles of Occupational Therapy (2-0) 2 Credits

This course will examine the role of occupational therapy in health care, community-based and educational systems. Topics include: history, philosophical principles, the *Occupational Therapy Framework: Domain and Process, Standards of Practice, Code of Ethics*, current and emerging practice areas. This course will also address the roles of the registered occupational therapist, certified occupational therapy assistant, national and state credentialing requirements, and occupational therapy association functions at all levels. (Co-requisites: OTA 111 and OTA 116)

OTA 111

Occupational Performance Across the Lifespan (2-2) 3 Credits

This course will focus on the observations, analysis, and performance of human occupations in work, self-care, and play/leisure throughout the life span. The teaching and learning process and the language of occupational therapy will be incorporated. (Co-requisites: OTA 101 and OTA 116)

OTA 116

Principles of Therapeutic Intervention (2-2) 3 Credits

This course covers basic understanding of relevant occupations and purposeful activities used in occupational therapy programs. Lab work performed relates to children and adult occupations and activities. These include, but are not limited to: leather craft, beading, basic woodworking and rehabilitation technology with an emphasis on meaningfulness to the client to encourage participation and independence. These activities are related to the domains of occupational therapy. Activity analysis, group activities, activity adaptation, application of the Practice Framework, maintenance of the Occupational Therapy (OT) service environment, and teaching/lifelong learning are incorporated. (Co-requisites: OTA 101 and OTA 111)

OTA 131

Functional Movement: Occupation and Adaption (2-2) 3 Credits

This course will present the basic principles of biomechanics and kinesiology related to human movement and occupational performance. To analyze functional movement required for work, self-care, and play this course will study the interrelationship among the central nervous system, peripheral nervous system, musculoskeletal system, anatomical landmarks, joints, posture, balance, and locomotion. (Prerequisite: BIOL 252; Co-requisites: OTA 140 and OTA 201)

OTA 140

Occupational Therapy Trends and Issues (2-0) 2 Credits

This course will cover the roles and responsibilities in the administration of occupational therapy services. Topics include assistance with the management of departmental operations; development of values, attitudes, and behaviors congruent with Occupational Therapy (OT) standards and ethics; the role of the Occupational Therapy Assistant (OTA) in OT, research publication, and program evaluation; supervisory requirements; certification and licensure; reimbursement issues; personnel training and supervision; continued learning; and promotion of the OT profession; and job search skills. (Prerequisite: OTA 111; Co-requisites: OTA 131 and OTA 201)

OTA 201

Principles of Occupational Therapy Practice: Children and Adolescents (4-2) 5 Credits

This course will provide a review of human development from birth through adolescence, with emphasis on occupational performance of typical and atypical individuals. Topics include: theory and application, frames of reference, observation skills, assessment, adapting, intervention, documentation, the occupational therapy process, evidence-based practice, ethics and roles of the Occupational Therapist and Occupational Therapy Assistant in service delivery and in various practice settings. (Prerequisite: OTA 116; Co-requisites: OTA 131 and OTA 140)

OTA 211

Principles of Occupational Therapy Practice: Mental Health (2-6.5) 5 Credits

This course will examine the occupational therapy process in relation to individuals with psychosocial challenges across the lifespan and focus on observation skills, assessment, documentation, teaching, adapting, and grading self-care, work, play/leisure occupations for individuals and groups with psychosocial challenges. Topics include: clinical features, group dynamics, therapeutic use of self, interventions, evidence-based practice, ethics, and issues impacting psychosocial Occupational Therapy practice. This course includes Level I fieldwork component consisting of eight hours a week for 6 weeks in a practice setting. (Prerequisite: OTA 116; Co-requisites: OTA 236 and OTA 221)

OTA 221

Principles of Occupational Therapy Practice: Physical Rehabilitation (2-6.5) 5 Credits

This course will focus on the occupational therapy (OT) process in relation to persons with physical disabilities, development of observation skills, assessment, treatment, teaching, adapting, grading self-care, work, and play/leisure occupations for individuals with physical challenges. Topics include techniques and equipment

to maximize participation in meaningful occupations, improve independence, ensure safety, prevent deformity and other issues impacting physical rehabilitation OT practice. (Prerequisite: OTA 131; Co-Requisites: OTA 211 and OTA 236)

OTA 236

Occupational Performance Issues in Later Adulthood (2-2) 3 Credits

This course will cover Occupational Therapy (OT) related geriatric issues. Topics include: study of the normal aging process, physical, psychosocial and cognitive dysfunctions common to the elderly, OT practice framework domain, process and therapeutic intervention with the geriatric population. This course will emphasize the importance of patient, family and caregiver education. (Prerequisite: OTA 140; Co-requisites: OTA 211 and OTA 221)

OTA 240

Fieldwork Level II – A (0-12.5) 5 Credits

Students will complete level II fieldwork for 35-40 hours a week for eight weeks. This is required in a supervised fieldwork experience applying occupational theory, skills, and concepts at an off-campus designated site. Students will use the occupational therapy process while developing and practicing the skills of an entry-level Occupational Therapy Assistant. Students are assigned to a particular setting working with individuals with developmental, physical, or emotional challenges. Students are responsible for their own transportation, room and board. (Prerequisite: OTA 221)

OTA 250

Fieldwork Level II – B (0-12.5) 5 Credits

Students will complete level II fieldwork for 35-40 hours a week for eight weeks. This is required in a supervised fieldwork experience applying occupational theory, skills, and concepts at an off-campus designated site. Students will use the occupational therapy process while developing and practicing the skills of an entry-level Occupational Therapy Assistant. Students are assigned to a particular setting working with individuals with developmental, physical, or emotional challenges. This course is designed to provide the student the opportunity to apply learned theory, skills, and knowledge in a second setting, therefore, gaining a deeper and broader perspective of the field of Occupational Therapy. (Prerequisite: OTA 240)

PHARMACY

PHAR 101

Pharmacy Techniques I (2-2)

3 Credits

Upon completion of this course the student will possess the minimum knowledge base or competency to assist pharmacists in the preparation of prescriptions. (Prerequisites: HS Diploma or GED. Eligible to register to take a National certification exam)

PHAR 102

Pharmacy Techniques II (3-0)

3 Credits

Upon completion of this course the student will possess the knowledge base or competency to assist pharmacists in the preparation of prescriptions. The student will meet all the requirements to take a National certification exam. (Prerequisites: PHAR 101)

PHAR 110

Pharmacology Concepts (0-7.5)

3 Credits

Upon completion of this course the student will possess the knowledge base of competency to dispense medications. Ethical and legal concepts will be introduced.

PHAR 150

Pharmacy Tech Internship (1-4)

3 Credits

Supervised work experience allows the student to apply skills in an actual pharmacy situation. Students will be required to gain experience in the area in which they are seeking a certificate. Students will complete coursework and 80 hours of supervised work experiences during the semester. (Co-requisite: PHAR 102)

PHILOSOPHY

PHIL 101

Introduction to Western Philosophy (3-0)

3 Credits

A reading prerequisite is in recognition that good reading skills are necessary for this course. The course introduces students to the philosophical questions posed by western thinkers and the impact of these ideas on the wider culture and history, and will include readings taken from ancient Greeks to modern philosophers. The course partially fulfills requirements for humanities general education. (Prerequisite: Reading at least Reading Level 1)

PHIL 110

Critical Thinking (3-0)

3 Credits

This course teaches the art of critical thinking and informal logic in examining the messages in all kinds of discourse: media, politics, values conflicts, and personal conversation. It teaches the ability to evaluate and manage claims for truth, and how to effectively engage others in positive and productive argumentation.

The course examines theories of ethics and values, and methods of discourse with others regarding issues an ethics and values. This is an introductory course and fulfills requirements for General Education in either Humanities or Social Sciences. (Prerequisite: Reading at least at Reading Level 1)

PHIL 121

World Religions (3-0)

3 Credits

Students survey and compare the great world religions emphasizing concepts of God, creation, humanity, scripture, ethics and salvation. Emphasis is placed on the relationship between religious beliefs and other elements of society and culture. This rational and historical analysis concentrates on Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Taoism, Shinto, Zoroastrianism, Judaism, Christianity, Islam, and Baha'i. It also includes an introduction to some basic indigenous religions of Native America and Africa. Students successfully completing this course may apply the hours to partial fulfillment of the general education requirement in either Humanities or Social Sciences but not both simultaneously.

PHIL 201

Logic (3-0)

3 Credits

The methods and principles used in distinguishing sound from faulty reasoning, both deductive and inductive, are examined. Students successfully completing this course partially fulfill Humanities general education requirements. (Prerequisite: Reading at least at Reading Level 1) (Upon request)

PHIL 202

Ethics (3-0)

3 Credits

PHIL 202 surveys various ethical systems and explores personal moral attitudes and the ethical struggles in modern society. Students successfully completing this course partially fulfill Humanities general education requirements. (Prerequisite: Reading at least at Reading Level 1) (Upon request)

*#NOTE: Reading Level 1 is reading at least the 10th grade level or have completed LOC 50. Reading at the College Level is reading at least the 12th grade level or have completed LOC 90

PHYSICAL EDUCATION

The following courses meet physical education activity graduation requirements.

PE 102

Volleyball, Softball (0-2)

1 Credit

A brief history and instruction of foundations in volleyball and softball are presented to promote continued fitness through sports. (Upon request)

PE 103

Bowling (0-2)

1 Credit

A brief history of bowling is followed by fundamentals of scoring. Instruction will be given in correct grips, stance, footwork and basic approach and release. (Additional bowling alley fee assessed) (Fall-Spring)

PE 104

Rhythmic Aerobics (0-2)

1 Credit

This general fitness class is designed to guide each student toward physical fitness and weight control through group exercise to music. (Note: prerequisite for PE 204 is PE 104; these courses should be taken in sequence) (Fall-Spring)

PE 105

Weight Training (0-2)

1 Credit

This course is designed to assist participating students in maintaining and improving their general physical conditioning. The class emphasizes cardiovascular and muscular endurance, strength and flexibility through conditioning exercises and body mechanics. Daily activities include jogging and weight lifting to present a well-rounded program to students. (Fall-Spring)

PE 110

Golf (0-2)

1 Credit

A brief history is followed by practice in the fundamental skills of golf. Scoring, strategy and rules are also taught. College facilities and the local golf course are utilized. (Additional golf fee may be assessed) (Fall-Spring)

PE 111

Lifetime Activities (0-2)

1 Credit

This course acquaints students with a wide variety of activities that can be enjoyed throughout their lifetime. The following individual and group lifetime activities are covered: walking, bowling, badminton, volleyball, whiffle ball, table tennis, pickle ball and Frisbee. (Fall)

PE 113

Lifetime Fitness and Wellness (1-1)

2 Credits

This course provides contemporary information about the beneficial effects of a positive healthy lifestyle and how to implement and live such a lifestyle through lecture, lab work, and weight workouts. General topics covered include cardiovascular fitness, posture, flexibility, agility, muscle tone, strength, endurance, diet and exercise. (Fall-Spring)

PE 114

Badminton and Table Tennis (0-2)

1 Credit

A brief history of each activity is followed by practice in the fundamental skills of badminton and table tennis. Scoring, strategy and rules are also taught. (Spring)

PE 116, 216**Self Defense and Advanced Self Defense (0-2) 1 Credit**

This course acquaints students with the basic elements of a wide variety of self-defense techniques including elements of Tae Kwon Do, Aikido, Hapkido, and other martial arts. Course work includes warm-up activities such as stretching and exercise, drills and practice of techniques individually and with partners. (PE 116 is a prerequisite for PE 216; the courses should be taken in sequence) (Fall-Spring)

PE 117**Walking for Fitness 1 Credit**

Walking for Fitness is a low impact, outdoor activity class. It is designed to guide students toward better physical fitness through structured walking activities. The course will cover health-related topics such as heart rate (resting and target), weight management, pedometer usage, flexibility, caloric requirements and expenditures, body composition, stretching, and basic nutrition. (Upon Request)

PE 118**Introduction to Fly Fishing 1 Credit**

An introduction to fly fishing includes instruction in ways in which to preserve fish habitat and a basic introduction to the sport of fly fishing. Students' introduction to the sport will include: knowledge of equipment, fish identification, knot-tying, casting mechanics, fishing techniques, reading still and moving water, basic entomology and ecology, and environmental preservation and restoration projects. No previous fly fishing or conventional tackle fishing experience is needed for the course. This introductory course is intended to provide the novice angler with the fundamental skills and knowledge needed to enter the sport of fly fishing.

PE 144**Introduction to Tae Kwon Do (0-2)****1 Credit**

This course is the introduction to the history, discipline, skills and training involved in the study and practice of Tae Kwon Do. (Fall-Spring)

PE 145**Beginning Tae Kwon Do (0-2)****1 Credit**

This course is the continuation of the series of courses in Tae Kwon Do and provides the opportunity for continued growth and advancement in the art. (Prerequisite: PE 144) (Fall-Spring)

PE 204**Advanced Rhythmic Aerobics (0-2)****1 Credit**

This general fitness class is designed to guide each student toward physical fitness and weight control through group exercise to music. (Prerequisite: PE 104. PE 104 and 204 should be taken in sequence) (Fall-Spring)

PE 205**Advanced Weight Training (0-2)****1 Credit**

This course is designed to assist participating students in maintaining and improving their general physical conditioning. The class emphasizes cardiovascular and muscular endurance, strength and flexibility through conditioning exercises and body mechanics. Daily activities include jogging and weight lifting to present a well-rounded program to students. (Prerequisite: PE 105) (Fall-Spring)

PE 244**Intermediate Tae Kwon Do (0-2)****1 Credit**

This course is the continuation of the series of courses in Tae Kwon Do and provides the opportunity for continued growth and advancement in the art. (Prerequisite: PE 145) (Fall-Spring)

PE 245**Advanced Tae Kwon Do (0-2)****1 Credit**

This course is the continuation of the series of courses in Tae Kwon Do and provides the opportunity for continued growth and advancement in the art. (Prerequisite: PE 244) (Fall-Spring)

The following lecture courses will not meet PE activity graduation requirements.

PE 115**First Aid (2-0)****2 Credits**

This course will teach students how to give immediate care to a person who has been injured or suddenly taken ill. The course includes self-help and home care if medical assistance is unavailable or is delayed. (Fall)

PE 120**Introduction to Health, Physical Education & Recreation (2-0)****2 Credits**

This course is to acquaint students with the principles, objectives, methods, subject matter and career materials in Physical Education. (Fall)

PE 125**Athletic Training (2-0)****2 Credits**

Instruction is given in the prevention and care of athletic injuries, including taping, massage, exercise and other training techniques. (Spring)

PE 142**Personal and Community Health (3-0)****3 Credits**

This course acquaints students with a variety of topics including emotional health, drugs and drug abuse, human sexuality, the care and prevention of common diseases, body systems, analysis of health problems and proper nutrition. (Fall-Spring)

PE 150**Psychological Aspects of Physical Activity and Sports (2-0) 2 Credits**

This course will teach students the value of physical activities and sports in society through the development of the following personal characteristics: learning how to participate in sports anxiety-free, learning how to reach peak performance, learning how to maintain consistent quality performance, and learning how to win and lose. (Fall)

PE 160**Coaching Methods I (Basketball) (2-0) 2 Credits**

The various facets of organizing and managing a school basketball program are taught. Areas of concentration involve systems of offense and defense, special game situations, organizing practices and teaching fundamental skills of the game. (Fall)

PE 206, 207**Physical Education for Athletes (Men) (Women) 1 Credit**

This class is designed for varsity participation and preparation in basketball, soccer, baseball, and softball. This class is for sophomores only. PE 206 must be taken in the fall semester followed by PE 207 in the spring semester. (Fall-Spring)

PE 260**Coaching Methods II (Baseball/Softball) (2-0) 2 Credits**

The study of school baseball/softball program organization and management through basic concepts of individual and team offense and defense are taught. Game situations, organization, practices, and fundamental skills are covered. (Spring)

PE 295**Health, Physical Education, Recreation (HPER) Field Exp. (0-4) 2 Credits**

This internship gives students on-the-job experience and training in HPER. All phases of the program and administration are emphasized, including working with the local schools and recreation departments. (Upon request)

PE 197**Topics in Physical Education 1 Credit**

This is a variable content course with topics that can change from semester to semester. Topics will be chosen each semester depending upon student requests and needs, and will be published in the schedule of classes. Topics may include but are not limited to: modern dance, swimming, outdoor education, basketball, tennis, racquetball, soccer, soft aerobics, etc. The course may be repeated if the topic is different. (Upon request)

PHYSICS AND PHYSICAL SCIENCE

PHYS 101

Survey of Physical Science (4-2)

5 Credits

The basic principles and interrelations between physics, chemistry, earth science and astronomy are examined in this class. The course satisfies part of the general education science requirement for the Associate in Arts degree. (Fall-Spring-Summer)

PHYS 104

Technical Physics (2-4) 4 Credits

This course will present an observational and algebra-level examination of the basic principles and common applications of physics that are appropriate for mechanical, fluid, electrical and thermal systems. The class provides a basic background in physical principles for technology majors. Basic trigonometric concepts will be introduced as needed. (Prerequisites: MATH 104 or MATH 100)

PHYS 190

General Physics I (4-2) 5 Credits

General Physics I is a calculus level course that examines the principles and applications of classical mechanics and thermodynamics. This class is intended for students majoring in engineering, the physical sciences, mathematics and computer science. (Prerequisites: MATH 150) (Co-requisite: MATH 160 or one-semester MATH 150/160 sequence concurrently with PHYS 190) (Spring)

PHYS 210

General Physics II (4-2) 5 Credits

General Physics II continues study initiated in Physics 190. The topics covered are electricity and magnetism, optics and elements of modern physics. This course is intended for students majoring in engineering, the physical sciences, mathematics and computer science. (Prerequisite: PHYS 190, MATH 150 AND 160) (Fall)

PHYS 250

Statics (3-0) 3 Credits

Statics is a course for engineering majors that examines two and three-dimensional mechanical systems under equilibrium conditions. (Prerequisites: PHYS 190, MATH 150, and MATH 160) (Spring)

PHYS 271, 272, 273

Topics in Physics 1-3 Credits

A variable content course with areas of study that reflects current issues. Topics are identified in the course schedule and prerequisites are spelled out in the syllabus.

POLITICAL SCIENCE

PLSC 102

Missouri Constitution (1-0) 1 Credit

This survey of state and local government in Missouri includes the study of the state constitution and the political process and structures at the state and local levels. (This class is designed only for students who are transferring in the equivalent of PLSC 103 or HIST 106 from a non-Missouri accredited college) Successful completion of this course meets the State of Missouri constitution general education requirement for such students. (Prerequisite: Reading at least at college level) (Online or Individualized instruction and by permission of the instructor only) (Fall-Spring)

PLSC 103

National, State, Local Government

(3-0) 3 Credits

PLSC 103 introduces the basic principles and structures of the American national government, and state and local government organizations and functions. Emphasis is placed on constitutional development and interpretation; the place of government in the social process; and the function of the executive, legislative, and judicial branches. Successful completion of PLSC 103 fulfills the State of Missouri constitution requirements and partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level) (Fall-Spring-Summer)

PLSC 104

National, State, Local Government Honors (3-0) 3 Credits

This is a political science class designed for honors students. The course content is the same as Political Science 103 except this class is writing intensive and, when appropriate, more varied instructional techniques will be used in this class. (Prerequisite: admission to Honors Program or consent of the instructor and reading at the college level) (Fall)

PLSC 111, 112, 113

Topics in Political Science (1-3) 1-3 Credits

These courses provide an opportunity to study selected Political Science topics not covered in the Political Science curriculum or to study in greater depth, topics addressed in introductory Political Science courses. The content of these courses may vary from semester to semester and some may require a prerequisite. Check with the Division Chair, instructor or advisor regarding prerequisites for a specific topics course. These courses will transfer but may or may not meet specific degree or program requirements at other institutions (Prerequisite: Reading at least at Reading Level 1) (Offered on demand)

PLSC 201

Contemporary Political Activities of the U.S. (1-2) 2 Credits

This course follows the most important problems, activities and functions of the United States government with emphasis on the political nature of the matter under consideration. (Prerequisite: (Reading at least at Reading Level 1) (Upon request)

PLSC 205

Introduction to Political Science (3-0) 3 Credits

This course offers an introduction to the principles and problems related to the study of government and politics in today's world. The course provides students with a framework for the study of politics and introduces students to the various political science sub-fields including: comparative politics, international relations, political economy, and political philosophy. This course partially fulfills the Social and Behavioral Science General Education requirements for the Associate of Arts degree. (Prerequisite: PLSC 103, 104 or equivalent, or permission of the instructor)

PSYCHOLOGY

PSYC 101

General Psychology (3-0) 3 Credits

An introduction to the scientific study of human behavior including motivation, perception, learning, emotions, intelligence and the physiological basis of behavior is presented. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Fall-Spring-Summer)

PSYC 110

Psychology of Personal Adjustment (3-0) 3 Credits

This study of the development of the self and problems of adjustment emphasizes effective methods of coping with stress and improving interpersonal relationships through discussion, research and group dynamics. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: PSYC 101, Reading at least at Reading Level 1) (Fall-Spring)

PSYC 203

Autism Spectrum Disorders (3-0) 3 Credits

This course focuses on a broad overview of autism, Asperger's syndrome and related autism spectrum disorders with particular emphasis on characteristics, definition, educational aspects, and contemporary issues in the field of special education. It is designed to provide students with a firm grounding in the foundations of teaching persons with autism and expose them to recent developments in the field. Content also includes methods to enhance classroom functioning and skill acquisition.

PSYC 204
Applied Behavior Analysis for Educators 3 Credits

This course focuses on identifying, recording, evaluating, and changing social and academic behaviors of special and diverse populations. Theories of classroom management will be explored and various approaches to management including use of technological advances will be addressed. Developing classroom and individual behavior management plans will be emphasized.

PSYC 205
Applied Behavior Analysis (ABA) I (3-0) 3 Credits

This course studies the history of applied behavior analysis, ethical concerns, and definitions of features, principles, methods and conceptions of ABA. This course is a prerequisite for successive course offered in the ABA sequence. Students will learn the principles of positive and negative reinforcement and punishment, stimulus control and motivating operations. An examination of ethical concerns with the use of various procedures will be included.

PSYC 206
Applied Behavior Analysis (ABA) II (3-0) 3 Credits

This course covers selecting and defining target behaviors and behavior measurement. Students will explore ways to develop new behavior using imitation, modeling, shaping and chaining and ways to decrease behaviors using extinction, differential reinforcement and antecedent interventions. Other topics include functional behavior assessment, verbal behavior, generalization and maintenance of behavior change. (Prerequisite: PSYC 205)

PSYC 207
Applied Behavior Analysis (ABA) III (3-0) 3 Credits

This course covers behavioral assessment and choosing intervention conclusions and strategies. Topics covered include single subject designs, procedures for measuring behavior as well as the detailed display of data and data understanding. Students will learn to evaluate and analyze behavior change. (Prerequisite: PSYC 206)

PSYC 208
Behavior Change Procedures (3-0) 3 Credits

This course covers the basic principles of behavior modification and behavior modification procedures. Students will learn to identify and define target behaviors and learn the functional approach to understanding and treating problem behaviors. At the completion of the course, students will have developed and implemented a self-management program to modify one of their own behaviors. (Prerequisite: PSYC 207)

PSYC 209
Ethics in Applied Behavior Analysis (3-0) 3 Credits

This course will underline the ethical responsibilities required of applied behavior analysts. Informed consent, protection of confidentiality, and selection of least intrusive, least restrictive behavior change procedures will be presented and discussed within the context of case method. Legal issues and ethical decision making processes will be emphasized. (Pre/Co-Requisite: PSYC 206)

PSYC 210
Child Psychology (3-0) 3 Credits

This study of the origin and development of intellectual, emotional and physical growth of children from birth to adolescence emphasizes problems of child rearing, education and social action. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: PSYC 101 and Reading at least at Reading Level 1) (Fall-Spring)

PSYC 215
Adolescent Psychology (3-0) 3 Credits

Psychological principles for understanding of adolescent behavior are presented. Students study intellectual, emotional and physical growth from puberty to adulthood. (Prerequisite: PSYC 101) Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading Level 1) (Fall-Spring)

PSYC 290
Clinical I-Supervised Field Experience (3-0) 3 Credits

This course will provide students the experience of practicing applied behavior analysis methodologies. Students will learn discrete trial teaching, natural environment teaching, incidental teaching, and how to conduct functional behavior assessments. Students will develop and implement behavior intervention plans, monitoring behavior intervention plans and make informed decisions when working with a child with autism or has behavioral issues. This course requires 80 hours of on-site work and a portfolio is required to successfully complete this course. (Pre/Co-Requisite: PSYC 206)

Educational Psychology (3-0)
(See EDUC 230)

SOCIAL WORK

SWK 205
Basic Counseling Skills (3-0) 3 Credits

Basic human services knowledge and process skills applicable to case work, group work, community organization, research and social action are examined. Content will emphasize ethics, communication skills, interviewing techniques assessment of client's needs, problem identification skills, client rights, and development of client goals and objectives (Prerequisite: Reading at least at Reading Level 1)

SWK 212
Introduction to Social Work (3-0) 3 Credits

Social work methods and processes, case work, group work, community organization, research and social action are examined. Theory and application of social work as a way of understanding and helping people are also discussed. (Prerequisite: Reading at least at Reading Level 1)

SWK 219
Human Diversity 3 Credits

The purpose of this course is to provide a basis of understanding of human diversity in the United States and its implications for social work practice. Students are expected to develop sensitivity toward the unique status of, and special issues faced by, population groups that have experienced discrimination and oppression due to race, ethnicity, gender, age, sex, disability, or spiritual beliefs. Students will acquire a beginning understanding of culturally specific issues that are important to the ongoing development of cultural sensitivity and to the development of practice skills in working with diverse groups, and advocating for social justice.

SWK 230
Substance Abuse Interventions (3-0) 3 Credits

The objective of the Substance Abuse Interventions class is to introduce students to the general field and study of chemical abuse and dependency. Areas of study broadly include definitions, prevalence, etiology, policies, effects on family and society, and prevention and treatment approaches. SWK 230 will examine each of the major topic areas, theories and major findings that comprise this area of human behavior.

SOCIOLOGY

SOC 101
General Sociology (3-0) 3 Credits

This introduction analyzes groups, institutions and individual behavior in group environments. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Fall-Spring)

SOC 103

Marriage and the Family (3-0)

3 Credits

This course focuses on a cross-cultural comparative analysis of marriage practices and family structures. Emphasis is placed on the role and scope of the family in contemporary American society. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading Level 1)

SPEECH

SPCH 101

Fundamentals of Speech (3-0)

3 Credits

Fundamentals of Speech is an introduction to the fundamentals of effective public speaking and listening. The course is designed to develop confidence in self-expression and interpersonal communications. Speech 101 includes preparing, organizing and delivering oral messages within a variety of real life situations of communication. Audience analysis, the listening process and clarity of expression are emphasized. (Prerequisite: ELI 35, if required by Crowder College's standard Admission testing procedures) (Fall-Spring-Summer)

THEATRE

Note: Only four hours of Theatre Practicum (Performance or Technical, not four hours of each) may be applied toward graduation.

TA 105

Acting I (3-0)

3 Credits

This course is designed to free the body and voice as well as the imagination and creativity of the student. This course's purpose is to allow the student to become free from inhibitions when performing on stage. A series of exercises will be utilized to accomplish these goals as well as monologue and scene work to polish the skills of the actor. (Fall)

TA 106, 107, 206, 207

Theatre Practicum, Performance (1-0)

1 Credit

Students cast in departmental production(s) may receive credit for their participation as actors. A minimum of **30** hours in rehearsal, performance and strike is required. This course may be repeated for credit with four hours to be applied toward graduation. (Prerequisite: permission of instructor) (Fall-Spring-Summer)

TA 115

Stagecraft (3-0)

3 Credits

Students study backstage work through an examination of the materials, techniques and conventions of stage construction and show production. The course will introduce the practical aspects of properties,

scenery, painting, lighting, sound, electronics, and drafting. Thirty (30) hours of practical experience are required during the semester. (Spring)

TA 116, 117, 216, 217

Theatre Practicum, Technical (0-3)

1 Credit

Students may receive credit for their participation in technical aspects of departmental productions when not currently participating for credit in another theatre course. A minimum of thirty (30) hours of theatre participation is required in lighting/sound, scenery construction, costumes, props, stage management, or any combination. This course may be repeated for credit for a maximum of four hours applied toward graduation. (Prerequisite: permission of instructor) (Fall-Spring-Summer)

TA 125, 225

Summer Theatre (3-0)

3 Credits

Students serve as active members of the Crowder Summer Theatre Company. They serve as actors, designers and technicians in each summer theatre production. Thirty (30) hours of practical experience are required during the semester. (Summer)

TA 180

Stage Makeup (3-0)

3 Credits

Basic techniques in design and application of stage makeup are presented as well as proper care and sanitation of all materials. Students learn materials and methods as well as fundamental theory for the development of dramatic characters through stage makeup. (Fall)

TA 205

Introduction to Theatre (3-0)

3 Credits

Theatre organization, stage technique and representative plays from Greek to modern drama are introduced. Emphasis is placed on the theatre as a living art form. This course partially fulfills general education humanities requirements. (Fall-Spring-Summer)

TA 210

Oral Interpretation (3-0)

3 Credits

Techniques to present prose, poetry, dramatic and children's literature for an audience will be examined. Selection, analysis and preparation of different types of literature with emphasis on platform presentation of solo and interpreters' theatre will be emphasized. (Spring)

TA 150, 151, 152, 250, 251, 252

Topics in Theatre (1-4)

1-4 Credits

A variable content course with topics that can change from semester to semester focusing on areas of theatre not offered in the general theatre curriculum. Topics are identified by title in the class schedule. This course may be repeated if the topic is different.

TRANSPORT TRAINING

TRDR 101, 102

Transport Training (13-0) 13 credits

This course offers the student entry-level knowledge and skills necessary to operate a tractor-trailer vehicle safely, efficiently and economically. The students' training will consist of various techniques of instruction including classroom training, driving on a controlled paved range, backing range, as well as highway and city driving. The tractor-trailers used in training students are comparable to what is used by the trucking industry today.

VETERINARY TECHNOLOGY

ANSC 180

Introduction to Veterinary Science

(2-0)

2 credits

This course will begin with a brief study of the professions of veterinary medicine. Basic cell structure, tissue types, and body systems will then be covered, with practical application to common animal diseases. Animal hospital procedures and animal handling will be introduced. This course will serve as preparation for those interested in working in veterinary medicine or having an interest in application to the Veterinary Technology program at Crowder College or to a college of veterinary medicine to pursue a doctorate degree. (Prerequisite: BIOL 101 or 110 recommended as a prerequisite or co-requisite but not required)

VETC 110

Sanitation and Animal Care (2-0)

2 credits

As an introduction to sanitation, disinfectants, sterilization, and zoonotic diseases and how they relate to public health, this course includes parasitology, cleaning and sterilization sanitation of equipment and facilities, and procedures in patient care. Anti-infective drugs are introduced. Material Safety Data Sheets and OSHA regulations are also discussed. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 120

Veterinary Hospital Technology I

(1.5-3)

3 credits

As an introduction to anesthetics and surgical assisting, the course includes bandaging, casting, surgical preparations, monitoring, and post-operative procedures, parenteral fluid administration and intravenous hookups. Drugs affecting the nervous and cardiovascular systems are discussed, along with the basics of pharmacology. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 130**Clinical Pathology Techniques I
(1.5-3) 3 Credits**

This course is an introduction to laboratory procedures including clinical chemistries, hematocrits, complete blood counts, differentials, and urinalysis. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 140**Companion Animal Technology
(2-2) 3 Credits**

In addition to instruction in restraint and handling of dogs, cats, this course also includes the study of common canine and feline diseases, small animal parasites, medical terminology, identification of breeds, discussion of commonly used medications, bathing and basic grooming techniques, blood collection, specimen collection, and common laboratory techniques. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 180**Anatomy and Physiology of Animals
(2-4) 4 credits**

This course includes basic principles of anatomy using a systemic and comparative approach, as well as instruction in physiology as it relates to anatomy and applicable pathology. Instruction in anatomic landmarks, interrelationships, and terminology is essential to this course. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 220**Veterinary Hospital Technology II
(1.5-3) 3 Credits**

This course includes administration of anesthetics, surgical assisting and patient monitoring, bandaging, casting, blood transfusions, variations in surgical preparations, and postoperative care. Emergency treatments will be discussed in greater detail. Pharmacology of various classes of drugs will also be included. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 230**Laboratory Animal and Avian
Technology (1-2) 2 Credits**

Students will study basic anatomy and diseases of laboratory animals and birds, as well as develop skills in handling, performing laboratory testing, and treatment of these species. Handling and diseases of some exotic/other species will be discussed. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 250**Clinical Pathology Techniques II
(1.5-3) 3 Credits**

This course includes the theory and performance in hematology, urinalysis, and cytology with the introduction to simple immunologic tests, blood coagulation tests and bone marrow evaluation. Collection and identification of fungal pathogens are performed. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 263**Large Animal Med/Surg (1.5-3)
3 Credits**

This course emphasizes techniques necessary to assist the veterinarian in a large animal or mixed practice and in research facilities. Bovine, equine, porcine, ovine, and caprine medicine and management including restraint, blood collection, medicating, and nursing techniques are included. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 270**Board Examination Review (1-0)****1 Credit**

Students will systematically review all course material covered in previous semesters to aid in preparation for the national and state board examinations, improving the understanding of all program materials. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 280**Radiology and Electronic Procedures
(1-2) 2 Credits**

This course is a study and practice in radiological techniques, radiographic exposure techniques, film processing, contrast radiography, as well as ultra sound technology. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 284**Veterinary Technician Internship
(0-4) 4 Credits**

This course consists of 240 hours in which the student works for a professional veterinary institution. The student will apply his or her training in an occupational setting, applying previously learned skills and knowledge to the work place. Evaluation forms are completed by the cooperating establishment. This course is offered for P/F grade only. (Prerequisite: Admittance to the Veterinary Technology program)

VETC 285**Vet Tech Clinical Experience I
(0-2.5) 1 Credit**

This course consists of 40 hours in which the student works with a veterinarian in a clinical setting as a first or second year vet tech student. The student will apply previously learned skills and knowledge to the work place. At the end of the experience, the student will write a paper discussing the pros and cons of this experience. Evaluation forms will also be completed by the supervising veterinarian. This course is offered for a pass/fail grade only.

VETC 286**Vet Tech Clinical Experience II
(0-2.5) 1 Credit**

This course consists of 40 hours in which the student works with a veterinarian in a clinical setting as a second year vet tech student. The student will apply previously learned skills and knowledge to the work place. At the end of the experience, the student will write a paper discussing the

pros and cons of this experience. Evaluation forms will also be completed by the supervising veterinarian. This course is offered for a pass/fail grade only.

WELDING

WELD 113**Introduction to Welding (2-2)****3 Credits**

This course is designed to introduce the student to the basic operation of Shielded Metal Arc Welding ("Stick" Welding), Gas Metal Arc Welding (formerly M.I.G. Welding), Gas Tungsten Arc Welding (formerly T.I.G. Welding) and Thermal Cutting. Fee for materials and supplies. (Co-requisite: MATH 40 or MATH 60 or appropriate placement by ACT/COMPASS testing, COMM 80 or appropriate placement by ACT/COMPASS testing)

WELD 145**Gas Metal Arc Welding-GMAW (2-2)****3 Credits**

This course is designed to provide the concepts, procedures, and operational hands-on practice necessary to perform gas metal arc welding (GMAW), formerly known as Metal Inert Gas (MIG) welding. Fee for materials and supplies. (Prerequisite: WELD 113 or Permission of Instructor, Co-requisites MATH 50 or MATH 70 or appropriate placement by ACT/COMPASS testing)

WELD 197,198, 199, 297, 298, 299**Topics in Welding Technology****(0-8 to 3-0)****1-3 credits**

This is a variable content course with areas of study that reflect current needs of individual students in the area of Welding Technology. Topics are identified in the course description. Fee for materials and supplies. (Prerequisite: Permission of instructor)

WELD 150**Gas Tungsten Arc Welding-GTAW
(2-2) 3 Credits**

This course is designed to provide the concepts, procedures, and operational hands-on practice necessary to perform gas tungsten arc welding (GTAW), formerly known as Tungsten Inert Gas (TIG) welding. Fee for materials and supplies. (Prerequisite: WELD 113 or Permission of Instructor, Co-requisites: MATH 50 or MATH 70 or appropriate placement by ACT/COMPASS testing)

WELD 155**Shielded Metal Arc Welding-SMAW (2-2)
3 Credits**

This course is designed to provide the concepts, procedures, and operational hands-on practice necessary to perform shielded metal arc welding (SMAW), formerly known as "Stick" welding or traditional ARC welding. Fee for materials and supplies. (Prerequisite: WELD 113 or Permission of Instructor, Co-requisites: MATH 50 or MATH 70 or appropriate placement by ACT/COMPASS testing)

ASSOCIATE OF ARTS DEGREES

General Requirements

To graduate with the Associate in Arts Degree, a student must meet the following requirements:

- A.** Earn a minimum of 61 semester hours of credit. Of these, at least 15 of the last 30 semester hours must be earned in courses provided by Crowder College.
- B.** Earn a cumulative grade point average of 2.0 (C) or higher in all college courses attempted.
- C.** Complete an approved curriculum.
- D.** Fulfill the following General Education requirements.

Orientation: One (1) credit hour (this course is required of all new students at Crowder within the first 9 credits taken. This requirement will be waived for transfer students who have completed at least 12 credit hours with at least a 2.0 GPA.)

COLL 101

Communications: Nine (9) credit hours

ENGL 101

ENGL 102 or ENGL 104

SPCH 101

Social and Behavioral Science: Nine (9) credit hours from at least two disciplines and must include HIST 106 or PLSC 103 or PLSC 104 (Missouri Constitution requirement). **Please note:** *Students who transfer in the equivalent of HIST 106 or PLSC 103 from out-of-state institutions must take HIST 106, PLSC 103, PLSC 104, or PLSC 102 (1 hour Constitution) to fulfill the Missouri Constitution requirement.*

If PLSC 103 or PLSC 104 is taken, then one social science course must be taken from the following: ECON 202, PHIL 121, HIST 101, HIST 102, HIST 106, HIST 107, or SOC 101.

If HIST 106 is taken, then one social science course must be taken from the following: ECON 201, ECON 202, GEOG 101, PHIL 121, PSYC 101, or SOC 101.

The third social science course may be taken from the following: ECON 201, ECON 202, GEOG 101, HIST 101, HIST 102, HIST 106, HIST 107, PHIL 110, PHIL 121, PLSC 103, PLSC 104, PLSC 205, PSYC 101, PSYC 210, PSYC 215, SOC 101, or SOC 103.

Science: Ten (10) credit hours, including a least one (1) course with a laboratory component.

One course must be a physical science: CHEM 101, CHEM 104, CHEM 111, PHYS 101, PHYS 190, or GEOL 115.

One science course must be a life science: BIOL 101

Mathematics: Three (3) credit hours.

MATH 107, 111, or 150 and 160

Humanities: Nine (9) credit hours.

One course must be taken from the fine arts group: ART 101, MUSC 101, or TA 205.

One course must be taken from the literature group: ENGL 109, ENGL 120, or ENGL 125.

The third course may be taken from either of the above groups or from the following list: ASL 101, ASL 102, FREN 101, HIST 101, HUM 102, PHIL 101, PHIL 110, PHIL 121, PHIL 201, PHIL 202, SPAN 101. (Note: HIST 101, PHIL 110, and PHIL 121 may fulfill the requirements for either social science or humanities, but not both.)

Physical Education: Two (2) credit hours

PE 102, PE 103, PE 104, PE 105, PE 110, PE 111, PE 113, PE 114, PE 116, PE 117, PE 118, PE 135, PE 144, PE 145, PE 204, PE 205, PE 216, PE 244, PE 245.

General Electives: Eighteen (18) credit hours

Any college-level course listed in the Description of Courses in the college catalog can apply to the general electives; however, students should consult their advisors about applicability of courses toward the baccalaureate degree.

*Prerequisite requirement. Course must be completed before you take a more advanced course in the same field. English Composition I is a prerequisite for English Composition II, for instance.

** Course meets partial physical education requirement

ASSOCIATE OF ARTS DEGREE

Agriculture

For students pursuing a four-year degree in all areas of agriculture, pre-veterinary medicine, and wildlife conservation, the following curriculum is suggested. For best transfer, students should contact the college to which they plan to transfer prior to graduation.

Orientation		1 hour	Or		
COLL	101		AGRI	111 (for Ag Majors only)	
Communications		9 hours			
Written Communications (6 hours)					
ENGL	101*		OR	ENGL 104*	
ENGL	102*				
Oral Communications (3 hours)					
SPCH	101*				
Humanities		9 hours	Additional Humanities (3 hours)		
Fine Arts (3 hours)			ART	101	
ART	101		ASL	101, 102	
MUSC	101		ENGL	109, 120, 125	
TA	205		FREN	101	
Literature (3 hours)			HIST	101	
ENGL	109, 120, 125		HUM	102, 103	
			MUSC	101	
			PHIL	101, 110, 121, 201, 202	
			SPAN	101	
			TA	205	
Mathematics		3 hours			
MATH	111*, 150* & 160*				
Physical Education		2 hours	OR two of the following:		
PE	113		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours			
Biological Science (5 hours)			Physical Science (5 hours)		
BIOL	101		CHEM	101, 104, 111*	
			GEOL	115	
			PHYS	101, 190*	
Social and Behavioral Science		9 hours			
Missouri Constitution (3 hours)			Additional 3 Hours		
HIST	106		AGEC	123 (Ag majors only)	
PLSC	103, 104		ECON	201, 202	
And 3 Hours			GEOG	101	
	ECON	201, 202	HIST	101, 102, 106, 107	
	GEOG	101	PHIL	110, 121	
	HIST	101, 102, 107	PLSC	103, 104, 205	
	PHIL	121	PSYC	101, 210, 215	
	PSYC	101	SOC	101	
	SOC	101			
	Major Courses		14 hours		
AGEC	223 Ag Computer Apps (3)		AGRN	214 Fund of Soil Sci (4)	
AGRN	113 Crop Science (3)		ANSC	114 Intro to Animal Sci (4)	
Approved Electives (3 hours)					
<i>Courses determined by transferring institution's requirements and consultation with the Agriculture faculty.</i>					
## Ag Education majors need to take both PLSC 103 or 104 and HIST 106 to meet DESE certification guidelines.					

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Alternative Energy – Solar

The Alternative Energy Program – Solar provides engineering and science students with a unique applied foundation in solar technologies and applications. The program emphasizes learning through classroom and applied research projects. The curriculum below is the result of a cooperative agreement between Crowder College and the School of Engineering at the Missouri University of Science and Technology (Rolla); cooperative programs are available at Missouri State University and Pittsburg State University. Students in the Alternative Energy - Solar program include Alternative Energy, Engineering, Science, and Technology majors. Students are required to take the entry level NABCEP Solar PV exam given as part of the ENER 260 course. Students must also report their score to the College for completion of this degree program.

Orientation		1 hour	
COLL	101*		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		5 hours	
MATH	111* & 112*		MATH 150* & 160*
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 111* (5)
			PHYS 101 (5)
			PHYS 190* (5)
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			OR
PLSC	103, 104*		HIST 106
Additional Social Science (3 hours)			
ECON	202		
Additional (3 hours)			
ECON	201		PLSC 103, 104*, 205
GEOG	101		PSYC 101, 210*, 215*
HIST	101, 102, 106, 107		SOC 101, 103
PHIL	110, 121		
Major Courses		18 hours	
ENER	105 Intro to Energy (3)		AMT 112 Occupational Safety (3)
ENER	150 Passive Solar Sys* (3)		ENER 251 Solar Thermal Lab* (2)
ENER	250 Solar Thermal Sys* (3)		ENER 261 Solar Electric Lab*(2)
ENER	260 Solar Electric Sys * (3)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Alternative Energy - Wind

The Alternative Energy Wind Program provides engineering and science students with a unique applied foundation in renewable energy technology. The program emphasizes wind turbine technology. The curriculum below is designed to give the student a strong footing for employment or transfer to any of our cooperative programs that are available at Missouri State University, Missouri University of Science and Technology (Rolla), and Pittsburg State University. Students in the Alternative Energy program include engineering, science, and technology majors. Students are required to take a certification exam given as part of the ENER 232 course and report their score to the College for Completion of this degree program. Students are strongly encouraged to contact the Wind Instructor for advisement before beginning this program.

Orientation		1 hour	
COLL	101*		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		5 hours	
MATH	111* & 112*		MATH 150* & 160*
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 111*
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			OR
PLSC	103, 104*		HIST 106
Additional Social Science (3 hours)			
ECON	202		
Additional (3 hours)			
ECON	201		PLSC 103, 104*, 205
GEOG	101		PSYC 101, 210*, 215*
HIST	101, 102, 106, 107		SOC 101, 103
PHIL	110, 121		
Major Courses		20 hours	
ENER	105 Intro to Energy (3)		AMT 102 Introduction to Industrial Electricity (3)
ENER	132 Introduction to Wind (3)		AMT 112 Occupational Safety (3)
ENER	134 Turbine Troubleshooting* (3)		CNS 101 Introduction to Electronics (3)
ENER	232 Wind Turbine Internship* (3)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Art and Design

The Associate in Arts Degree in Art and Design provides the career student with the basic and comprehensive tools of art and design foundations. With a solid academic structure from Crowder College, students can transfer to four-year institutions where bachelor degrees are offered in graphic design, painting, sculpture, fibers, ceramics, drawing, jewelry, art history, art education, media and computer arts. Elective courses should be determined by contacting the college and department to which students wish to transfer. The following program is suggested if students have not yet chosen the institution to which they plan to transfer following graduation.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ASL 101, 102
ART	101		ENGL 109, 120, 125
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 121, 201, 202
			SPAN 101, 102
			TA 205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		18 Hours	
ART	103 Intro to 2D Design (3)	ART	107 Painting (3)
ART	104 Intro to 3D Design (3)	ART	110 Ceramics (3)
ART	106 Drawing I (3)	ART	111 Sculpture I (3)
Other Recommended Courses			
ART	206 Drawing II* (3)	ART	211 Sculpture II* (3)
ART	207 Painting II* (3)	ART	105 Topics in Art (1-3)
ART	210 Ceramics II (3)	ART	205 Topics in Art* (1-3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Biology

Biologists are teachers in high schools, colleges, and universities. They also work as conservationists, nutritionists, laboratory technicians, foresters, rangers, sanitarians, marine biologists, and geneticists. Their working environment has as much variation as any career field: classrooms, laboratories, forests, national or state parks, state or municipal offices, agricultural research stations, oceanographic vessels, museums, zoos, greenhouses, medical laboratories, hospitals, deserts, tropical rain forests, or even the cold of the arctic regions. Biologically related jobs are predicted to increase much faster than most of the job market in the future. With recent advances in genetic research, many new doors are opening for biologists in such areas as medicine, synthesizing scarce biological molecules, and finding new food and energy sources.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ART	101
MUSC	101	ASL	101, 102
TA	205	ENGL	109, 120, 125
Literature (3 hours)		FREN	101
ENGL	109, 120, 125	HIST	101
		HUM	102, 103
		MUSC	101
		PHIL	101, 110, 121, 201, 202
		SPAN	101
		TA	205
Mathematics		5 hours	
MATH	111* & 112* or 150* & 160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	111*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		10 hours	
BIOL	110 Gen Zoology		
BIOL	120 Gen Botany (5)		
Approved Electives		10 hours	
BIOL	220 Gen Microbiology* (5)	MATH	150 Calculus I Part 1* (2)
CHEM	112 General Chem II* (5)	MATH	160 Calculus I, Part II* (3)
CHEM	201 Quant. Analysis* (5)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Business Administration

Business Administration at Crowder prepares the business-oriented student for transfer to a four-year business, marketing, accounting, economics or finance program. Business Administration provides a core of general education courses plus specific business courses equivalent to those found in any first and second year business program. The following program is suggested for students intending to transfer following graduation. For best transfer, contact with the senior institution should be made as early in the program as possible.

*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104* (3)
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	111* or 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101, 110, 120		CHEM 101, 104, 111*
			GEOL 115
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		OR	
PLSC	103, 104*	HIST	106
Additional Social Science Courses (6 hours)			
ECON	201		
ECON	202		
Major Courses		12 hours	
ACCT	201 Prin of Account I (3)		
ACCT	202 Prin of Account II* (3)		
BSAD	125 Computer Apps (3)		
BSAD	150 Intro to Business (3)		
Approved Electives (6 hours)			
Courses must be approved and from the Business Department. Prefixes will be ACCT, BMGT, BSAD, or OA.			

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Chemistry

Instruction in the Physical Sciences is offered in the areas of chemistry, physics, geology and astronomy as the foundation for baccalaureate and graduate studies in these and related sciences at a university or four-year college. Physical Science students find employment in industrial research and development, government regulatory agencies, or secondary and post-secondary education. The suggested curriculum that follows assumes a mathematics background that will permit an enrollment in the calculus series as a freshman. If pre-calculus classes are needed, more than four semesters are necessary to complete this program.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		5 hours	
MATH	150* &160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 111*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		PSYC 101, 210, 215
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Major Courses		20 hours	
CHEM	112 General Chem II* (5)	PHYS	190 Gen Physics I* (5)
MATH	201 Calculus II* (5)	PHYS	210 Gen Physics II* (5)
Other Recommended Courses			
CHEM	201 Quant Analysis* (5)	MATH	202 Calculus III* (5)
COMP	111 Intro to Computer Science* (4)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Child Development

The Child Development Program is designed for individuals who need an associate degree in early childhood. Graduates are prepared to continue as an early childhood teacher at Head Start or in a private institution. If the student prefers to pursue a BA, the student will have completed the general education requirements and the 20 hours in the major include courses that are transferable to several four-year institutions in our area.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
ART	101		ART 101
MUSC	101		ASL 101, 102
Literature (3 hours)			ENGL 109, 120, 125
ENGL	109, 120, 125		FREN 101
			HIST 101
			HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*		
Physical Education		2 hours	OR two of the following:
PE	113 (<i>recommended</i>)		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		PHYS 101
Social and Behavioral Science		9 hours	OR
PLSC	103, 104*		HIST 106
PSYC	101		
SOC	101		
Major Courses		20 hours	
ECD	101 Foundations (3)		
ECD	103 Health and Safety (3)		
ECD	201* Curriculum (3)		
ECD	203* Practicum (2)		
EDUC	206* Literature for Children (3)		
PSYC	210* Child Psych (3)		
SOC	103 Marriage and Family (3)		
Students with the Child Development Associate (CDA) national credential will be credited with completing ECD 101 and ECD 103.			

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Computer Science

Computer Science is a technologically-oriented program of study that provides a foundation of computer programming, mathematics, and physical science-oriented course work for students intending to pursue a bachelor degree in this area. Students completing this two-year curriculum will transfer to a four-year college or university for upper division course work. After graduation from that institution, the student will be qualified for a career as an applications programmer, a systems programmer, or a systems analyst.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		5 hours	
MATH	150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		PHYS 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		PSYC 101, 210, 215
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Major Courses		22 hours	
COMP	111 Intro to Computer Science* (4)		
COMP	140 RPG* (3)	OR	COMP 200 COBOL* (3)
MATH	201 Calculus II* (5)		
MATH	202 Calculus III* (5)		Recommended Additional Courses
PHYS	210 Gen Physics II* (5)		COMP 140 RPG* (3)
			COMP 200 COBOL* (3)
			MATH 210 Diff Equations* (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Criminal Justice

The Criminal Justice Associate Degree Program is designed to provide the student with the legal, technical, and practical aspects of justice system. This degree will provide the student with opportunities for careers or continued education in criminal justice, corrections, juvenile justice, and government or private security operations.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 104, 111*
			GEOL 115
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		PSYC 101, 210, 215
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Criminal Justice Courses		18 hours	
CJ	101 Intro to the Criminal Justice System (3)	CJ	270 Drug Investigation (3)
CJ	200 Criminal Investigations I (3)	CJ	275 The Juvenile Justice System (3)
CJ	210 Criminal Procedures (3)	CJ	290 Police Supervision & Mgmt (3)
CJ	250 Criminal Law (3)	EMR	101 Emergency Medical Responder (3)
CJ	265 Ethics in Criminal Justice (3)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Environmental Health Technology

This degree option is a general study area for students who wish to pursue a career in a field of Environmental Study. It is designed to allow students to transfer to a four-year institution for completion of a bachelor degree in areas dealing with Environmental Health (Students should work closely with their advisor to ensure transferability of courses to their four year institution.) An additional requirement includes taking the DNR certification exam and reporting the score to Crowder College.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
		ART	101
ART	101	ASL	101, 102
MUSC	101	ENGL	109, 120, 125
TA	205	FREN	101
Literature (3 hours)		HIST	101
ENGL	109, 120, 125	HUM	102, 103
		MUSC	101
		PHIL	101, 110, 121, 201, 202
		SPAN	101
		TA	205
Mathematics		3 hours	
MATH	111*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	111*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104*	GEOG	101
AND 3 hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		19 hours	
ERC	124 Water Lab (2)	ERC	142 Basic Wastewater Treatment (3)*
ERC	132 Wastewater Lab (2)	ERC	221 Chlorine & Disinfection (2)
ERC	140 Basic Water Treatment (3)*	ERC	225 Water/Wastewater Pumps & Motors (2)
ERC	141 Water Distribution (2)	ERC	253 Hydraulics (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Fire Science

The Fire Science program at Crowder College-Webb City prepares the student to enter an exciting career as a fire fighter. The degree offers the opportunity for current fire fighters to prepare themselves as supervisors and leaders in their own departments. It also prepares students who wish to begin a career in fire fighting.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Literature (3 hours)	
ART	101	ENGL	109, 120, 125
MUSC	101		
TA	205		
Additional Humanities (3 hours)			
ART	101	HUM	102, 103
ASL	101, 102	MUSC	101
ENGL	109, 120, 125	PHIL	101, 110, 121, 201, 202
FREN	101	SPAN	101
HIST	101	TA	205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101, 110, 152	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104*	GEOG	101
AND 3 hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		12 hours	
FSCI	102* Building Construction (3)	FSCI	108 Fire Protection Systems (3)
FSCI	107 Fire Service Hydraulics (3)	FSCI	205* Tactics & Strategy (3)
Approved Electives (6 hours)			
EMT	101 Emergency Med Technician (9)		
FSCI	103* Fire Investigations (3)	FSCI	207* Fire Prevent/Code Enforcement (3)
FSCI	109 Legal Aspects of ES (3)	FSCI	208* The Company Officer (3)
FSCI	111 Firefighter I & II (6)	FSCI	210* Fire Service Instructor I (3)
OR	FFI & II state certification	FSCI	212 Occupational Safety & Health FS (3)
FSCI	202 Hazardous Material Technician (3)	FSCI	263 Problems FS (Internship) (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

General Studies

Students undecided about their major area of emphasis or career goals are urged to follow the General Studies curriculum. With the help of counseling from Student Services and consultation with an assigned faculty advisor, students should be able to transfer or graduate with a better idea of individual career strengths. For best results, general studies students should contact the four-year institution to which they plan to transfer while a sophomore.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118,
			PE 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101 (recommended)		CHEM 101, 104, 111*
BIOL	152 [#]		GEOL 115
			PHYS 101, 190*
[#] BIOL 152 may not meet Biological Science requirement for Bachelors degree			
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		PSYC 101, 210, 215
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Approved Electives (Courses selected must be numbered 100 or higher) 18 hours			

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Graphic Design

The Associate of Arts Degree in Graphic Design provides the career student with the basic and comprehensive tools of art and design foundations. With a solid academic structure from Crowder College, students can transfer to four-year institutions where bachelor's degrees are offered in graphic design, digital media and computer arts. Elective courses should be determined by contacting the college and department to which students wish to transfer. The following program is suggested if students have not yet chosen the institution to which they plan to transfer following graduation. .

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ASL	101, 102
		ENG	109, 120, 125
		HIST	101
		HUM	102, 103
Literature (3 hours)		MUSC	101
ENGL	109, 120, 125	PHIL	101, 121, 201, 202
		SPAN	101, 102
		TA	205
Mathematics		3 hours	
MATH	107*, 111*, 150* &160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		18 hours	
ART	103 Intro to 2D Design (3)	ART	215 Graphic Design I (3)
ART	104 Intro to 3D Design (3)	ART	216 Graphic Design II (3)
ART	106 Drawing I (3)	COMM	220 Photocommunication I (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

History

History majors are directed toward teaching, social services, and law. Requirements for an Associate of Arts Degree in History include the American History and Western Civilization survey courses and the completion of the general education core.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ART	101
MUSC	101	ASL	101, 102
TA	205	ENGL	109, 120, 125
Literature (3 hours)		FREN	101
ENGL	109, 120, 125	HUM	102, 103
		MUSC	101
		PHIL	101, 110, 121, 201, 202
		SPAN	101
		TA	205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional (3 hours)	
PLSC	103, 104*	ECON	201, 202
3 hours of the following:		GEOG	101
ECON	202	PHIL	110, 121
PHIL	121	PLSC	205
SOC	101	PSYC	101, 210*, 215*
		SOC	101, 103
Major Courses		12 hours	
HIST	101 Western Civ I (3)	HIST	106 U.S. History I (3)
HIST	102 Western Civ II (3)	HIST	107 U.S. History II (3)
Approved Electives (6 hours)			
ECON	201 Prin of Econ I (3)	PSYC	101 Gen Psychology (3)
ECON	202 Prin of Econ II (3)	SOC	101 Gen Sociology (3)
GEOG	101 Prin of Geography (3)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Information Science

Information Science is a business-oriented program of study that provides a foundation of computer programming and business course work for students intending to pursue a bachelor degree in this area. In this program, the level of required mathematics is less than that for the computer science program. Students completing this two-year curriculum will transfer to a four-year college or university for upper division course work. After graduation from that institution, the student will be qualified for a career as a business applications programmer, a systems programmer or a systems analyst.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	111* or 150* & 160*		
Physical Education		2 hours	
PE	113		
		OR two of the following:	
			102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101		CHEM 101, 104, 111*
			GEOL 115
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		OR	
PLSC	103, 104*		HIST 106
Additional Social Science Courses (6 hours)			
ECON	201		ECON 202
Major Courses		18 hours	
BSAD	150 Intro to Business (3)	COMP	111 Intro to Computer Science* (4)
ACCT	202 Principles of Account I (3)	COMP	140 RPG* (3)
ACCT	202 Principles of Account II* (3)	COMP	200 COBOL* (3)
Elective (3 hours)			
Any BSAD course			

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Journalism and Public Relations

Career fields include mass media (newspapers, radio, TV, magazines), internet publications, and public relations, advertising, marketing, and human resources. In all fields, key job skills focus on effective communication by writing, speaking, or visually communicating. Crowder offers basic course work and experience through publications and hands-on activities. Transfer to a four-year college is recommended. For best transfer, students should contact the college of choice. For those seeking a job directly after graduating, the internship in the selected career field is recommended.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 104, 111*
			GEOL 115
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		PSYC 101, 210, 215
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Major Courses		15 hours	
COMM	101 Intro to Mass Comm (3)	COMM	150 Intro to Journalism* (3)
COMM	102 Intro to Pub Rel (3)	COMM	151 News and Feature* (3)
COMM	111 Magazine Prod I* (3)		
Approved Electives (3 hours)			
COMM	160 Intro to Broadcast (3)	COMM	250 Comp Jour & Prod* (3)
COMM	220 Photocommunication I (3)	COMM	251 Journalistic Editing* (3)
COMM	225 Internship* (3)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Mathematics

A major in mathematics is designed for students planning to teach mathematics at the secondary school level as well as for those desiring to work as professional mathematicians outside of education. Students entering this program should enjoy working with logic and numbers and should enjoy the challenge of applying mathematics to the sciences and related areas. A bachelor degree is necessary as a minimum requirement for employment in these areas. Students with mathematics backgrounds which require pre-calculus courses may need to plan for more than four semesters to complete this program.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ART	101
MUSC	101	ASL	101, 102
TA	205	ENGL	109, 120, 125
Literature (3 hours)		FREN	101
ENGL	109, 120, 125	HIST	101
		HUM	102, 103
		MUSC	101
		PHIL	101, 110, 121, 201, 202
		SPAN	101
		TA	205
Mathematics		5 hours	
MATH	150* & 160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	PHYS	190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		14 hours	
COMP	111 Intro to Computer Science* (4)	MATH	202 Calculus III* (5)
MATH	201 Calculus II* (5)		
Approved Electives (3-5 hours)			
MATH	210 Diff Equations* (3)	PHYS	210 Gen Physics II* (5)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Music

For best transfer, students should contact the institution to which they plan to transfer prior to graduation.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ASL 101
MUSC	101		ART 101, 102
Literature (3 hours)			ENGL 109, 120, 125
ENGL	109, 120, 125		FREN 101
			HIST 101
			HUM 102, 103
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 104, 111*
			GEOL 115
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		PSYC 101, 210, 215
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Major Courses		22 hours	
MUSC	100 Music Recital (0)	4 semesters	
	Ensembles (4)		
	App Music, Voice or Piano (4)		
MUSC	103 Music Theory I (3)	MUSC	203 Music Theory III
MUSC	104 Music Theory II (3)	MUSC	213 Ear Training III (1)
MUSC	105 Elem Class Piano (1)		
MUSC	113 Ear Training I (1)		
MUSC	114 Ear Training II (1)		
MUSC	115 Elem Class Paino (1)	or	MUSC 120 Applied Music Piano (2)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Photography

This multi-disciplinary program encompasses the wide variety of career options in the field of photography. Options include photojournalism, fine art photography, and commercial endeavors, which include products, portraiture, and events such as weddings. Photographers can work for an employer, own their own business, and/or work as freelancers.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ENGL 109, 120, 125
ART	101		FREN 101
			HIST 101
			HUM 102, 103
Literature (3 hours)			MUSC 101
ENGL	109, 120, 125		PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107, 111*		MATH 150* & 160*
Physical Education		2 hours	OR two of the following:
PE	113		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 135, 144,
			PE 145, 204*, 205*, 216*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 104, 111*
BIOL	110, 120		GEOL 115
			PHYS 101, 190
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
Additional Social Science (3 Hours)			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104*, 205
HIST	101, 102, 107		PSYC 101, 210*, 215*
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Major Courses		18 hours	Approved Electives (9 Hours)
COMM	220 Photocommunication I (3)		ART 103 Intro to 2-D Design (3)
COMM	231* Photocommunication II (3)		COMM 111 Magazine Production (3)
ART	216 Graphic Design II (3)		COMM 150 Intro to Journalism (3)
			COMM 171-173 Topics in Communication (1-3)
			COMM 225* Internship (3)
			BSAD 150 Intro to Business (3)
			BMGT 200 Marketing (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Physical Education

Most successful Physical Education majors have a strong interest in general health, physical fitness, and sports. Desire to work with young people in their overall development is essential for success in the field. Upon completion of a Bachelor Degree in Physical Education, graduates find job opportunities in coaching/teaching, recreation programs, and the sporting goods industry. Individuals seeking coaching/teaching careers in public schools must meet state certification requirements. The following program is suggested for graduation. Upon graduation, best transfer will occur through contact with the senior institution.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*		
Physical Education		2 hours	
PE	113		
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101		CHEM 101, 104, 111*
			PHYS 101 (recommended)
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional (6 hours)	
PLSC	103, 104*		HIST 106
			PSYC 101
Major Courses		12 hours	
PE	115 First Aid (2)	PE	150 Sport Psych (2)
PE	120 Intro to Phys Educ (2)	PE	160 or 260 Coaching Meth (2)
PE	125 Athletic Training (2)	PE	295 Supv Field Exp (2)
PE	142 Pers & Comm Health (3)		
PE Activities Classes (2 one hour classes maximum)			
Approved Electives (6-11 hours)			
PSYC	210 Child Psych* (3)	EDUC	230 Educ Psych* (3)
PSYC	215 Adolescent Psych* (3)	BIOL	152 Anat & Phys I (5) (recommended)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Physical Sciences

Instruction in the Physical Sciences is offered in the areas of chemistry, physics, geology, and astronomy as the foundation for baccalaureate and graduate studies in these and related sciences at a university or four-year college. Physical Science students find employment in industrial research and development, government regulatory agencies, or secondary and post-secondary education. Each suggested curriculum that follows assumes a mathematics background that will permit an enrollment in the calculus series as a freshman. If pre-calculus classes are needed, more than four semesters may be necessary to complete this program.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		5 hours	
MATH	150* & 160*		
Physical Education		2 hours	OR two of the following:
			102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144,
PE	113	PE	145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	111*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		20 hours	
CHEM	112 Gen Chemistry II* (5)	PHYS	190 Gen Physics I* (5)
MATH	201 Calculus II* (5)	PHYS	210 Gen Physics II* (5)
Additional Recommended Classes			
COMP	111 Intro to Computer Science* (4)	GEOL	115 Intro to Geology (5)
MATH	202 Calculus III* (5)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Physics

Instruction in the Physical Sciences is offered in the areas of chemistry, physics, geology, and astronomy as the foundation for baccalaureate and graduate studies in these and related sciences at a university or four-year college. Physical Science students find employment in industrial research and development, government regulatory agencies, or secondary and post-secondary education. Each suggested curriculum that follows assumes a mathematics background that will permit an enrollment in the calculus series as a freshman. If pre-calculus classes are needed, more than four semesters may be necessary to complete this program.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		5 hours	
MATH	150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	PHYS	190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		22 hours	
COMP	111 Intro to Computer Science* (4)	MATH	210 Diff Equations* (3)
MATH	201 Calculus II* (5)	PHYS	210 Gen Physics II* (5)
MATH	202 Calculus III* (5)		
Additional Recommended Classes			
CHEM	111 Gen Chemistry I* (5)	CHEM	112 Gen Chemistry II* (5)
<i>Any classes in Alternative Energy.</i>			

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Pre-Medicine

This program provides introductory courses for students interested in application to a college of medicine. Students should consult their advisors, as well as the institution to which they intend to transfer to finish their prerequisites, to insure that their course selections are appropriate. Prerequisite requirements for the college of medicine of interest should also be considered.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ART	101
MUSC	101	ENGL	109, 120, 125
TA	205	FREN	101
Literature (3 hours)		HIST	101
ENGL	109, 120, 125	HUM	102, 103
		MUSC	101
		PHIL	101, 110, 121, 201, 202
		SPAN	101
		TA	205
Mathematics		5 hours	
MATH	150* & 160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	111*
BIOL	110		
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		10 hours	
PHYS	190 General Physics I* (5)	BIOL	220 Gen Microbiology* (5)
Approved Electives (10 hours)		PHYS	210 General Physics II* (5)
CHEM	112 General Chem II* (5)		
CHEM	201 Quant Analysis* (5)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Pre-Veterinary Medicine

This program provides introductory courses for students interested in application to a college of veterinary medicine. Students should consult their advisors, as well as the institution to which they intend to transfer to finish their prerequisites, to insure that their course selections are appropriate. Prerequisite requirements for the college of veterinary medicine of interest should also be considered.

Orientation		1 hour	
COLL	101*	OR	AGRI 111 Ag Career Development
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ART	101
MUSC	101	ASL	101, 102
TA	205	ENGL	109, 120, 125
		FREN	101
Literature (3 hours)		HIST	101
ENGL	109, 120, 125	HUM	102, 103
		MUSC	101
		PHIL	101, 110, 121, 201, 202
		SPAN	101
		TA	205
Mathematics		5 hours	
MATH	111* & 112*	MATH	150* & 160*
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	110	CHEM	111*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours of the following:	
HIST	106	ECON	201, 202
PLSC	103, 104	GEOG	101
And 3 Hours of the following:		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
GEOG	101	PLSC	103, 104*, 205
HIST	101, 102, 107	PSYC	101, 210, 215
PHIL	121	SOC	101
PSYC	101		
SOC	101		
Major Courses		10 hours	
BIOL	220 Gen Microbiology* (5)	CHEM	112 Gen Chemistry II* (5)
Approved Electives (10 hours)			
ANSC	101 Livestock Selection (1)	ANSC	233 Horse Science (3)
ANSC	114 Intro to Animal Science (4)	MATH	150* Calculus I, Part I (2)
ANSC	180 Intro to Vet Science (2)	MATH	160* Calculus I, Part II (3)
ANSC	213 Feeds and Nutrition (3)	PHYS	190* Physics I (5)
ANSC	223 Farm Animal Health (3)	PHYS	210* Physics II (5)
ANSC	232 AI/Animal reproduction (3)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Psychology

Career opportunities for psychology majors include social work, teaching and counseling. After completion of a baccalaureate degree, graduates often find work with government agencies. An Associate in Arts in Psychology requires completion of the general education core, nine hours in psychology, and Sociology 101.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101		CHEM 101, 104, 111*
			GEOL 115
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		Additional 3 Hours	
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		
PHIL	121		
Major Courses		12 hours	
PSYC	101 General Psych (3)		PSYC 215 Adolescent Psych* (3)
PSYC	210 Child Psych* (3)		SOC 101 General Sociology (3)
Approved Electives (6 hours)			
HIST	106 U.S. History I (3)		PSYC 110 Psych of Pers Adj (3)
HIST	107 U.S. History II (3)		EDUC 230 Educational Psych* (3)
PLSC	103, 104* Nat, State, & Loc Gov		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Psychology: Autism Option

Career opportunities for Psychology-Autism Option majors include social work, education and counseling. After completion of a baccalaureate degree, graduates often find themselves working one-on-one with children with autism in the academic or health care setting. An Associate of Arts of Psychology-Autism Option requires completion of the general education core, fifteen hours in psychology, and EDUC 203.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 135,
			PE 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101, 110, 120	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
Social and Behavioral Science		9 hours	Additional 3 Hours
Missouri Constitution (3 hours)			ECON 201, 202
HIST	106		GEOG 101
PLSC	103, 104		HIST 101, 102, 106, 107
And 3 Hours			PHIL 110, 121
ECON	201, 202		PLSC 103, 104, 205
GEOG	101		
HIST	101, 102, 107		
PHIL	121		
SOC	101		
Major Courses		18 hours	
EDUC	203 Foundations of Education (3)	PSYC	204 Applied Behavior Analysis for Educators (3)
PSYC	101 General Psych (3)	PSYC	210 Child Psych* (3)
PSYC	203 Autism Spectrum Disorders(3)	PSCY	215 Adolescent Psych* (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Public Management

A major in public management prepares students for a variety of careers in local, state, and national government, public service, and nonprofit organizations. This degree is designed to help students transfer to a four year university and complete a bachelor's degree in public management.

Orientation		1 hour		
	COLL	101		
Communications		9 hours		
Written Communications (6 hours)				
	ENGL	101*		
	ENGL	102*		
Oral Communications (3 hours)				
	SPCH	101*		
Humanities		9 hours		
Fine Arts (3 hours)			Additional Humanities (3 hours)	
	ART	101	ART	101
	MUSC	101	ASL	101, 102
	TA	205	ENGL	109, 120, 125
Literature (3 hours)			FREN	101
	ENGL	109, 120, 125	HIST	101
			HUM	102, 103
			MUSC	101
			PHIL	101, 110, 121, 201, 202
			SPAN	101
			TA	205
Mathematics		3 hours		
	MATH	111*		
Physical Education		2 hours	OR two of the following:	
	PE	113	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144,	
			PE 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours		
Biological Science (5 hours)			Physical Science (5 hours)	
	BIOL	101	CHEM	101, 104, 111*
			GEOL	115
			PHYS	101, 190*
Social and Behavioral Science		9 hours		
Missouri Constitution (3 hours)			Additional 3 Hours	
	PLSC	103	PSYC	101
AND 3 hours			SOC	101
	ECON	201, 202		
Major Courses		23 hours		
	BMGT	285 Human Resource Mgmt (3)	CJ	265 Ethics in Criminal Justice (3)
	BSAD	103 Professional Development (2)	PM	101 Intro to Public Mgmt (3)
	BSAD	125 Comp App (3)	PM	109 Legal Aspects of Public Mgmt (3)
	BSAD	130 Business Comm (3)	PM	201 Budgeting & Grant Mgmt (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Social Work

The Social Work program provides students with an introduction to and a foundation in the field of Social Work. An associate of arts in social work leads to a Bachelor's degree, which paves the way for a job in social work. The following program is suggested for graduation. It is recommended that students contact the transfer institution for its specific Bachelor's degree requirements.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ART	101
MUSC	101	ASL	101, 102
TA	205	ENGL	109, 120, 125
Literature (3 hours)		FREN	101
ENGL	109, 120, 125	HIST	101
		HUM	102, 103
		MUSC	101
		PHIL	101, 110, 121, 201, 202
		SPAN	101
		TA	205
Mathematics		3 hours	
MATH	111*, 150* & 160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
Social and Behavioral Science		6 hours	
Missouri Constitution (3 hours)			
HIST	106		
Additional Courses (3 hours)			
PLSC	103, 104*		
Major Courses		24 hours	
BSAD	125 Computer Applications (3)		
ECON	201 Principles of Econ (Macro) (3)		
PSYC	101 General Psychology (3)		
SOC	101 General Sociology (3)		
SWK	205 Basic Counseling Skills* (3)		
SWK	212 Intro to Social Work* (3)		
SWK	219 Human Diversity (3)		
SWK	230 Substance Abuse Interventions (3)		

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Spanish

Learning a second language encourages diversity, motivates or strengthens concern for world affairs, extends international business/marketing strategies, and enables global travel opportunities.

Classes in Spanish may be used to fulfill Humanities requirements in other A.A programs and would be beneficial in almost any career field in the 21st century. A Spanish major may be used in teaching, government, foreign service, translating, and many other careers. A Spanish minor may enrich opportunities for students in business, in the social sciences, in nursing, and in agriculture, for example.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	
Fine Arts (3 hours)		Additional Humanities (3 hours)	
ART	101	ART	101
MUSC	101	ASL	101, 102
TA	205	ENGL	109, 120, 125
Literature (3 hours)		HUM	102, 103
ENGL	120 or 125	MUSC	101
		PHIL	101, 110, 121, 201, 202
		TA	205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	
PE	113	OR two of the following:	
		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101, 110, 120	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)		And 3 hours of the following:	
PLSC	103, 104*	ECON	201, 202
HIST	106	GEOG	101
Social Science Courses (3 hs)		HIST	102, 107
HIST	101	PHIL	110, 121
		PLSC	103, 104*, 205
		PSYC	101, 210*, 215*
		SOC	101
Major Courses		12 hours	
SPAN	101 Begin Spanish I (3)	SPAN	201 Intermed Spanish I* (3)
SPAN	102 Begin Spanish II* (3)	SPAN	202 Intermed Spanish II* (3)
Approved Electives (6 hours)			
HIST	102 Western Civ II (3)	SPAN	105 Beg Conv Spanish I (3)
HUM	102, 103 Cultural Diversity* (3)	SPAN	106 Beg Conv Spanish II* (3)
		SPAN	111 Intro to Spanish for Health Care Workers (3)

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Teaching (AAT)

This is a statewide AAT degree that all community colleges will offer. This degree includes courses that are required for any initial certification. The students will select the electives based on one of several criteria: preparation for the C-BASE, requirement for a specific teaching credential, or a required course at the institution to which they plan to transfer. The courses in the degree will transfer to any institution in the state of Missouri that accepts the AAT degree. Additional requirements for the AAT degree are a minimum GPA of 2.75, a minimum score of 235 on each section of the C-BASE, and completion of teacher education portfolio. Because GPA and C-BASE entrance score requirements vary by institution, it is important to work closely with your education advisor at Crowder and the institution to which you plan to transfer. Students must register with FCSR and have a clearance letter before completing any observation in schools.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	or	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
DESE Requirement (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
Literature (3 hours)			FREN 101
ENGL	109, 120, 125		HIST 101
			HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*		
Physical Education		2 hours	OR two of the following:
PE	113 (recommended)		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 111
			GEOL 115
			PHYS 101
Social and Behavioral Science		9 hours	
PLSC	103, 104*		PSYC 101
HIST	106, 107		
Major Courses		12 hours	
EDUC	203 Foundations* (3)		
EDUC	210 Technology for Teachers* (3)		
EDUC	230 Educational Psychology* (3)		
EDUC	250 Teaching Prof w/Field Exper* (3)		
Electives (8 hours) (Check with advisor)			
Students must pass the CBASE with a qualifying score of 235 in each section.			
Overall GPA of 2.75 is required			
Completed teacher education portfolio			

*Prerequisite requirement

ASSOCIATE OF ARTS DEGREE

Theatre

The Theatre Department has three general goals. First, all courses encourage the students to appreciate the theatre as an art form. Second, the courses encourage an understanding of how live theatre develops from script to performance. Third, the courses provide the student with many opportunities to experience live theatre performance and to participate in Crowder College Theatre productions in both performance and technical areas.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
Oral Communications (3 hours)			
SPCH	101*		
Humanities		9 hours	Additional Humanities (3 hours)
Fine Arts (3 hours)			ART 101
ART	101		ASL 101, 102
MUSC	101		ENGL 109, 120, 125
TA	205		FREN 101
Literature (3 hours)			HIST 101
ENGL	109, 120, 125		HUM 102, 103
			MUSC 101
			PHIL 101, 110, 121, 201, 202
			SPAN 101
			TA 205
Mathematics		3 hours	
MATH	107*, 111*, 150* & 160*		
Physical Education		2 hours	OR two of the following:
PE	113		102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
Science		10 hours	
Biological Science (5 hours)			Physical Science (5 hours)
BIOL	101		CHEM 101, 104, 111*
			GEOL 115
			PHYS 101, 190*
Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			Additional 3 Hours
HIST	106		ECON 201, 202
PLSC	103, 104		GEOG 101
And 3 Hours			HIST 101, 102, 106, 107
ECON	201, 202		PHIL 110, 121
GEOG	101		PLSC 103, 104, 205
HIST	101, 102, 107		PSYC 101, 210, 215
PHIL	121		SOC 101
PSYC	101		
SOC	101		
Required Courses		10 hours	
TA	105 Acting I (3)	TA	Theatre Practicum (4)
TA	115 Stagecraft (3)		
Approved Electives (8 hours)			
TA	180 Stage Makeup (3)	TA	210 Oral Interpretation (3)
TA	125, 225 Summer Theatre (3)	TA	Theatre Practicum (1-3)
TA	Topics in Theatre (1-4)	MUSC	112 Voice for Theatre Majors (1)

*Prerequisite requirement

ASSOCIATE OF SCIENCE DEGREES

Associate of Science Degrees have been developed for transfer to specific universities and programs. Be sure to consult with an advisor about pursuing the Associate of Science degree.

ASSOCIATE OF SCIENCE DEGREE

Nursing

The purpose of the Crowder College Nursing program is to prepare graduates who can demonstrate entry-level competencies as registered nurses, to provide a foundation for continued learning, and to provide a multiple entry program where licensed practical nurses can enter with advanced standing or students may enter with no previous nursing education. The program is approved by the Missouri State Board of Nursing. Graduation from the nursing program does not guarantee eligibility to write the licensure exam. Eligibility is determined on an individual basis by Missouri State Board of Nursing based on the Missouri Nursing Practice Act section 335.066 (1-14).

The nursing faculty strongly believes that the learner must be an active participant in the educational process. A wide variety of instructional methods are utilized in the process oriented nursing curriculum. Registered nurses function as an integral part of the health care team in many different roles. They are responsible for planning, implementing, and evaluating patient care as well as for the supervision of other health care workers. The nursing program is a multiple entry, limited admission program. A grade point average of 2.75 and a minimum ACT composite score of 19 are required for both levels of students. Students without previous nursing education (those who are NOT licensed practical nurses) enter the program at Level I. These students must have a minimum ACT Composite score of 19 and minimum 2.75 GPA and must complete Anatomy & Physiology I (BIOL 152) prior to beginning the nursing program. All accepted Nursing Students will be required to have an active Nurse Assistant Certification or EMT or Paramedic license prior to beginning for nursing course. Applications for Level I are accepted from April 15 to August 15 for the Neosho and Cassville program that begins in January. Applications are accepted from October 15 to February 15 for the Nevada Nursing program which begins in August.

Licensed practical nurses are given credit for first year nursing classes and may enter the program at Level II. LPN's entering with advanced standing must have a valid license to practice, be IV certified, and must have completed at least Anatomy and Physiology I and II and Survey of Chemistry before beginning the second level nursing sequence. Applications for Level II are accepted from April 15 to August 15 for the Neosho and Cassville program and October 15 to February 15 for the Nevada and McDonald County program.

For the Nevada and Cassville program and October 15 to February 15 for the Nevada and McDonald County program.

Orientation		1 hour	
COLL	101		
Communications		6 hours	
Written Communications (3 hours)		Oral Communications (3 hours)	
ENGL	101*, 104*	SPCH	101*
Humanities		3 hours	
ART	101	ASL	101, 102
ENGL	109, 120, 125	MUSC	101
FREN	101	PHIL	101, 110, 121, 201, 202
HIST	101	SPAN	101, 111
HUM	102, 103	TA	205
Mathematics		3 hours	
MATH	107*, 111*		
Science		20 hours	
BIOL	BIOL 152	BIOL	220*
BIOL	BIOL 252*	CHEM	101, 104, 111*
Social and Behavioral Science		6 hours	
Missouri Constitution (3 hours)		And 3 hours of the following:	
PLSC	103, 104*	PSYC	101
HIST	106	SOC	101
Nursing Courses		33 hours	
Level I courses (16 hours)			
ADN	169 Nurs Interventions I* (3)	ADN	170 Nurs Interventions II* (4)
ADN	167 Clinical I (1)	ADN	172 Family Development (2)
ADN	163 Nursing Concepts I (3)	ADN	177 Clinical II (3)
OR ADN 200 Transition (2) LPNs Only			
Level II courses (17 hours)			
ADN	260 Nurs Interventions III* (4)	ADN	272 Psychosocial Nursing (2)
ADN	263 Nursing Concepts II (2)	ADN	277 Clinical IV (3)
ADN	267 Clinical III (3)	ADN	279 Nurs Interventions IV (3)

*Prerequisite requirement

ASSOCIATE OF SCIENCE DEGREE

Occupational Therapy Assistant

The Occupational Therapy Assistant program prepares graduates to demonstrate entry level competencies as an Occupational Therapy Assistant (OTA) and provides a strong foundation for continued learning. The Certified Occupational Therapy Assistant functions as a member of the health care team; working under the supervision of a licensed Occupational Therapist, the Occupational Therapy Assistant helps disabled people of all ages acquire, improve, or regain the ability to do all activities that have meaning, value, or purpose. The OTA curriculum combines biological and behavioral sciences, along with the theory and principles of Occupational Therapy. The program is built to support the standards of the American Occupational Therapy Association and prepares students to sit for the National Board Certification for Occupational Therapy Assistant Exam. The Crowder College Occupational Therapy Assistant Program has applied for accreditation and has been granted Developing Program Status by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220. ACOTE's telephone number c/o AOTA is (301) 652-AOTA. Once accreditation of the program has been obtained, its graduates will be eligible to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). In addition, most states require licensure in order to practice; however, state licenses are usually based on the results of the NBCOT Certification Examination. Note that a felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

The Occupational Therapy faculty believes all humans learn: the way an individual responds to and uses the stimuli in their environment determines how and what is learned. The Occupational Therapy Assistant curriculum is delivered through the uses of multiple learning styles and a wide variety of teaching methods. The OTA program is a single entry, limited admission program. Students must have and maintain a 2.5 grade point average. Applications for the OTA program are accepted April 1st – August 1st of each year.

Orientation		1 hour	
COLL	101		
Communications		6 hours	
Written Communications (3 hours)		Oral Communications (3 hours)	
ENGL	101* (3)	SPCH	101* (3)
Humanities		3 hours	
ART	101		
ASL	101, 102*	PHIL	101, 110, 121, 201, 202
ENGL	109, 120, 125	SPAN	101, 111
FREN	101	TA	205
HIST	101		
HUM	102, 103		
MUSC	101		
Mathematics		3 hours	
MATH	107*, 111*		
Office Administration		3 hours	
OA	215		
Science		10 hours	
BIOL	152		
BIOL	252*		
Social and Behavioral Science		6 hours	
PSYC	101	Add 3 hours of the following:	
		Missouri Constitution (3 hours)	
		PLSC 103, 104	
		HIST 106	
OTA Courses		41 hours	
OTA	101 Principles of Occ Therapy (2)	OTA	211 Principles of Occ Pract: Mental Health (5)*
OTA	111 Occ Performance Across Lifespan (3)	OTA	221 Principles of Occ Pract: Phys Rehab (5)*
OTA	116 Principles of Therapeutic Intervention (3)	OTA	236 Occ Performance Issues in Later Adulthood (3)*
OTA	131 Functional Mvmt: Occ & Adaptation (3)*	OTA	240 Fieldwork Level II – A (5)*
OTA	140 Occupational Therapy Trends (2)*	OTA	250 Fieldwork Level II – B (5)*
OTA	201 Principles of Occ Pract: Children (5)*		
Total Hourly Requirement		73 hours	

*Prerequisite requirement

ASSOCIATE OF SCIENCE DEGREE

Pre-Engineering

The Associate in Science (A.S.) Pre-Engineering degree is a cooperative program between Crowder College and the School of Engineering at the Missouri University of Science & Technology. In addition, similar cooperative programs have been developed with the University of Missouri - Columbia and the University of Arkansas. The A.S. program does incorporate the essential course work for the first two years of study in any engineering field at other universities.

Some of the course requirements vary with the engineering departments cooperating in this program. Those requirements are marked with a (†). In such cases, students will need to consult with the advisor as to the appropriate class for a particular engineering major.

Crowder College and the School of Engineering at Missouri University of Science & Technology have instituted a co-admission advisement and counseling program for pre-engineering majors. Students enrolling at Crowder can be simultaneously enrolled at MUS&T. A smoother transition between the two institutions and a greater level of career counseling can be provided for students by allowing them to enroll in career development and other specified MUS&T classes on Crowder's campus. Students are also allowed to participate in special pre-registration programs on the MUS&T campus.

Orientation		1 hour	
COLL	101		
Communications †		6 hours	
ENGL	101* (3)		
ENGL	102* (3)	OR	ENGL 104* (3)
SPCH	101* (3)		
Humanities, Social and Behavioral Science †		12 hours	
Missouri Constitution (3 hours)		Additional (3 hours) or another humanities	
PLSC	103, 104*	ECON	201, 202
HIST	106	GEOG	101
Economics (3 hours):		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
Humanities (3 hours)		PLSC	103, 104*
ART	101	PSYC	101
ASL	101, 102*	SOC	101
ENGL	109, 120, 125		
HIST	101		
HUM	102, 103		
MUSC	101		
PHIL	101, 110, 121, 201, 202		
SPAN	101		
TA	205		
Mathematics		18 hours	
MATH	150 Calculus I, Part I* (2)	MATH	202 Calculus III* (5)
MATH	160 Calculus I, Part II* (3)	MATH	210 Differential Equations* (3)
MATH	201 Calculus II* (5)		
Science		18 hours	
PHYS	190 General Physics I* (5)	PHYS	250 Statics* (3)
PHYS	210 General Physics II* (5)	CHEM	111 General Chemistry I* (5)
Computer Science		4 hours	
COMP	111 Intro to Computer Science (4)		
Technical Electives		6 hours	
CHEM	112 General Chemistry II* (5)	DRFT	115 Basic CAD (3)
CHEM	201 Quant Analysis* (5)	DRFT	101 Engineering Drawing (3)
Alternative Energy Courses			

*Prerequisite requirement

ASSOCIATE OF SCIENCE DEGREE

Pre-Engineering – Alternative Energy Option

The Associate in Science (A.S.) Pre-Engineering degree is a cooperative program between Crowder College and the School of Engineering at the Missouri University of Science & Technology. In addition, similar cooperative programs have been developed with the University of Missouri - Columbia and the University of Arkansas. The A.S. program does incorporate the essential course work for the first two years of study in any engineering field at other universities.

Some of the course requirements vary with the engineering departments cooperating in this program. Those requirements are marked with a (†). In such cases, students will need to consult with the advisor as to the appropriate class for a particular engineering major.

Crowder College and the School of Engineering at Missouri University of Science & Technology have instituted a co-admission advisement and counseling program for pre-engineering majors. Students enrolling at Crowder can be simultaneously enrolled at MUS&T. A smoother transition between the two institutions and a greater level of career counseling can be provided for students by allowing them to enroll in career development and other specified MUS&T classes on Crowder's campus. Students are also allowed to participate in special pre-registration programs on the MUS&T campus.

Orientation		1 hour	
COLL	101		
Communications		6 hours	
ENGL	101* (3)		
ENGL	102* (3)	OR	ENGL 104* (3)
SPCH	101* (3)		
Humanities, Social and Behavioral Science †		12 hours	
Missouri Constitution (3 hours)		Additional (3 hours) or another humanities	
PLSC	103, 104*	ECON	201, 202
HIST	106	GEOG	101
Economics (3 hours):		HIST	101, 102, 106, 107
ECON	201, 202	PHIL	110, 121
Humanities (3 hours)		PLSC	103, 104*
ART	101	PSYC	101
ASL	101, 102*	SOC	101
ENGL	109, 120, 125		
HIST	101		
HUM	102, 103		
MUSC	101		
PHIL	101, 110, 121, 201, 202		
SPAN	101		
TA	205		
Mathematics		18 hours	
MATH	150 Calculus 1 Part I* (2)	MATH	202 Calculus III* (5)
MATH	160 Calculus I Part II* (3)	MATH	210 Differential Equations* (3)
MATH	201 Calculus II* (5)		
Science		18 hours	
PHYS	190 General Physics I* (5)	CHEM	111 General Chemistry I* (5)
PHYS	210 General Physics II* (5)		
PHYS	250 Statics* (3)		
Computer Science		4 hours	
COMP	111 Intro to Computer Science (4)		
Technical Electives		6 hours	
CHEM	112 General Chemistry II* (5)	ENER	242 Biodiesel Production (3)
ENER	150 Passive Solar Systems (3)	ENER	244 Bioethanol Fuel Production (3)
ENER	151 Passive Solar Lab (2)	ENER	246 Biogas Production (3)
ENER	156 Projects in Alternative Energy (3)	ENER	248 Biofuels System Technology (3)
ENER	250 Active Solar Systems* (3)	ENER	134 Wind Turbine Troubleshooting (3)
ENER	251 Active Solar Lab (2)	ENER	232 Wind Turbine Internship (3)
ENER	256 Projects in Alternative Energy (3)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREES

Associate in Applied Science (A.A.S.) programs provide education for specific careers. Graduates are prepared for the world of work upon completion of suggested curriculum.

While the A.A.S. is not designed for transfer, selected A.A.S. programs may be transferred to four-year colleges through special articulation agreements. A.A.S. students seeking transfer should consult their faculty advisor before registering.

To graduate with the Associate in Applied Science Degree a student must meet the following requirements:

- A. Earn a minimum of 60 semester hours of credit. Of these, at least 15 of the last 30 semester hours must be earned in courses provided by Crowder College.
- B. Earn a cumulative grade point average of 2.0 (C) or higher in all college courses attempted.
- C. Complete an approved curriculum as listed on the following pages.

ASSOCIATE OF APPLIED SCIENCE DEGREE

Accounting

This program is designed for students who seek immediate employment in the field of accounting and for those presently employed in accounting careers and desiring advancement. Crowder's Associate of Applied Science in Accounting degree gives students an advantage in the business world by training them in the latest accounting and computer techniques. Students learn how to solve problems using today's technology. This program focuses on the principles, procedures, and theories of managing and preparing financial records.

*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating.

Orientation		1 hour
COLL	101	
Communications		9 hours
Written Communications (6 hours)		
ENGL	101*	
ENGL	102*	
Oral Communications (3 hours)		
SPCH	101*	
Mathematics		3 hours
MATH	111*	
Missouri Constitution		3 hours
PLSC	103, 104	
HIST	106	
Business Core		10 hours
BSAD	103 Professional Dev (2)	
BSAD	125 Computer Apps (3)	
BSAD	130 Bus Communications* (3)	
ACCT	290 Internship (2)	
Accounting Core		32 hours
ACCT	160 Payroll Accounting (3)	
ACCT	165 QuickBooks* (3)	
ACCT	201 Prin of Accounting I (3)	
ACCT	202 Prin of Accounting II* (3)	
ACCT	245 Tax Accounting (3)	
ACCT	250 Certified Bookkeeper Review *(3)	
ACCT	255 Intermediate Accounting I** (3)	
BSAD	150 Intro to Business (3)	
BSAD	215 Spreadsheets* (2)	
BSAD	230 Business Law (3)	
ECON	201 Principles of Economics I (3)	
Electives		3 hours
Electives can be taken from ACCT, BSAD, BMGT, OA, or ECON 202		

*Prerequisite requirement

**Prerequisite/co-requisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Advanced Manufacturing Technology: Automation/Robotics Option

The Advanced Manufacturing Technology program prepares students for employment in industries with automated manufacturing processes. The program is built around a set of core courses designed to give students the basic skill set required for this industry coupled with specialty courses allowing students to focus on various related options. This Program of Study addresses the Automation/Robotics Option.

Orientation		1 hour
	COLL 101* College Orientation (1)	
Communications		9 hours
Written Communications (6 hours)		
	ENGL 100 Mechanics of Composition (3)	
	ENGL 101* English Composition (3)	
	ENGL 102* Advanced English Composition (3)	
	ENGL 203* Technical Report Writing (3)	
Oral Communications (3 hours)		
	SPCH 101 Fundamentals of Speech (3)	
Mathematics		3 hours
or	MATH 111* College Algebra (3)	
	MATH 104* Technical Mathematics (3)	
Missouri Constitution		3 hours
or	PLSC 103* National, State, Local Government (3)	
	HIST 106* U.S. History I (3)	
Common Advanced Manufacturing Courses		11 hours
	BSAD 103 Professional Development (2)	
	BSAD 125 Computer Applications (3)	
	DRFT 101 Introduction to Engineering Drawing (3)	
	WELD 113 Introduction to Welding (3)	
Common Advanced Manufacturing Courses		19 hours
	AMT 102* Introduction to Industrial Electricity (3)	
	AMT 104* Electrical Motor Controls (3)	
	AMT 111 Introduction to Industrial Safety (1)	
	AMT 132 Industrial Hydraulics (3)	
	AMT 142 Mechanical Power Transmission (3)	
	AMT 204* Programmable Controllers (3)	
	AMT 290 Manufacturing Internship (3)	
Specialty Courses: AUTOMATION/ROBOTICS		15 hours
Required Courses: 15 hours		
	AMT 182* Intro to Automated Robotics (3)	
	AMT 206* Programmable Controllers II (3)	
	AMT 284* Automated Robotic Programming (3)	
	CNS 101 Introduction to Electronics (3)	
	CNS 115 Cisco Networking I (3)	
Total Hourly Requirement		61 hours

*Pre-requisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Advanced Manufacturing Technology: Manufacturing Maintenance Option

The Advanced Manufacturing Technology program prepares students for employment in industries with automated manufacturing processes. The program is built around a set of core courses designed to give students the basic skill set required for this industry coupled with specialty courses allowing students to focus on various related options. This Program of Study addresses the Manufacturing Maintenance Option.

Orientation			1 hour
	COLL	101*	College Orientation (1)
Communications			9 hours
	Written Communications (6 hours)		
	ENGL	100	Mechanics of Composition (3)
	ENGL	101*	English Composition (3)
	ENGL	102*	Advanced English Composition (3)
	ENGL	203*	Technical Report Writing (3)
	Oral Communications (3 hours)		
	SPCH	101	Fundamentals of Speech (3)
Mathematics			3 hours
	MATH	111*	College Algebra (3)
or	MATH	104*	Technical Mathematics (3)
Missouri Constitution			3 hours
	PLSC	103*	National, State, Local Government (3)
or	HIST	106*	U.S. History I (3)
Common Advanced Manufacturing Courses			11 hours
	DRFT	101	Introduction to Engineering Drawing (3)
	WELD	113	Introduction to Welding (3)
	BSAD	125	Computer Applications (3)
	BSAD	103	Professional Development (2)
Common Advanced Manufacturing Courses			19 hours
	AMT	102*	Introduction to Industrial Electricity (3)
	AMT	104*	Electrical Motor Controls (3)
	AMT	111	Introduction to Industrial Safety (1)
	AMT	132	Industrial Hydraulics (3)
	AMT	142	Mechanical Power Transmission (3)
	AMT	204*	Programmable Controllers (3)
	AMT	290	Manufacturing Internship (3)
Specialty Courses: MANUFACTURING MAINT			15 hours
Required Courses: 9 hours			
	AMT	122*	Basic Machining (3)
	CONS	132	Plumbing I (3)
	CONS	155	Basic HVAC (3)
Specialty Electives: 6 hours			
	AMT	162*	Industrial Process Control I (3)
	AMT	206*	Programmable Controllers II (3)
	CNS	101	Introduction to Electronics (3)
	CNS	115	Introduction to Networking (3)
	WELD	145*	Gas Metal Arc Welding – GMAW (3)
	WELD	150*	Gas Tungsten Arc Welding – GTAW (3)
	WELD	155*	Shielded Metal Arc Welding – SMAW (3)
	DEPT	XXX	Any Technology or Business Division Course (3)
Total Hourly Requirement			61 hours

* - These courses have pre-requisite requirements. See catalog description for details.

ASSOCIATE OF APPLIED SCIENCE DEGREE

Agri-Business Technology: Agronomy Option

This program offers the graduate an Associate of Applied Science degree (AAS) which provides education for specific careers in agricultural business, agronomy. Graduates are prepared for the world of work upon successful completion of the program. While an AAS is not designed to transfer, it is possible to transfer to a four-year college if planned accordingly. Students planning to transfer should consult their faculty advisor before registering for classes to assure appropriate classes are selected.

Appropriate courses are selected:

Orientation		1 hour	
AGRI	111		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100		
ENGL	101*		
ENGL	102*		
ENGL	203*		
Oral Communications (3 hours)			
SPCH	101*		
Mathematics		3 hours	
BSAD	121*		
MATH	100*, 107*, 111*, 150* & 160*		
Missouri Constitution		3 hours	
PLSC	103, 104		
HIST	106		
Agri-Business Core		27 – 29 hours	
AGEC	123 Prin of Ag Econ (3)		
AGEC	223 Ag Comp Apps (3)		
AGMC	205 Ag Mechanics (3)		
AGRI	202 Ag Capstone (2)		
AGRI	212 & 222 SOE (2)	OR	AGRI 204 Internship (4)
AGRN	113 Crop Science (3)		
AGRN	214* Fund of Soil Science (4)		
ANSC	114 Animal Sci (4)		
AGEC	213 Farm Business Mgmt (3)		
Agri-Business Agronomy		18 hours	
AGDI	153 Harvest & Tillage (3)		
AGRI	123 Ag Chemicals (3)		
AGRN	223 Grain Crops (3)		
AGRN	243 Forage Crops (3)		
ANSC	213 Feeds & Nutrition (3)		
ANSC	230 Ag Waste Mgmt (3)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Agri-Business Technology: Horticulture Option

This program offers the graduate an Associate of Applied Science degree (AAS) which provides education for specific careers in agricultural business, horticulture. Graduates are prepared for the world of work upon successful completion of the program. While an AAS is not designed to transfer, it is possible to transfer to a four-year college if planned accordingly. Students planning to transfer should consult their faculty advisor before registering for classes to assure appropriate classes are selected.

Orientation		1 hour	
AGRI	111		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100		
ENGL	101*		
ENGL	102*		
ENGL	203*		
Oral Communications (3 hours)			
SPCH	101*		
Mathematics		3 hours	
BSAD	121*		
MATH	100*, 107*, 111*, 150* & 160*		
Missouri Constitution		3 hours	
PLSC	103, 104		
HIST	106		
Agri-Business Core		27 – 29 hours	
AGEC	123 Prin of Ag Econ (3)		
AGEC	223 Ag Comp Apps (3)		
AGMC	205 Ag Mechanics (3)		
AGRI	202 Ag Capstone (2)		
AGRI	212 & 222 SOE (2)	OR	AGRI 204 Internship (4)
AGRN	113 Crop Science (3)		
AGRN	214* Fund of Soil Science (4)		
ANSC	114 Animal Sci (4)		
AGEC	213 Farm Business Mgmt (3)		
Agri-Business Horticulture Option		18 hours	
HORT	101 Gen Horticulture (3)		
HORT	103 Floriculture (3)		
HORT	113 Greenhouse Mgmt (3)		
HORT	204 Nursery Mgmt/Landscape Design (4)		
AGRN	243 Forage Crops (3)		
BSAD	103 Professional Development (2)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Agri-Business Technology: Livestock Production Option

This program offers the graduate an Associate of Applied Science degree (AAS) which provides education for specific careers in agricultural business, livestock production. Graduates are prepared for the world of work upon successful completion of the program. While an AAS is not designed to transfer, it is possible to transfer to a four-year college if planned accordingly. Students planning to transfer should consult their faculty advisor before registering for classes to assure appropriate classes are selected.

Orientation		1 hour	
AGRI	111		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100		
ENGL	101*		
ENGL	102*		
ENGL	203*		
Oral Communications (3 hours)			
SPCH	101*		
Mathematics		3 hours	
BSAD	121*		
MATH	100*, 107*, 111*, 150* & 160*		
Missouri Constitution		3 hours	
PLSC	103, 104		
HIST	106		
Agri-Business Core		27 - 29 hours	
AGEC	123 Prin of Ag Econ (3)		
AGEC	223 Ag Comp Apps (3)		
AGMC	205 Ag Mechanics (3)		
AGRI	202 Ag Capstone (2)		
AGRI	AGRI 212 & 222 (2)	OR	AGRI 204 Internship (4)
AGRN	113 Crop Science (3)		
AGRN	214* Fund of Soil Science (4)		
ANSC	114 Animal Sci (4)		
AGEC	213 Farm Business Mgmt (3)		
Agri-Business Livestock Option		18 hours	
ANSC	153 Beef Production (3)		
ANSC	203 Meat Science (3)		
ANSC	213 Feeds & Nutrition (3)		
ANSC	232 Artificial Insemination (3)		
ANSC	233 Horse Science (3)		
AGRN	243 Forage Crops (3)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Agri-Business Technology: Marketing and Management Option

This program offers the graduate an Associate of Applied Science degree (AAS) which provides education for specific careers in agricultural business marketing and management. Graduates are prepared for the world of work upon successful completion of the program. While an AAS is not designed to transfer, it is possible to transfer to a four-year college if planned accordingly. Students planning to transfer should consult their faculty advisor before registering for classes to assure appropriate classes are selected.

Orientation		1 hour	
AGRI	111		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100		
ENGL	101*		
ENGL	102*		
ENGL	203*		
Oral Communications (3 hours)			
SPCH	101*		
Mathematics		3 hours	
BSAD	121*		
MATH	100*, 107*, 111*, 150* & 160*		
Missouri Constitution		3 hours	
PLSC	103, 104		
HIST	106		
Agri-Business Core		27 - 29 hours	
AGEC	123 Prin of Ag Econ (3)		
AGEC	223 Ag Comp Apps (3)		
AGMC	205 Ag Mechanics (3)		
AGRI	202 Ag Capstone (2)		
AGRI	AGRI 212 & 222 (2)	OR	AGRI 204 Internship (4)
AGRN	113 Crop Science (3)		
AGRN	214* Fund of Soil Science (4)		
ANSC	114 Animal Sci (4)		
AGEC	213 Farm Business Mgmt (3)		
Agri-Business and Business Core		Select 18 hours	
AGRI	190 World Food and Society (3)		
AGRI	223 Public Relations in Agri-Business (3)		
BMGT	175 Management (3)		
BMGT	200 Marketing (3)		
BMGT	223 Business Ethics (3)		
BMGT	280 Personnel Management (3)		
BSAD	103 Professional Dev (2)		
BSAD	230 Business Law (3)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Alternative Energy - Solar

The Alternative Energy-Solar AAS degree provides students with a unique applied foundation in solar technologies. The program covers all aspects of solar technologies and is designed to give the student a strong footing for employment or transfer to any of our cooperative programs that are available at Missouri State University or Pittsburg State University. Students in the Alternative Energy-Solar program include engineering, science, and technology majors. Students are required to take the entry level NABCEP Solar PV exam given as part of the ENER 260 course. Students must also report their score to the College for completion of this degree program.

Orientation		1 hour
COLL	101 College Orientation (1)	
Communications		9 hours
Written Communications (6 hours)		
ENGL	100 Mechanics of Composition (3)	
ENGL	101* English Composition (3)	
ENGL	102* Advanced English Composition (3)	
ENGL	203* Technical Report Writing (3)	
Oral Communications (3 hours)		
SPCH	101* Fundamentals of Speech	
Mathematics		3 hours
MATH	104* Technical Mathematics (3)	
MATH	111* College Algebra (3)	
Science		5 hours
PHYS	101 Survey of Physical Science (5)	
Missouri Constitution		3 hours
HIST	106 U.S. History I (3)	
PLSC	103, 104* Nat'l, State, Local Govt (3)	
Required Courses		37 hours
AMT	112 Occupational Safety (3)	
BSAD	103 Professional Development (2)	
CNS	101 Introduction to Electronics (3)	
CONS	105 Introduction to Construction (3)	
CONS	132 Plumbing I* (3)	
CONS	142 Electrical I* (3)	
DRFT	101 Intro to Engineering Drawing (3)	
ENER	105 Intro to Energy (3)	
ENER	150 Passive Solar Systems (3)	
ENER	151 Passive Solar Systems Lab (2)	
ENER	250 Solar Thermal Systems* (3)	
ENER	251 Solar Thermal Systems Lab* (2)	
ENER	260 Solar Electric Systems* (3)	
ENER	261 Solar Electric Systems Lab*(2)	
Approved Electives		5 hours
AMT	102 Introduction to Industrial Electricity (3)	
CONS	243 Construction Project Supervision (3)	
CONS	245 Project Management (3)	
CONS	144 Electrical II (3)	
CONS	134 Plumbing II (3)	
DRFT	103 Technical Drawing (3)	
ENER	156, 157, 158 Projects (1-3)	

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Alternative Energy - Wind

The Alternative Energy Program AAS Degree provides students with a unique applied foundation in renewable energy technology. The program's emphasis on vocational wind turbine technology is designed to give the student a strong footing for employment or transfer to any of our cooperative programs that are available at Missouri State University or Pittsburg State University. Students in the Alternative Energy program include engineering, science, and technology majors. Students are required to take a certification exam given as part of the ENER 232 course and report their score to the College for completion of this degree program. Students are strongly encouraged to contact the wind Instructor for advisement before beginning this program.

Orientation		1 hour	
	COLL	101	College Orientation (1)
Communications		9 hours	
		Written Communications (6 hours)	
	ENGL	100	Mechanics of Composition (3)
	ENGL	101*	English Composition (3)
	ENGL	102	Advanced English Composition (3)
	ENGL	203*	Technical Report Writing (3)
		Oral Communications (3 hours)	
	SPCH	101*	Fundamentals of Speech
Mathematics		3 hours	
	MATH	104*	Technical Mathematics (3)
or	MATH	111*	College Algebra (3)
Science		4 hours	
	PHYS	101	Survey of Physical Science (5)
or	PHYS	104	Technical Physics (4)
Missouri Constitution		3 hours	
	PLSC	103, 104*	Nat'l, State, Local Govt (3)
	OR HIST	106	U.S. History I (3)
Required Courses		38 hours	
	AMT	102	Introduction to Industrial Electricity (3)
	AMT	112	Occupational Safety (3)
	AMT	204	Programmable Controllers* (3)
	BSAD	103	Professional Development (2)
	CNS	101	Introduction to Electronics (3)
	CNS	115	CISCO Networking I (3)
	CONS	105	Introduction to Construction (3)
	CONS	231	Site Layout I* (3)
	DIES	134	Diesel Hydraulics (4)
	ENER	105	Introduction to Energy (3)
	ENER	132	Introduction to Wind (3)
	ENER	134	Turbine Troubleshooting* (3)
	ENER	232	Wind Turbine Internship* (3)
Approved Electives		3 hours	
	BSAD	125	Computer Applications (3)
	CONS	243	Construction Project Supervision (3)
	CONS	253	Construction Project Manager (3)
	ENER	156, 157, 158	Projects (1-3)
	LOC	206	Career Exploration (2)

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Auto Technology

The Automotive Technology program is aimed at training students in the maintenance and repair of today's modern, complex vehicles. Successful automotive graduates can expect to find employment in the automotive service industry as technicians, parts managers, service managers, or in sales positions.

Orientation		1 hour
COLL	101	
Communications		9 hours
Written Communications (6 hours)		
ENGL	100	
ENGL	101*	
ENGL	102*	
ENGL	203*	
Oral Communications (3 hours)		
SPCH	101*	
Mathematics		3 hours
BSAD	121*	
MATH	104*	
Missouri Constitution		3 hours
HIST	106	
PLSC	103, 104*	
Technical Core		45 hours
AUTO	114 Auto Fuel Systems (4)	
AUTO	115 Engine Repair (5)	
AUTO	124 Auto Brake Systems (4)	
AUTO	125 Auto Electrical Systems (5)	
AUTO	214 Auto Air Conditioning (4)	
AUTO	215 Auto Emission Cont Sys (5)	
AUTO	223 Auto Power Train Sys (3)	
AUTO	224 Computer Engine Cont (4)	
AUTO	225 Auto Suspen and Steer (5)	
BSAD	125 Computer Apps (3)	
BSAD	150 Intro to Business (3)	

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Auto Technology – Parts Management Option

This curriculum was developed working closely with local automotive parts supply companies. The intent is to provide the student with the tools necessary to become successful in the automotive parts supply business. Special emphasis has been given to marketing, business law and personnel management.

Orientation		1 hour	
	COLL 101		
Communications		9 hours	
Written Communications (6 hours)			
	ENGL 100		
	ENGL 101*		
	ENGL 102		
	ENGL 203*		
Oral Communications (3 hours)			
	SPCH 101*		
Mathematics		3 hours	
	BSAD 121*		
or	MATH 104*		
Missouri Constitution		3 hours	
	PLSC 103, 104*	OR	HIST 106
Technical Core		46 hours	
	AUTO 114 Auto Fuel Systems (4)		
	AUTO 115 Engine Repair (5)		
	AUTO 124 Auto Brake Systems (4)		
	AUTO 125 Auto Electrical Systems (5)		
	AUTO 225 Auto Suspen and Steer (5)		
	AUTO 240 Automotive Internship (2)		
	BMGT 175 Management (3)		
	BMGT 200 Marketing (3)		
	BMGT 223 Business Ethics (3)		
	BMGT 280 Personnel Management (3)		
	BSAD 125 Computer Apps (3)		
	BSAD 150 Intro to Business (3)		
	BSAD 230 Business Law (3)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Collision Repair Technology

The Collision Repair Technology program prepares students for employment in the field of collision repair or related occupations in the automotive industry. The program is built around nationally recognized standards from the National Institute for Automotive Service Excellence (ASE) provided through the National Automotive Technicians Education Foundation (NATEF). Instructional materials for the core collision repair courses are provided through I-CAR (Inter-Industry Conference on Auto Collision Repair). The program is not currently ASE/NATEF certified, but the core courses cover all of the high-priority ASE/NATEF competencies in Non-Structural Repair, Structural Repair, and Painting/Finishing.

Orientation		1 hour	
COLL	101	College Orientation (1)	
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100*	Mechanics of Composition (3)	ENGL 102* Advanced English Composition(3)
ENGL	101*	English Composition (3)	ENGL 203* Technical Report Writing (3)
Oral Communications (3 hours)			
SPCH	101	Fundamentals of Speech (3)	
Mathematics		3 hours	
MATH	104*	Technical Mathematics (3)	
or	BSAD	121*	Business Mathematics (3)
Missouri Constitution		3 hours	
PLSC	103	National, State, Local Government (3)	
or	HIST	106	U.S. History I (3)
Collision Repair Core Courses		32 hours	
AUTO	125	Automotive Electrical Systems (5)	
AUTO	214	Automotive Air Conditioning (4)	
AUTO	225	Automotive Suspension/Steering (5)	
CLRP	102	Collision Repair I (3)	
CLRP	104*	Collision Repair II (3)	
CLRP	202*	Collision Repair III (3)	
CLRP	204*	Collision Repair IV (3)	
WELD	113	Introduction to Welding (3)	
WELD	145*	Gas-Metal Arc Welding (GMAW) (3)	
Support Courses		8 hours	
BSAD	103	Professional Development (2)	
BSAD	125	Business Computer Applications (3)	
BSAD	150	Introduction to Business (3)	
Approved Electives		5 hours	
Any course not specifically required above and for which any pre-requisite courses have been completed from among: AMT, AUTO, BSAD, CNS, CONS, DIES, DRFT, or WELD. Other courses upon approval of advisor or Division Chair.			
Total Hourly Requirement		61 hours	

ASSOCIATE OF APPLIED SCIENCE DEGREE

Computer and Network Support Technology

The Computer and Network Support Technology program (CNS) prepares students for employment as support personnel in the areas of computer and information services. Students successfully completing this program will be able to setup and maintain microcomputer systems as well as perform basic administrative/maintenance tasks in a networked computing environment.

Orientation		1 hour	
COLL	101 College Orientation (1)		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100 Mechanics of Composition (3)		
ENGL	101* English Composition I (3)		
ENGL	102* Advanced English Composition (3)		
ENGL	203* Technical Report Writing (3)		
Oral Communications (3 hours)			
SPCH	101 Fundamentals of Speech (3)		
Mathematics		3 hours	
MATH	111* College Algebra (3)		
MATH	104* Technical Mathematics		
Missouri Constitution		3 hours	
HIST	106 U.S. History (3)		
PLSC	103 National, State, Local Government (3)		
Required Support Courses		5 hours	
BSAD	103 Professional Development (2)	OR	CNS 105/106 Tech Career Development (2)
BSAD	125 Computer Applications (3)		
Required CNS Courses		34 hours	
CNS	101 Intro to Electronics (3)		
CNS	111* PC Basics I (3)		
CNS	112* PC Basics II (3)		
CNS	115* CISCO Network I (3)		
CNS	116* CISCO Network II (3)		
CNS	125* Programming for CNS Techs (3)		
CNS	217* CISCO Network III (3)		
CNS	218* CISCO Network IV (3)		
CNS	260* Microsoft Network Admin (3)		
CNS	265* Microsoft Exchange Admin (3)		
CNS	285* CNS Internship (3)		
Required Electives		6 hours	
CNS	250* Linux Network Admin (3)		
CNS	270* Network Security (3)		
CNS	275* Enterprise Administration (3)		
CNS	277* Data Management (3)		
Total Credit Hours for this degree:		61 hours	

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Diesel Technology

Interesting and challenging career opportunities are offered by the transportation and agricultural industries in the area of diesel technology. Jobs available to graduates include technicians, equipment managers, mechanics, service center supervisors, parts personnel, and salesmen.

Orientation		1 hour
COLL	101	
Communications		9 hours
Written Communications (6 hours)		
ENGL	100	
ENGL	101*	
ENGL	102*	
ENGL	203*	
Oral Communications (3 hours)		
SPCH	101*	
Mathematics		3 hours
BSAD	121*	
Missouri Constitution		3 hours
HIST	106	
PLSC	103	
Major Courses		44 hours
DIES	124 Prevent Maintenance (4)	
DIES	134 Diesel Hydraulics (4)	
DIES	144 Diesel Engines I (4)	
DIES	164 Diesel Brake Systems (4)	
DIES	184 Electricity/Electronics (4)	
DIES	204 Diesel Powertrains (4)	
DIES	224 Diesel Steering & Suspension (4)	
DIES	234 Air Conditioning (4)	
DIES	244 Internship (4)	
DIES	284 Diesel Electrical/Electronics* (4)	
DIES	294 Diesel Engines II* (4)	
Electives		3 hours
BSAD	125 Computer Apps (3)	

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Drafting & Design Technology

The Drafting and Design program begins with basic drafting and progresses through advanced design and Computer Aided Drafting (CAD). During this study, the different fields of drafting that an employee may be exposed to are covered. Drafting fields such as Architectural Drafting, Welding, Electronics, Plumbing and Structural Drafting are included to give the student some exposure to different areas in the industry. Computer aided drafting is taught in conjunction with all drafting classes to give the student experience in drawing and plotting drawings with the computer.

Orientation		1 hour	
	COLL 101		
Communications		9 hours	
Written Communications (6 hours)			
	ENGL 100		ENGL 102*
	ENGL 101*		ENGL 203*
Oral Communications (3 hours)			
	SPCH 101*		
Humanities		3 hours	
	ART 101		
	ASL 101, 102		
	ENGL 109, 120, 125		
	HIST 101		
	HUM 102, 103		
	MUSC 101		
	PHIL 101, 110, 121, 201, 202		
	SPAN 101		
	TA 205		
Mathematics		3 hours	
	MATH 104*		
Science		5 hours	
	PHYS 101		
Missouri Constitution		3 hours	OR
	HIST 106		PLSC 103, 104*
Required Technical Courses		30 hours	
	BSAD 125 Computer Apps (3)		
	DRFT 101 Engineering Drawing (3)		
	DRFT 103 Technical Drawing* (3)		
	DRFT 105 Architectural Drawing (3)		
	DRFT 115 Basic CAD (3)		
	DRFT 141 Assembly Drawings* (3)		
	DRFT 202 Machine Design* (3)		
	DRFT 203 Tool & Die Design* (3)		
	DRFT 205 Intermediate CAD* (3)		
	DRFT 280 Drafting and Design Internship (3)		
Approved Electives		9 hours	
	DRFT 102 Descrip Geometry (3)		
	DRFT 120 Basic Civil Drafting* (3)		
	DRFT 215 Advanced CAD* (3)		
	DRFT 220 Geometric Dimen Toler* (3)		
	CNS 101 Intro to Electronics (3)		
	WELD 113 Intro to Welding (3)		
	Other Electives Approved by Program Director		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Energy Efficient Building Technology: Alternative Technologies Option

The Energy Efficient Building Technology program prepares students for employment in the construction industry or in related occupations. The program is built around National Center for Construction Education and Research (NCCER) standards and is comprised of a core component covering basic employability skills, introductory carpentry, and green building practices coupled with specialty options of general construction, construction management, or alternative technologies. This Program of Study addresses the Alternative Technologies Option.

Orientation			1 hour
COLL	101*	College Orientation (1)	
Communications			9 hours
Written Communications: 6 hours			
ENGL	100	Mechanics of Composition (3)	
ENGL	101*	English Composition (3)	
ENGL	102*	Advanced English Composition(3)	
ENGL	203*	Technical Report Writing (3)	
Oral Communications: 3 hours			
SPCH	101	Fundamentals of Speech (3)	
Missouri Constitution			3 hours
HIST	106	U.S. History I (3)	
PLSC	103	National, State, Local Govt (3)	
Common Support Courses			8 hours
BSAD	125	Computer Applications (3)	
BSAD	103	Professional Development (2)	
DRFT	105*	Architectural Drafting (3)	
Common Construction Courses			15 hours
CONS	102	Introduction to Green Building (2)	
CONS	105*	Introduction to Construction Technology (3)	
CONS	111*	Carpentry Fundamentals I (3)	
CONS	114*	Carpentry Fundamentals II (3)	
CONS	290*	Construction Internship (4)	
Specialty Courses: ALTERNATIVE TECHNOLOGIES			28 hours
Required Courses: 25 hours			
MATH	111*	College Algebra (3)	
AMT	102*	Intro to Industrial Electricity (3)	
CONS	155*	Basic HVAC (3)	
CONS	161*	Weatherization Technology (3)	
CONS	248*	Sustainable Construction (1)	
CONS	264*	Geothermal Heat Pump Systems (3)	
CONS	265*	Alternative Energy Technologies (3)	
CONS	266*	Energy Usage Auditing I (3)	
CONS	267*	Energy Usage Auditing II (3)	
Specialty Electives: Choose 3 hours			
CONS	132*	Plumbing I (3)	
CONS	142*	Electrical Wiring I (3)	
CONS	173*	Carpentry Forms I (3)	
CONS	231*	Site Layout I (3)	
CONS	243*	Project Supervision (3)	
DEPT	XXX	Any Technology or Business Division Course (3)	
Total Credit Hours for this Specialty:			64 hours

(*) These courses have pre-requisite requirements. See catalog description for details.

ASSOCIATE OF APPLIED SCIENCE DEGREE

Energy Efficient Building Technology: Construction Management Option

The Energy Efficient Building Technology program prepares students for employment in the construction industry or in related occupations. The program is built around National Center for Construction Education and Research (NCCER) standards and is comprised of a core component covering basic employability skills, introductory carpentry, and green building practices coupled with specialty options of general construction, construction management, or alternative technologies. This Program of Study addresses the Construction Management Option.

Orientation			1 hour
COLL	101*	College Orientation (1)	
Communications			9 hours
Written Communications: 6 hours			
ENGL	100	Mechanics of Composition (3)	ENGL 102* Advanced English Composition(3)
ENGL	101*	English Composition (3)	ENGL 203* Technical Report Writing (3)
Oral Communications: 3 hours			
SPCH	101	Fundamentals of Speech (3)	
Missouri Constitution			3 hours
HIST	106	U.S. History I (3)	
PLSC	103	National, State, Local Government (3)	
Common Support Courses			8 hours
BSAD	125	Computer Applications (3)	
BSAD	103	Professional Development (2)	
DRFT	105*	Architectural Drafting (3)	
Common Construction Courses			15 hours
CONS	102	Introduction to Green Building (2)	
CONS	105*	Introduction to Construction Technology (3)	
CONS	111*	Carpentry Fundamentals I (3)	
CONS	114*	Carpentry Fundamentals II (3)	
CONS	290*	Construction Internship (4)	
Specialty Courses: CONSTRUCTION MANAGEMENT			28 hours
Required Courses: 22 hours			
MATH	111*	College Algebra (3)	
CONS	173*	Carpentry Forms I (3)	
CONS	231*	Site Layout I (3)	
CONS	235*	Site Layout II (3)	
CONS	243*	Project Supervision (3)	
CONS	244*	Project Management I (3)	
CONS	246*	Project Management II (3)	
CONS	248*	Sustainable Construction (1)	
Specialty Electives: 6 hours			
CONS	132*	Plumbing I (3)	
CONS	134*	Plumbing II (3)	
CONS	142*	Electrical Wiring I (3)	
CONS	144*	Electrical Wiring II (3)	
CONS	175*	Carpentry Forms II (3)	
CONS	122*	Masonry I (3)	
CONS	124*	Masonry II (3)	
CONS	161*	Weatherization Technology (3)	
CONS	265*	Alternative Energy Technologies (3)	
DEPT	XXX	Any Technology or Business Division Course (3)	
Total Credit Hours for this Specialty:			64 hours

* - These courses have pre-requisite requirements. See catalog description for details.

ASSOCIATE OF APPLIED SCIENCE DEGREE

Energy Efficient Building Technology: General Construction Option

The Energy Efficient Building Technology program prepares students for employment in the construction industry or in related occupations. The program is built around National Center for Construction Education and Research (NCCER) standards and is comprised of a core component covering basic employability skills, introductory carpentry, and green building practices coupled with specialty options of general construction, construction management, or alternative technologies. This Program of Study addresses the General Construction Option.

Orientation			1 hour
COLL	101*	College Orientation (1)	
Communications			9 hours
Written Communications: 6 hours			
ENGL	100	Mechanics of Composition (3)	
ENGL	101*	English Composition (3)	
ENGL	102*	Advanced English Composition(3)	
ENGL	203*	Technical Report Writing (3)	
Oral Communications: 3 hours			
SPCH	101	Fundamentals of Speech (3)	
Missouri Constitution			3 hours
HIST	106	U.S. History I (3)	
PLSC	103	National, State, Local Government (3)	
Common Support Courses			8 hours
BSAD	103	Professional Development (2)	
BSAD	125	Computer Applications (3)	
DRFT	105*	Architectural Drafting (3)	
Common Construction Courses			15 hours
CONS	102	Introduction to Green Building (2)	
CONS	105*	Introduction to Construction Technology (3)	
CONS	111*	Carpentry Fundamentals I (3)	
CONS	114*	Carpentry Fundamentals II (3)	
CONS	290*	Construction Internship (4)	
Specialty Courses: GENERAL CONSTRUCTION			27 hours
Required Courses: 21 hours			
MATH	104*	Technical Mathematics (3)	
CONS	115*	Carpentry Framing and Finishing I (3)	
CONS	117*	Carpentry Framing and Finishing II (3)	
CONS	132*	Plumbing I (3)	
CONS	142*	Electrical Wiring I (3)	
CONS	173*	Carpentry Forms I (3)	
CONS	175*	Carpentry Forms II (3)	
Specialty Electives: 6 hours			
CONS	134*	Plumbing II (3)	
CONS	144*	Electrical Wiring II (3)	
CONS	122*	Masonry I (3)	
CONS	124*	Masonry II (3)	
CONS	161*	Weatherization Technology (3)	
DEPT	XXX	Any Technology or Business Division Course (3)	
Total Credit Hours for this Specialty:			63 hours

(*) - These courses have pre-requisite requirements. See catalog description for details.

ASSOCIATE OF APPLIED SCIENCE DEGREE

Engineering Technology

The Engineering Technology program prepares graduates for careers as process operators in chemical, biorefineries, oil and gas industry, power generation, food and beverage, mining, pharmaceuticals, and pulp and paper industries. This degree readies graduates to demonstrate technical knowledge, skills and abilities in instrument systems, process systems, process troubleshooting, quality, safety, and process industry equipment.

Process Industry Equipment			
Orientation		1 hour	
COLL	101		
Communications		6 hours	
ENGL	101* (3)	ENGL	103* (6)
ENGL	102* (3)	SPCH	101* (3)
Humanities, Social and Behavioral Science		9 hours	
Missouri Constitution (3 hours)			
PLSC	103, 104*		
HIST	106		
Humanities (3 hours)			
ART	101		
ASL	101, 102*		
ENGL	109, 120, 125		
HIST	101		
HUM	102, 103		
MUSC	101		
PHIL	101, 110, 121, 201, 202		
SPAN	101		
TA	205		
Additional (3 hours) or another humanities			
ECON	201, 202		
GEOG	101		
HIST	101, 102, 106, 107		
PHIL	110, 121		
PLSC	103, 104*		
PSYC	101		
SOC	101		
Mathematics		3 hours	
MATH	111 College Algebra (3)		
Science		10 hours	
Biological Science (5 hours)		Physical Science (5 hours)	
BIOL	101, 110, 120	CHEM	101, 104, 111*
		PHYS	101, 190*
Major Courses		33 hours	
PTEC	130 Process Safety, Health and Environment (3)	PTEC	230 Process Technology Equipment (3)
PTEC	140 Introduction to Process Technology (3)	PTEC	240 Process Technology Systems (3)
PTEC	150 Process Quality (3)	PTEC	250 Process Technology Operations (3)
PTEC	210 Process Technology Instrumentation I (3)	PTEC	260 Process Technology Troubleshooting (3)
PTEC	220 Process Technology Instrumentation II (3)	AMT	102 Introduction to Industrial Electricity (3)
		AMT	162 Industrial Process Control I (3)

ASSOCIATE OF APPLIED SCIENCE DEGREE

Fire Science

The Fire Science Program at Crowder College-Webb City prepares the student to enter an exciting career as a firefighter. The degree offers the opportunity for current firefighters to prepare themselves as supervisors and leaders in their own departments. It also prepares students who wish to begin a career in fire fighting.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	101		
ENGL	203*		
Oral Communications (3 hours)			
SPCH	101*		
Mathematics		3 hours	
MATH	111*	OR	BSAD 121*
Science		5 hours	
CHEM	101, 111*	BIOL	101, 152
Missouri Constitution		3 hours	
HIST	106	OR	PLSC 103, 104*
Required Technical Courses		30 hours	
FSCI	102 Bldg Con Related to F/S* (3)		
FSCI	107 Fire Svs Hyd & Pump (3)		
FSCI	108 Fire Protection System (3)		
FSCI	109 Legal Aspect of Em Sv (3)		
FSCI	205 Tactics & Strategies* (3)		
FSCI	208 The Company Officer (3)		
FSCI	210 Fire Service Instructor (3)		
FSCI	212 Occup Safe/Health FS (3)		
FSCI	111 Firefighter I & II (6) OR		
	FF I & II state certification		
Approved Electives		15 hours	
EMT	101 Emer Med Tech (9)		
FSCI	103 Fire Investigation (3)		
FSCI	202 Hazardous Materials (3)		
FSCI	207 Fire Prev/Code Enforc (3)		
FSCI	263 Prob FS (Internship) (3)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Health Care Specialist

This AAS degree provides students with the broad range of health, science, and office skills helpful for initial placement and career advancement in front and back office positions in a wide range of medical facilities such as in hospitals, doctor offices, veterinary clinics, pharmacies, and long-term and in-home care facilities

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100 Mechanics of Comp (3)		
ENGL	101 English Composition (3)		
ENGL	102 English Composition II* (3)		
ENGL	203 Technical Report Writing* (3)		
Oral Communications (3 hours)			
SPCH	101* Fundamentals of Speech (3)		
Mathematics		3 hours	
BSAD	121* Business Mathematics (3)		
Missouri Constitution		3 hours	
PLSC	103, 104* National, State, Local Gov (3)		
HIST	106 U.S. History (3)		
Health Sciences		17 hours	
		Health Care related courses from programs such as Surgical Tech, Pharmacy Tech, Certified Nurse's Assistant, EMT, Paramedic, Nursing, Vet Tech, Biological Sciences, etc. (e.g. PE 115 First Aid, BIOL 185 Medical Laboratory Techniques)	
Biological Sciences		5 hours	
BIOL	101 General Biology (5)		
BIOL	152 A & P I (5)		
Business Core		13 hours	
BSAD	103 Professional Development (2)		
BSAD	125 Computer Applications* (3)		
BSAD	130 Business Communications* (3)		
BMGT	223 Business Ethics (3)		
OA	233 Medical Office Internship (2)		
Medical Office Specialist		9 hours	
HIT	220 ICD Coding (3)		
OA	212 Med Office Procedures (3)		
OA	215 Medical Terminology (3)		
Electives		3 hours	OR:
BMGT	175 Management (3)		
BIOL	101 Gen Biology (5)		
ACCT	101 Practical Accounting (3)	OA 108	Intro to Transcription (3)
		OA 208	Medical Transcription (3)
ACCT	201 Principles of Accounting I(3)		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Health Information Technology

The Health Information Technology (HIT) program prepares students for employment in the health information management industry or in related health information technology occupations. The program is built around AHIMA (American Health Information Management Association) curriculum competencies and knowledge cluster requirements as well as comprised of the general education core requirements.

In order to promote student success in the HIT program, the following criteria is established for admission: a) high school GPA of at least 2.0 or a passing GED score and b) a minimum cumulative GPA of 2.0 for previous college hours. All courses must be completed with a grade of C or better in order to progress to the next course and an overall GPA of 2.5 to successfully complete the program.

Prior to enrolling in the HIT 290 course, students will be required to have a physical examination and verify annual tuberculosis status. A Criminal Background Check along with a drug screen may be required, and students are responsible for any costs incurred. If a negative result is returned, the student may not be able to complete the Clinical Application Experience.

Students must earn 67 hours for this degree

Orientation		1 hour
COLL	101	
Communications		9 hours
Written Communications (6 hours)		
ENGL	101 English Composition (3)	
ENGL	102* Advance English Composition (3)	
Oral Communications (3 hours)		
SPCH	101 Fundamentals of Speech (3)	
Mathematics		3 hours
MATH	107*, 111* Introduction to Mathematics or College Algebra (3)	
Missouri Constitution		3 hours
HIST	106 U.S. History I (3)	
PLSC	103 National, State, Local Government (3)	
Health Information Technology Core		48 hours
BMGT	175 Management (3)	
BSAD	125 Computer Applications (3)	
HIT	110* Introduction to Health Information Technology (3)	
HIT	115* Health Information Management Systems (3)	
HIT	200* Alternative Healthcare Delivery Systems (3)	
HIT	205* Human Anatomy and Physiology I for HIT (3)	
HIT	206* Human Anatomy and Physiology II for HIT (3)	
HIT	210* Pathophysiology w/ Pharmacology for HIT (3)	
HIT	220* ICD Coding (3)	
HIT	230* CPT Coding (3)	
HIT	240* Applied Coding (3)	
HIT	250* Quality Management in Healthcare (3)	
HIT	260* Healthcare Law and Ethics (3)	
HIT	280* Healthcare Statistics and Research (3)	
HIT	290* Clinical Application Experience (3)	
OA	215* Medical Terminology (3)	
Social Science Electives		3 hours
PSYC	101 General Psychology (3)	
SOC	101 General Sociology (3)	

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Management

This program is designed to help students develop the business prowess and managerial “know-how” to become valuable assets to any company. Crowder’s Associate of Applied Science in Management degree offers specialized instruction in accounting & finance, business law & economics, management, marketing and human resources. Students learn how to develop vital skills for administration and management including problem-solving, strategy & planning, communication & marketing, interpersonal relations and technology. Special emphasis is placed on preparing students for the challenges of management positions through active learning techniques, practical application of research methods, team projects, presentations and real-world internships.

*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating.

Orientation		1 hour
COLL	101	
Communications		9 hours
Written Communications (6 hours)		
ENGL	101*	
ENGL	203*	
Oral Communications (3 hours)		
SPCH	101*	
Mathematics		3 hours
BSAD	121*	
Missouri Constitution		3 hours
PLSC	103, 104*	
Business Core		13 hours
BMGT	223	Business Ethics (3)
BMGT	290	Business Management Internship (2)
BSAD	103	Professional Dev (2)
BSAD	125	Business Computer Apps (3)
BSAD	130	Bus Communications* (3)
Management Core		32 hours
ACCT	201	Principles of Accounting I (3)
ACCT	202	Principles of Accounting II (3)
BMGT	175	Management (3)
BMGT	200	Marketing (3)
BMGT	285	Human Resource Management (3)
BMGT	295	Business Management Capstone (3)
BSAD	108	Personal Finance (3)
BSAD	150	Intro to Business (3)
BSAD	215	Spreadsheets (2)
BSAD	230	Business Law (3)
ECON	201	Principles of Economics (3)
ELECTIVES (3 hours)		
Electives can be taken from ACCT, BSAD, BMGT, OA, or ECON 202		

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Medical Office Specialist

The medical profession is rapidly changing, and with these changes comes the need for highly skilled support personnel. Crowder's Associate of Applied Science Medical Office Specialist degree is designed to prepare individuals for employment as office support staff and medical transcriptionists in a variety of health care settings including private medical practices, hospitals, clinics, public health departments, government agencies, or insurance firms. Students develop important career skills in typing/transcription, document filing/processing, medical billing and coding, medical records handling, and medical office procedures. It provides training for both first-time job seekers and experienced employees who wish to advance in their careers.

*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100 Mechanics of Comp (3)		
ENGL	101 English Composition (3)		
ENGL	102 Advanced English Composition* (3)		
ENGL	203 Technical Report Writing* (3)		
Oral Communications (3 hours)			
SPCH	101* Fundamentals of Speech (3)		
Mathematics		3 hours	
BSAD	121* Business Mathematics (3)		
Missouri Constitution		3 hours	
HIST	106 U.S. History (3)		
PLSC	103, 104* National, State, Local Gov (3)		
Business Core		13 hours	
BMGT	223 Business Ethics (3)		
BSAD	103 Professional Development (2)		
BSAD	125 Computer Applications* (3)		
BSAD	130 Business Communications* (3)		
OA	233 Medical Office Internship (2)		
Medical Office Core		32 hours	
ACCT	101 Practical Accounting (3)	OR	ACCT 201 Principles of Accounting I
BSAD	216 Database Management (2)		
HIT	220* ICD Coding (3)		
HIT	230* CPT Coding (3)		
OA	102 Filing Systems & Records Mgmt (3)		
OA	107 College Keyboarding (3)		
OA	108 Intro to Transcription (3)		
OA	200 Word Processing (3)		
OA	208 Medical Transcription (3)		
OA	212 Med Office Procedures (3)		
OA	215 Medical Terminology (3)		
Electives		2 hours	
Electives can be taken from ACCT, BMGT, BSAD, HIT, OA, or SPAN 111			

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Office Administration Specialist

This program is designed to prepare students for office support positions. Office support personnel are needed in virtually every type of business and are essential in helping offices run effectively and efficiently. Crowder's Associate of Applied Science in Office Administration degree will give you the opportunity to develop expert skills in keyboarding, software applications, transcription, business communications, and office management. Students will be able to utilize innovative technology to enhance and improve office procedures, in addition, students will develop the interpersonal, decision making and analytical skills required in dealing with workplace problems and situations. Through Crowder's comprehensive Internship program, you will have the opportunity to gain valuable work experience in a business office setting ensuring that you gain the valuable skills and connections you'll need to succeed in today's job market.

*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating.

Orientation		1 hour	
COLL	101		
Communications		9 hours	
Written Communications (6 hours)			
ENGL	100		
ENGL	101*		
ENGL	102		
ENGL	203*		
Oral Communications (3 hours)			
SPCH	101*		
Mathematics		3 hours	
BSAD	121*		
Missouri Constitution		3 hours	
HIST	106		
PLSC	103, 104*		
Business Core		13 hours	
BMGT	223 Business Ethics (3)		
BSAD	103 Professional Development (2)		
BSAD	125 Computer Apps (3)		
BSAD	130 Business Communications* (3)		
OA	231 Internship (2)		
Office Administration Core		31 hours	
ACCT	101 Practical Accounting (3)	OR	ACCT 201 Prin of Accounting I (3)
BSAD	108 Personal Finance (3)		
BSAD	215 Spreadsheets (2)		
BSAD	216 Database Management (2)		
OA	102 Filing Systems and Records Management (3)		
OA	107 College Keyboarding (3)		
OA	108 Intro to Transcription (3)		
OA	113 Desktop Publishing (3)		
OA	200 Word processing (3)		
OA	210 Office Administration Transcription* (3)		
OA	211 Sec Off Procedures (3)		
Electives		3 hours	
Electives can be taken from ACCT, BMGT, BSAD, or OA			

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Paramedical Science

The Paramedical Science degree is designed for the professional paramedic positions in Emergency Medical Services. The accompanying certificate is designed to be offered over two semesters. This program prepares graduates to sit for the Paramedic certification exam. EMT licensure and admission to the program are prerequisites for this degree.

Candidate must earn 65 credit hours in order to successfully complete the requirements of this degree.

Orientation		1 hour
COLL	101	
Communications		9 hours
Written Communications (6 hours)		
ENGL	101*	
ENGL	102*, 203*	
Oral Communications (3 hours)		
SPCH	101*	
Mathematics		3 hours
MATH	100	
Science		10 hours
BIOL	101, 152	
CHEM	101	
Missouri Constitution		3 hours
HIST	106	
		Or
PLSC	103, 104*	
Paramedic Courses		36 hours
EMTP	201 Paramedic I* (18)	
EMTP	202 Paramedic II* (18)	
Support Courses		3 hours
OA	215 Medical Terminology (3)	

*Prerequisite requirement

ASSOCIATE OF APPLIED SCIENCE DEGREE

Veterinary Technology

The Crowder College Veterinary Technology Program is a 78 credit hour program which is fully accredited by the American Veterinary Medical Association (AVMA) and prepares students for careers as veterinary technicians. This is a selective admission program. Applications are accepted in April for the class which begins the following August. An ACT test result must accompany the application. Students must complete a minimum of BIOL 101 or BIOL 110, MATH 50 (or appropriate placement), ENGL 100 (or appropriate placement), and LOC 50 (or appropriate placement), and have worked with or observed a licensed veterinarian in practice for a minimum of 20 clock hours to be eligible for the program. To be licensed as a Registered Veterinary Technician in Missouri, a student must be at least 19 years of age, graduate from an AVMA accredited program, pass the Veterinary Technician National Examination, and pass the Missouri State Veterinary Medical Board Examination. An applicant must be approved by the Missouri State Veterinary Medical Board, or the State Veterinary Medical Board of any other state in which the student wishes to be licensed, before being allowed to sit for these examinations.

Orientation		1 hour			
AGRI	111 Ag Career Orientation (1)	OR	COLL	101 College Orientation (1)	
Communications		6 hours			
Written Communications (3 hours)					
ENGL	101* English Composition (3)				
Oral Communications (3 hours)					
SPCH	101 Fundamentals of Speech (3)				
Mathematics		3 hours			
MATH	100* Intermediate Algebra (3)	OR	MATH	111* College Algebra (3)	
Missouri Constitution		3 hours			
PLSC	103 Nat'l, State, Local Gov't (3)	OR	HIST	106 U.S. History I (3)	
Science		15 hours			
BIOL	101 General Biology (5)	OR	BIOL	110* General Zoology (5)	
BIOL	220* General Microbiology (5)				
CHEM	101 Survey of Chemistry (5)	OR	CHEM	111* General Chemistry (5)	
General Agriculture		15 hours			
AGEC	223 Ag Computer Applications (3)				
ANSC	114 Animal Science (4)				
ANSC	180 Intro to Veterinary Science (2)	OR	VETC	101 Intro to Vet Tech (2)	
ANSC	223* Farm Animal Health (3)				
ANSC	233 Horse Science (3)				
Program Core		35 hours			
VETC	110* Sanitation and Animal Care (2)		VETC	250* Clinical Pathology II (3)	
VETC	120* Veterinary Hospital Technology I (3)		VETC	263* Large Animal Medicine and Surgery (3)	
VETC	130* Clinical Pathology I (3)		VETC	270* Board Review (1)	
VETC	140* Companion Animal Technology (3)		VETC	280* Radiology & Electronic Techniques (2)	
VETC	180* Veterinary Anatomy and Physiology (4)		VETC	284* Vet Tech Internship (4)	
VETC	220* Veterinary Hospital Technology II (3)		VETC	285* Vet Tech Clinical Experience I (1)	
VETC	230* Laboratory Animal and Avian Technology (2)		VETC	286* Vet Tech Clinical Experience II (1)	
Total Hourly Requirement		78 hours			

*Prerequisite Requirement

CERTIFICATES OF STUDY

CERTIFICATE

Active Solar Technician

This certificate provides students with a unique applied foundation in solar technologies and applications. The program emphasizes learning through coursework and applied research projects. The certificate allows students to move directly into the alternative energy workforce installing solar hardware and systems. Students are required to take the entry level NABCEP Solar PV exam given as part of the ENER 260 course. Students must also report their score to the College for completion of this degree program.

Students must earn 23 hours for this certificate.

Orientation		1 hour
COLL	101	College Orientation (1)
Major courses		22 hours
AMT	112	Occupational Safety (3)
CONS	132	Plumbing I * (3)
CONS	142	Electrical I * (3)
ENER	105	Intro to Energy (3)
ENER	250	Solar Thermal Systems* (3)
ENER	251	Solar Thermal Systems Lab* (2)
ENER	260	Solar Electric Energy* (3)
ENER	261	Solar Electric Energy Lab* (2)

*Prerequisite requirement

CERTIFICATE

Applied Behavior Analysis Certificate

This certificate in Applied Behavior Analysis (ABA) will build a specific set of evidence-based practices, methodologies and interventions for professionals who work or plan to work one-on-one in an educational or health care setting with individuals diagnosed with autism. For students who currently hold or are working towards a bachelor's degree, the Applied Behavior Analysis Certificate training program has been designed to meet the educational requirements needed to become a Board Certified Assistant Behavior Analyst. Students are required to successfully complete a portfolio in PSYC 290 to complete this certificate program.

Orientation		1 hour
COLL	101	College Orientation
Major Courses		18 hours
PSYC	205	Applied Behavior Analysis I (3)
PSYC	206	Applied Behavior Analysis II* (3)
PSYC	207	Applied Behavior Analysis III* (3)
PSYC	208	Behavior Change Procedures* (3)
PSYC	209	Ethics in Applied Behavior Analysis* (3)
PSYC	290	Clinical I-Supervised Field Experience* (3)
Total Hourly Requirement		19 hours

*Prerequisite/Co-requisite requirement

CERTIFICATE

Autism Assistant Certificate

This certificate program prepares students to work one-on-one in an educational or health care setting with individuals diagnosed with Autism. Emphasis will be placed on Applied Behavior Analysis (ABA) theories and techniques. Students must complete the required 19 credit hours of courses. Upon completion of the certificate, students may continue and pursue an AA in Child Development, AA in Psychology, AA in General Studies or an AA in Teaching Degree. Students are required to successfully complete a portfolio in PSYC 290 to complete this certificate program.

Orientation		1 hour
COLL	101	College Orientation
Major Courses		18 hours
EDUC	230	Educational Psychology* (3)
PSYC	101	General Psychology* (3)
PSYC	203	Autism Spectrum Disorders (3)
PSYC	204	Applied Behavior Analysis for Educators (3)
PSYC	210	Child Psychology (3)
PSYC	290	Clinical I-Supervised Field Experience* (3)
Total Hourly Requirement		19 hours

*Prerequisite/Corequisite requirement

CERTIFICATE

Auto Technology

The Automotive Technology Professional Certificate is aimed at the student who has no requirement for a college degree. The program is designed to give the student a working knowledge and the entry-level skills required to earn a living in this competitive field. Students must complete a total of 46 hours for the certificate. The additional certificates are in addition to the academic certificate.

Orientation		1 hour
COLL	101	
Major Courses		45 hours
AUTO	114	Auto Fuel Systems (4)
AUTO	115	Engine Repair (5)
AUTO	124	Auto Brake Systems (4)
AUTO	125	Auto Electrical Systems (5)
AUTO	214	Auto Air Conditioning (4)
AUTO	215	Auto Emission Cont Sys (5)
AUTO	223	Auto Power Train Sys (3)
AUTO	224	Computer Engine Cont (4)
AUTO	225	Auto Suspension and Steering (5)
BSAD	125	Computer Apps (3)
BSAD	150	Intro to Business (3)

*Prerequisite requirement

CERTIFICATE

Automation/Robotics Technician

The Automation/Robotics Technician certificate prepares students for employment in industries with automated robotic processes. Successful graduates will possess the ability to perform entry level maintenance and repairs to industrial automated equipment and robots.

Orientation			1 hour
COLL	101	College Orientation (1)	
Communications			2 hours
COLL	103	Practical Communications (2)	
Mathematics			3 hours
MATH	111*	College Algebra (3)	
or	MATH	104*	Technical Mathematics (3)
Major Courses			25 hours
AMT	102	Introduction to Industrial Electricity (3)	
AMT	104*	Electrical Motor Controls (3)	
AMT	182	Introduction to Automated Robotics (3)	
AMT	204*	Programmable Controllers I (3)	
AMT	206*	Programmable Controllers II (3)	
AMT	284*	Automated Robotic Programming (3)	
CNS	101	Introduction to Electronics (3)	
DIES	134	Hydraulics (4)	
Total Hourly Requirement			31 hours

* - Prerequisite course(s) or minimum test scores required. See catalog course descriptions for details

CERTIFICATE

Certified Nurse Assistant Specialist Certificate

This certificate program prepares students for employment as a Certified Nurse Assistant with medical skills helpful for initial placement in health care settings such as a hospital, clinic, long term care facility or home health; and students have a career path into the Health Care Specialist AAS.

Students must earn 17 hours for this certificate.

Orientation			1 hour
COLL	101	College Orientation	
Major Courses			7 hours
CNA	101	CNA Techniques (5)	
CNA	102	CNA Clinical Experience (2)	
Approved Electives			9 hours
CNA	106	Phlebotomy (3)	
CNA	107	EKG (3)	
CNA	110	Restorative Nurse Assistant and CNA 111 Restorative Nurse Assistant Clinical (3)	
OA	215	Medical Terminology (3)	
Certification Component			
Passing the Missouri certification exam is NOT a requirement for obtaining this certificate from Crowder College; however, the exam must be taken as part of the program. Most medical facilities require Missouri certification for employment so the intent of the program and the student is to pass the certification exam.			

CERTIFICATE

Cisco Networking Certificate

This certificate provides an opportunity for students not wishing to complete a full two-year program in computer and network support to acquire the basic computer networking infrastructure skills required for entry-level employment in the information technology/services area. Successful graduates will be able to utilize industry terminology, setup/maintain infrastructure components of both local and wide-area computer networks, and recognize/mitigate common network security threats. The program is built around four basic internetworking courses provided online by Cisco Services and taught in Crowder's classroom by a Cisco-certified instructor. Students successfully completing the program will be qualified to complete and pass Cisco's CCNA (Certified Cisco Network Administrator) exam, although neither taking nor passing the CCNA exam is a formal requirement for obtaining the certificate.

Students must earn a minimum* of 19 hours for this certificate.

Orientation		1 hour
COLL	101	
Required		18 hours
CNS	101	Introduction to Electronics (3)
CNS	111*	PC Basics (3)
CNS	115*	Cisco I (3)
CNS	116*	Cisco II (3)
CNS	217*	Cisco III (3)
CNS	218*	Cisco IV (3)
Total Hourly Requirement:		19 hours

* Prerequisite courses or equivalent placement exam scores required.

CERTIFICATE

Collision Repair I Technician Certificate

This certificate program trains graduates for entry-level employment in basic collision repair. Applicants must complete Crowder's standard entrance examination to determine placement in all courses having prerequisite requirements.

Students must earn a minimum* of 19 hours for this certificate.

Orientation:		1 hour
COLL	101	College Orientation (1)
Collision Repair Core Courses		18 hours
CLRP	102*	Collision Repair I (3)
CLRP	104*	Collision Repair II (3)
CLRP	202*	Collision Repair III (3)
CLRP	204*	Collision Repair IV (3)
WELD	113*	Introduction to Welding (3)
WELD	145*	Gas Metal Arc Welding (3)
Total Hourly Requirement:		19 hours

*Prerequisite courses or equivalent placement exam scores required. See catalog course descriptions.

CERTIFICATE

Collision Repair II Technician Certificate

This certificate program trains graduates for entry-level employment in automotive collision repair. Applicants must complete Crowder's standard entrance examination to determine placement in all courses having prerequisite requirements.

Students must earn a minimum* of 28 hours for this certificate.

Orientation:			1 hour
COLL	101	College Orientation (1)	
Collision Repair Core Courses			27 hours
CLRP	102*	Collision Repair I (3)	
CLRP	104*	Collision Repair II (3)	
CLRP	202*	Collision Repair III (3)	
CLRP	204*	Collision Repair IV (3)	
WELD	113*	Introduction to Welding (3)	
WELD	145*	Gas Metal Arc Welding (3)	
AUTO	214*	Automotive Air Conditioning (4)	
AUTO	225*	Automotive Steering/Suspension (5)	
Total Hourly Requirement:			28 hours

*Prerequisite courses or equivalent placement exam scores required. See catalog course descriptions.

CERTIFICATE

Construction Technology

This certificate prepares students for entry-level employment in the construction industry with a skill set that will include construction safety, common hand/power tools, and basic carpentry, with additional specialty courses in framing/finishing, plumbing, residential wiring, or masonry. All courses are approved by NCCER (National Council for Construction Education and Research) and students will receive NCCER registration in each program module successfully completed.

Students must earn a minimum* of 16 hours for this certificate.

Orientation			1 hour
COLL	101	College Orientation	
Major Courses			9 hours
CONS	105	Introduction to Construction Technology * (3)	
CONS	111	Carpentry Fundamentals I* (3)	
CONS	114	Carpentry Fundamentals II* (3)	
Specialty Electives			6 hours
CONS	115	Carpentry Framing & Finishing I* (3)	
CONS	117	Carpentry Framing & Finishing II* (3)	
CONS	122	Masonry I* (3)	
CONS	124	Masonry II* (3)	
CONS	132	Plumbing I* (3)	
CONS	134	Plumbing II* (3)	
CONS	142	Electrical Wiring I* (3)	
CONS	144	Electrical Wiring II* (3)	
Total Hourly Requirement			16 hours

*Prerequisite courses or equivalent placement exam scores required.

CERTIFICATE

Diesel Technology

Students must complete 48 hours for the Diesel Technology certificate

Orientation		1 hour
COLL	101 College Orientation	
Major Courses		44 hours
DIES	124 Prevent Maintenance (4)	
DIES	134 Diesel Hydraulics (4)	
DIES	144 Diesel Engines I (4)	
DIES	164 Diesel Brake Systems (4)	
DIES	184 Electricity/Electronics (4)	
DIES	204 Diesel Powertrains (4)	
DIES	224 Diesel Steering & Suspension (4)	
DIES	234 Air Conditioning (4)	
DIES	244 Internship (4)	
DIES	284 Diesel Electrical/Electronics* (4)	
DIES	294 Diesel Engines II* (4)	
Elective		3 hours
BSAD	125 Business Computer Apps	

CERTIFICATE

Electric Arc Welding Certificate

This certificate program prepares students for employment as entry-level welders using any one or all of the three basic types of Electric Arc Welding Technology: Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW) and/or Shielded Metal Arc Welding (SMAW). Students successfully completing this certificate program will be able to perform basic GMAW, GTAW, and SMAW tasks, read/interpret blueprints, complete basic math calculations, demonstrate basic computer/Internet skills, and communicate effectively.

Students must earn a minimum* of 19 hours for this certificate.

Orientation		1 hour
COLL	101 College Orientation	
Major Courses		12 hours
WELD	113 Introduction to Welding* (3)	
WELD	145 Gas Metal Arc Welding (GMAW/MIG)* (3)	
WELD	150 Gas Tungsten Arc Welding (GTAW/TIG)* (3)	
WELD	155 Shielded Metal Arc Welding (SMAW)* (3)	
Support Courses		6 hours
BSAD	125 Computer Applications* (3)	
DRFT	101 Introduction to Engineering Drawing (3)	
Total Hourly Requirement		19 hours

*Prerequisite courses or equivalent placement exam scores required.

CERTIFICATE

Emergency Medical Technician

The Emergency Medical Technician (EMT) certificate prepares the student as emergency care providers either in the pre-hospital setting or the hospital setting. It further prepares the student for a career path as a paramedic, the highest trained pre-hospital provider. This program consists of both classroom and field/hospital participation. This program prepares graduates to sit for the NREMT exams, both written and practical.

AHA Healthcare Provider Level CPR, 18 years of age or older, successful completion of high school or GED and ability to pass a background check are prerequisites for this program.

An individual convicted of a felony or any other crime directly related to public health or the provision of emergency medical service, including DUI, will be reviewed for eligibility for program participation based on the hiring policies of the NREMT.

Orientation		1 hour	
	COLL	101	College Orientation
Major Courses		12 hours	
	MATH	100	Intermediate Algebra (3)
	EMT	101	Emergency Medical Technician (9)*
Electives		3 hours	
	SPCH	101	Fundamentals of Speech (3)
	OA	215	Medical Terminology (3)
Certification Component			
If a student is pursuing EMT licensure through the NREMT, then the student must take the NREMT exams both written and practical. If a student does not wish to pursue EMT licensure, the student must take an online assessment exam prior to course completion. All costs associated with taking the exams, whether through the NREMT or the online assessment tool, are incurred by the student.			

CERTIFICATE

Environmental Health Technology: Utility Management Option

Enrollment in the one-semester certificate program in Utility Management increases an applicant's chance for employment and promotion in the field of municipal water and wastewater systems. In most states, operators must pass an examination to certify that they are capable of overseeing water treatment, water distribution, and wastewater system operations. This certificate program is designed to help students manage municipal water and wastewater system, and prepare for higher levels of state certification. Students must complete 17 hours for this certificate.

Orientation		1 hour	
	COLL	101	College Orientation
Major Courses		16 hours	
	ERC	222	Utility Management (2)
	ERC	260	Computer Use Water/Wastewater (2)
	ERC	271	Advanced Wastewater Treatment (3)*
	ERC	272	Advanced Water Treatment (3)*
	ERC	280	Water Source Planning, Design, & Mgmt (3)
	ERC	281	Stormwater Management (3)
Total Hourly Requirement		17 hours	

*Prerequisite requirement

CERTIFICATE

Environmental Health Technology: Wastewater Treatment Technology Option

Enrollment in the one-semester certificate program in Wastewater Technology increases an applicant's chance for employment and promotion in the field. In most states, operators must pass an examination to certify that they are capable of overseeing wastewater plant operations. This certificate program is designed to help students prepare for state certification. Students must complete 17 hours for this certificate. Potential enrollees must complete Crowder's standard entrance exam and test into the appropriate college-level courses in Mathematics. An additional requirement includes taking the DNR certification exam and reporting the score to Crowder College.

Orientation		1 hour
COLL	101 College Orientation	
Major Courses		16 hours
ERC	132 Wastewater Lab (2)	
ERC	142 Basic Wastewater Treatment (3)*	
ERC	225 Pumps & Motors (2)	
ERC	231 Land Application of Waste (2)	
ERC	234 Wastewater Internship (2)	
ERC	253 Hydraulics (3)	
ERC	298 Wastewater Collection Systems (2)	
Total Hourly Requirement		17 hours

*Prerequisite requirement

CERTIFICATE

Environmental Health Technology: Water Treatment Technology Option

Enrollment in the one-semester certificate program in Water Treatment Technology increases an applicant's chance for employment and promotion in the field. In most states, operators must pass an examination to certify that they are capable of overseeing water plant operations. This certificate program is designed to help students prepare for state certification. Students must complete 17 hours for this certificate. Potential enrollees must complete Crowder's standard entrance exam and test into the appropriate college-level courses in Mathematics. An additional requirement includes taking the DNR certification exam and reporting the score to Crowder College.

Orientation		1 hour
COLL	101 College Orientation	
Major Courses		16 hours
ERC	124 Water Lab (2)	
ERC	140 Basic Water Treatment (3)*	
ERC	141 Water Distribution (2)	
ERC	221 Chlorine & Disinfection (2)	
ERC	224 Water Internship (2)	
ERC	225 Pumps & Motors (2)	
ERC	253 Hydraulics (3)	
Total Hourly Requirement		17 hours

*Prerequisite requirement

CERTIFICATE

Industrial Electrical Technician

This certificate prepares students for employment in an industrial, manufacturing, or commercial electrical setting. Successful graduates will possess the ability to setup, troubleshoot, repair and maintain electrical control systems, up to and including programmable logic controllers (PLCs).

Students must earn a minimum* of 17 hours for this certificate.

Orientation		1 hour	
COLL	101	College Orientation	
Major Courses		13 hours	
AMT	111	Introduction to Industrial Safety (1)	
AMT	102*	Introduction to Industrial Electricity (3)	
AMT	104*	Electrical Motor Control (3)	
AMT	204*	Programmable Controllers I (3)	
AMT	206*	Programmable Controllers II (3)	
AMT	111	Introduction to Industrial Safety (1)	
AMT	102*	Introduction to Industrial Electricity (3)	
Support Courses		3 hours	
BSAD	125	Computer Applications (3)	
Total Hourly Requirement		17 hours	

*Prerequisite courses or equivalent placement exam scores required.

CERTIFICATE

Industrial Maintenance Technician

This certificate prepares students to enter a career in industrial maintenance with a skill set that will provide entry level knowledge of basic construction, welding, print reading, and industrial electricity. The electrical courses will include the use of electrical testing devices, troubleshooting techniques, and programmable logic controllers.

Students must earn a minimum* of 26 hours for this certificate.

Orientation		1 hour	
COLL	101	College Orientation	
Major Courses		10 hours	
AMT	102	Introduction to Industrial Electricity* (3)	
AMT	104	Electrical Motor Control* (3)	
AMT	111	Introduction to Industrial Safety (1)	
AMT	204	Programmable Controllers I* (3)	
Support Courses		9 hours	
BSAD	125	Business Computer Applications (3)	
DRFT	101	Introduction to Engineering Drawing (3)	
WELD	113	Introduction to Welding (3)	
Approved Electives		6 hours	
AMT	122	Basic Machining * (3)	
AMT	132	Industrial Hydraulics * (3)	
AMT	142	Mechanical Power Transmission * (3)	
AMT	206	Programmable Controllers II * (3)	
CONS	132	Plumbing I * (3)	
CONS	134	Plumbing II * (3)	
CONS	155	Basic HVAC * (3)	
WELD	145	Gas Metal Arc Welding (GMAW/MIG)* (3)	
WELD	150	Gas Tungsten Arc Welding (GTAW/TIG)* (3)	
WELD	155	Shielded Metal Arc Welding (SMAW)* (3)	

*Prerequisite courses or equivalent placement exam scores required.

CERTIFICATE

Medical Coding Specialist Certificate

This certificate program prepares students for employment as entry-level coders using the International Classification of Diseases (ICD) and Current Procedural Terminology (CPT) coding systems for assigning accurate codes in compliance with federal regulations and insurance requirements. Graduates receive the Certificate in Medical Coding Specialist from the college and are eligible to write the AHIMA national qualifying examination to become a Certified Coding Associate (CCA).

In order to promote student success in the Medical Coding Specialist certificate program, the following criteria is established for admission: a) high school GPA of at least 2.0 or a passing GED score and b) a minimum cumulative GPA of 2.0 for previous college hours. All courses must be completed with a grade of C or better in order to progress to the next course and an overall GPA of 2.5 to successfully complete the program.

Prior to enrolling in the HIT 285 course, students will be required to have a physical examination and verify annual tuberculosis status. A Criminal Background Check along with a drug screen may be required, and students are responsible for any costs incurred. If a negative result is returned, the student may not be able to complete the Clinical Application Experience.

Students must earn 31 hours for this certificate.

Orientation		1 hour	
	COLL	101	College Orientation
Major Courses		30 hours	
	BSAD	125	Business Computer Applications (3)
	HIT	110*	Introduction to Health Information Technology (3)
	HIT	205*	Human Anatomy and Physiology I for HIT (3)
	HIT	206*	Human Anatomy and Physiology II for HIT (3)
	HIT	210*	Pathophysiology w/ Pharmacology for HIT (3)
	HIT	220*	ICD Coding (3)
	HIT	230*	CPT Coding (3)
	HIT	240*	Applied Coding (3)
	HIT	285*	Clinical Coding Application Experience (3)
	OA	215*	Medical Terminology (3)

*Prerequisites for these courses must be met.

CERTIFICATE

Paramedic

The Paramedic certificate is designed for the professional paramedic positions in Emergency Medical Services. The certificate is designed to be offered over two semesters. This program prepares graduates to sit for the Paramedic certification exam.

EMT licensure, EMPT 299, and admission to the program are prerequisites for this program.

Paramedic Courses		36 hours	
	EMTP	201	Paramedic I* (18)
	EMTP	202	Paramedic II* (18)

*Prerequisite requirement

CERTIFICATE

PC Repair Certificate

This certificate provides an opportunity for students not wishing to complete a full two-year program in computer and network support to acquire the basic computer assembly/maintenance/setup skills required for entry-level employment in the information technology/services area. Successful graduates will be able to utilize industry terminology, assemble, setup, and maintain Intel-based ("IBM compatible") personal computers, and perform basic computer networking tasks. The program is based around two PC basics courses taught in a strong "hands-on" environment in the classroom. Students successfully completing the program will be qualified to complete and pass CompTIA's A+ PC repair exams; although neither taking nor passing the exam is a formal requirement for obtaining the certificate.

Students must earn a minimum* of 16 hours for this certificate.

Orientation		1 hour
COLL	101 College Orientation	
Required		15 hours
CNS	101 Introduction to Electronics (3)	
CNS	111* PC Basics I (3)	
CNS	112* PC Basics II (3)	
CNS	115* Cisco Networking (3)	
CNS	125* Programming for CNS Technicians (3)	
Total Hourly Requirement: 16 hours		

* - Prerequisite courses or equivalent placement exam scores required.

CERTIFICATE

Pharmacy Technician Certificate

This certificate program prepares students for employment as Pharmacy Technicians with medical and office skills helpful for initial placement in pharmacy settings and other related occupations; and students have a career path into the Health Care Specialist AAS. Basic communication, computer/Internet skills, ethics and core courses in pharmacy will be completed.

Students must earn 16 hours for this certificate.

Orientation		1 hour
COLL	101 College Orientation	
Major Courses		15 hours
PHAR	101 Pharmacy Techniques I (3)	
PHAR	102 Pharmacy Techniques II (3)	
PHAR	150 Pharmacy Tech Internship (3)	
BSAD	125 Bus Computer Applications (3)	
PHAR	110 Pharmacology Concepts (3)	
Certification Component		
Passing a national certification exam is not a requirement for obtaining this certificate or for job placement. However, a national certification exam must be taken as part of the program.		

CERTIFICATE

Wind Energy Technician

The Wind Energy Technician certificate provides students with a unique applied foundation in wind energy technology. The curriculum is designed to prepare students for entry level employment or further study in the area. Students are required to take a certification exam given as part of the ENER 232 course and report their score to the College for completion of this degree program. Students are strongly encouraged to contact the Wind Instructor for advisement before beginning this program.

Students must earn 23 hours for this certificate.

Orientation		1 hour	
COLL	101	College Orientation	
Communications		2 hours	
COLL	103	Practical Communications	
Mathematics		3 hours	
MATH	104	Technical Mathematics*	
Major Courses		17 hours	
AMT	102	Introduction to Industrial Electricity (3)	
AMT	112	Occupational Safety (3)	
CNS	101	Introduction to Electronics (3)	
ENER	132	Introduction to Wind (3)	
ENER	134	Wind Turbine Troubleshooting* (3)	
ENER	232	Wind Turbine Internship * (3)	

Notes: NCCER Registration is available with the addition of CONS 105

*Prerequisite requirement

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