

# **CROWDER COLLEGE**

## ***Course Catalog 2019-2020***

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

Version 1.04



**Neosho (Main Campus)**

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

**Cassville Instruction Center**

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

**McDonald County Instruction Center**

194 College Road, Pineville MO 64856  
Phone: (417) 226-6000 Fax: (417) 226-6009

**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 at the following training center:**

**Joplin**

Advanced Training & Technology Center (ATTC)  
402 Grand Ave, Joplin MO 64801  
(417) 680-3202 or (417) 592-2940

*An Equal Opportunity/Affirmative Action Institution*

# Crowder College | 2019-2020 CALENDAR

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General Information

2019-20

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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:

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## AN INTRODUCTION TO CROWDER COLLEGE

### Crowder Mission & Vision

Crowder College: Building a civil, serving, literate, learning community of responsible citizens.

### 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 not be viewed as such.

#### CHEATING

Cheating is defined as obtaining or attempting to obtain, or aiding another to obtain credit for work, or any improvement in evaluation of performance, by any dishonest or deceptive means. Cheating may include:

- obtaining a copy of an examination before it is given.
- using a personal electronic device not allowed by the instructor.
- collaborating with others on assignments without the consent of the instructor.
- collaborating with others to enable cheating.
- 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.
- communicating with anyone other than a proctor or instructor during an exam.
- sharing your assignments or exams with other students.
- writing a paper for another student.

Penalties for cheating are as follows: first offense, a grade of zero on the assignment; second offense, failing grade in the class where the second offense occurred; third offense, suspension from Crowder College.

#### PLAGIARISM

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. Plagiarism can also be simply using any prior work produced by the student for another course without prior approval from the current instructor.

Types of actions defined as plagiarism:

- Using a direct quote from a source and not using quotation marks, in-text citation, and reference.
- Paraphrasing a source and not using in-text citation and reference.
- Submitting papers, assignments, or exams that were completed by another student, or arranging for another person to complete your assignments for you.
- Selling or purchasing (or copying) papers, assignments, or exams from any website that buys or sells them. This also applies if only partially used in student submission.
- Citing a source with fake bibliographical information.
- Submitting a paper, assignment, quiz or exam that you submitted in a previous and/or concurrent class without requesting and receiving in writing prior permission from your instructor(s). This also applies to “revising” papers, assignments, quizzes or exams that were previously submitted in any course where credit was received or any course which was previously failed or from which you withdrew, even if it is the same course as your current registration.
- Copying an image, audio, video, spreadsheet, PowerPoint presentation, etc., without proper citation and reference.
- Working in a group effort without prior written faculty consent.

- Altering any information on forms or emails after the original has been submitted.
- Using or disseminating materials to third-party websites that buy or sell course work

Penalties for plagiarism are as follows: first offense, a grade of zero on the assignment; second offense, failing grade in the class where the second offense occurred; third offense, suspension from Crowder College.

## **Academic Philosophy**

Crowder College believes all students have the potential to learn, grow, become successful lifelong learners and be productive members of the community. Servant Leadership, the cornerstone principle of the Robert K. Greenleaf Center, is highly valued and routinely modeled. In a climate of intellectual freedom, Crowder College strives to develop each individual's ability to master the content of offerings, make ethical decisions, develop analytical skills, cultivate physical health and well-being, foster self-worth, and learn the value of working together while serving others.

## **General Education Philosophy**

General Education core requirements will prepare Crowder College students for a life of critical thinking, foundational knowledge, effective communication, and informed action. Students should learn to interact constructively with people from diverse backgrounds, to understand differing viewpoints, and to identify and resolve ethical issues. The General Education core classes help students to become responsible participants in a democratic society and to meet changes and challenges in their personal, social, educational, and professional lives.

The General Education Core is composed of six category areas consisting of Communications, Humanities, Mathematics, Physical Education, Science, and Social and Behavior Sciences. The philosophy statements for those categories are as follows:

### ***Communications***

Crowder College recognizes and understands the central role that communication plays in both learning and life. We focus our communication course offerings on teaching the principles of clear and effective oral and written communication and provide opportunities to practice and refine these principles and skills. Our goal is for students to be able to listen effectively and write and speak with clarity, coherence,

cogency, and ethical integrity.

### ***Humanities***

The humanities study aspects of human culture and how people process and document the experience. Humanistic methods are used to study philosophy, literature, religion, fine arts, history, language, and other humanistic content. These courses are included in Crowder College's core curriculum to expand students' knowledge of human cultures or conditions in relation to behaviors, ideas, and values expressed in works of imagination and thought.

### ***Mathematics***

Mathematics is a discipline that seeks to understand the patterns and structures of the world around us through logical thinking and reasoning. The goal of courses under the category of Mathematics is for students develop the ability to think creatively, critically, strategically, and logically. The students learn to structure and to organize, to carry out procedures flexibly and accurately, and to process and communicate information. Students can then use these abilities to effectively problem solve in a variety of contexts.

### ***Physical Education***

Physical Education provides the opportunity to teach students about movement, teamwork, problem solving, and health related fitness. Exposing students to various physical activities builds social, emotional, intellectual, psychomotor, and cognitive skills. Physical Education classes teach the importance of physical activity for the general well-being of students and help instill a positive attitude toward a healthy, physically active lifestyle.

### ***Science***

Scientific knowledge, the process of scientific inquiry, and the values of honesty and integrity in science are fundamentally important to the well-being of humanity and the well-being of the greater natural world. The science departments at Crowder College believe an education that teaches these core scientific principles, as well as general knowledge in each specific discipline, is an important tool in helping our students become better citizens. All the many branches of science are unified by these core principles. The goals of our general education courses in the sciences are for our students to comprehend and apply these basic principles and general knowledge in their thoughts and their actions.

## *Social & Behavioral Sciences*

Social and Behavioral Science courses are dedicated to understanding human behavior through an examination of our mind, our society, and our history. Students are prepared for an increasingly interconnected world made up of a diverse and ever-changing population. These courses assist students in obtaining career goals, developing interpersonal relationships, contributing to their community, and functioning as citizens in society. Crowder College seeks to help students develop a deeper understanding of the relationship of self and society through the investigation of cultural, economic, political, religious, and social influences that shape human ideals and behaviors.

## **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.*

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.

The following degree programs have obtained accreditation, are in the process of receiving accreditation, or participate in approved curriculum:

**Auto Technology** – National Automotive Technicians Education Foundation (NATEF) and the Society of Automotive Excellence (ASE), Expires November 2021

**Computer Networking** – Active Participation with Cisco Certified Academy through Cisco Systems since 2001

**Nursing** – Missouri State Board of Nursing, Accreditation Commission for Education in Nursing (ACEN)

**Occupational Therapy Assistant** – Accreditation Council for Occupational Therapy Education (ACOTE)

**Paramedic** – Committee on Accreditation of Educational Programs for Emergency Medical Services Professions (CoAEMSP), Expires January 2023; State of

Missouri, Bureau of EMS Division (BEMS)

**Veterinary Technology** – American Veterinary Medical Association (AVMA), Expires 2018

**Welding** – Participation in the American Welding Society's SENSE (Schools Excelling through National Skills Standards Education)

## **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.

- **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.

- **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.

- **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.

- **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.

- **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.

- **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.

## ADMISSION

### General Admission Requirements

Individuals 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 or certificate of high school equivalency.

A student is not permitted to enroll for or accumulate more than six (6) credit hours until s/he graduates from high school or completes a home school program or a high school equivalency exam (unless eligible for Dual Credit and Dual Enrollment Admission).

Students wishing to enter a program leading to a field that requires a license or certification should be aware that certain criminal convictions may restrict the individual's ability to obtain professional licensure or certification.

Prior criminal convictions or pending criminal charges do not exclude admission to the College, although admission may be deferred or 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 fully evaluate applicants, to

help foster a safe learning environment, and to comply with applicable law regarding financial aid, the College requires those applicants who have been convicted of certain crimes or who have pending criminal charges, to disclose this information at the time of application or reapplication. Failure to disclose a criminal conviction or pending criminal charge 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. Applicants may also be restricted from living in the college residence halls.

### College Orientation (COLL 101)

Degree and certificate seeking students must complete COLL 101, in their first semester at Crowder, if required by the degree or certificate they have declared. Non-degree seeking students are not required to take COLL 101. However, if students become degree or certificate seeking and the degree or certificate requires the class, they will be required to successfully complete the course. Transfer students who have successfully completed an equivalent college orientation class at another institution or have a cumulative grade point average of 2.0 on a minimum of 12 credit hours earned after high school graduation are exempt from COLL 101. 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. Recommend taking course on ground.

### Dual Credit/Dual Enrollment Admissions

Admission is granted to high school students, grades 9-12, who are not older than 21. Dual credit and dual enrollment (definitions on page 12) students are eligible to enroll in college courses as long as they meet the following criteria:

- Juniors and seniors with an overall minimum grade point average of 3.0 (on a 4.0 scale) and written permission from the parent/legal guardian are automatically eligible for college courses.
- Juniors and seniors with an overall grade point average between 2.5 – 2.99 (on a 4.0 scale) must provide written permission from a parent or legal guardian, and provide a signed letter of recommendation from their principal or guidance counselor.
- Sophomores with an overall minimum grade point average of 3.0 (on a 4.0 scale) must provide

written permission from the parent/legal guardian, and a signed letter of recommendation from their principal or guidance counselor.

- Freshmen with an overall minimum grade point average of 3.0 (on a 4.0 scale) must provide written permission from a parent or legal guardian, and provide a signed letter of recommendation from their principal or guidance counselor. Freshmen must further demonstrate their competency by scoring at the 90<sup>th</sup> percentile or above on the ACT or SAT.

(Dual credit student eligibility requirements are mandated by Missouri Department of Higher Education).

In addition, students must meet the same requirements for placement into individual courses, (e.g., English or mathematics) as those required of all Crowder students. Dual credit and dual enrollment students must also be in compliance with all other college policies and will not be eligible to receive any form of Title IV financial aid. Only students who can provide a valid social security number are permitted to enroll in classes through Crowder College.

Interested students need to submit the following documentation:

1. Dual Credit/Dual Enrollment Application for admission
2. Copy of high school transcript to verify GPA
3. Completed enrollment form
4. Parent/Legal Guardian consent form
5. Letters of recommendation (if applicable)
6. Placement scores (if applicable)

## **International Student Admissions Required Documentation**

To complete the International Admissions Process:

1. Application for Admissions – The application must be completed online, in English, and the application fee of \$50 must be paid.
2. Current Passport – Scanned copy of current passport must be provided.
3. High School Transcript – Copy of the high school transcript, completion certificate, or leaving certificate must be provided. These documents must be officially translated through a translation company. We recommend that you use World Education Services (WES) for this service.

4. College Transcripts – College Transcripts (in which credits were earned) must be provided in English. World Education Services (WES) should be utilized for translation to English is needed.
5. Financial Statement – Completion of the Financial Support Application provided upon successful application submission. Financial support documents (bank statements or letters and a sponsor letter) providing proof 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. Housing – Housing accommodations, on-campus or off-campus, must be secured prior to student acceptance. Check out our Student Housing options to submit your Housing Application and the deposit if you plan to reside in one of our housing facilities. If you do not plan to live in one of our facilities, please advise the International Program Coordinator as to where you will be living.
7. Insurance – All international students are required to have health insurance that includes medical evacuation, repatriation, and sport related injuries. Students will be required to purchase insurance through the college OR provide proof of insurance and sign a waiver of the coverage available through the college each semester in the US (including summer).
8. Placement Test – Each student will complete a placement exam upon arrival. This exam is administered on the Crowder College campus. Results of the exam will be evaluated and supplemental instruction may be required. Student will be placed in classes based on the exam results.
9. Make sure that you have payment arrangements in order for your financial costs as they will be required within the first week of classes in US Dollars. Payment can be made with credit card, debit card, or cash. All students enrolled in the payment plan are subject to the payment plan rules.
10. You will need to pay an Emergency Travel Deposit in the amount of \$1,500 or provide proof of purchase for an open-ended, round-trip ticket (copy of ticket may be submitted to the International Office).
11. If accepted, you will be expected to arrive at least

three (3) days prior to the first day of the semester. You will go through placement testing, enrollment of classes, and orientation during this time.

The form I-20 will be issued after numbers 1-6 are on file and the student has been accepted for study at Crowder College. An Acceptance Letter and a letter for your Embassy will be issued to the student upon acceptance. To check on the status of your application you may contact the International Program Coordinator through email at [international@crowder.edu](mailto:international@crowder.edu) for more information.

After receipt of your I-20 and acceptance documents you must complete the following: SEVIS FEE payment (prior to your VISA interview) and completion of your VISA interview at your Embassy.

**Please NOTE:** For more student VISA information please visit the United States Citizenship & Immigration Services website.

## 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 Suspension Appeal policy and procedures. All students on suspension status must submit a petition for readmission to the Records Office.

## 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.

## SPECIAL ADMISSION PROGRAMS

### Practical Nursing

The Crowder College Practical Nursing program is a certificate that prepares students who can demonstrate entry level competencies as practical nurses, as well as provide a foundation for continued learning. Further information is available from the Crowder College Nursing Division, (417) 667-0518, ext. 5238.

Application requirements for Practical Nursing are as follows:

1. Must have a valid high school diploma or equivalent (such as GED or HiSet)
2. Complete the TEAS pre-entrance examination
3. Have good moral character as evidenced by references
4. Verify a criminal background check free of Class A or B felony
5. Enroll in Family Care Safety Registry and not be on the Employee Disqualification List
6. Have adequate finances to complete the program and reliable transportation
7. Maintain the ability to perform required functional abilities
8. Eligibility to write the Licensure exam as described in Missouri Nursing Practice Act section 335.066; complete of the program does not guarantee eligibility

### Registered Nursing

The Crowder College Registered 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 registered 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, RMA, CMA or certification or EMT paramedic licensure prior to start of registered nursing classes.
5. Have a minimum GPA of 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
8. Generic students must have completed Anatomy and Physiology I with a C or better and have a current CNA or EMT Certificate
9. LPN Bridge students must have completed Anatomy and Physiology I, II, and Microbiology to be eligible for admission prior to start of registered nursing classes.
10. Complete application by deadline

### **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) 673-2437. 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 of 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 until March 30 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.

## **ASSESSMENT AND PLACEMENT**

### **College Entrance and Placement 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 and other standardized test scores for college-level placement. If a student's scores are below the required levels, s/he must take the placement test for placement purposes.

The placement test is a test for students enrolling for an English or 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 Crowder College application fee covers the cost of the first attempt of the test. A fee will be charged for retakes. The range of scores for placement in other identified courses is available in the Student Success Center (SSC) and Testing Center. 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 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 scores. Students who have completed 6 hours will be required to take placement exams prior to enrolling in additional coursework.

The placement exam is for “placement” only. To better align Crowder College with testing regulations, a student has the option of one retake per section, per 12-month period of the placement test (Math, Reading, and Writing). Crowder College will honor the highest placement 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). Contact the Testing Center 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 Testing Center that nothing is gained by immediate retakes. This however, can be appealed to the Testing Center or designated personnel at off-campus sites if dire need is demonstrated for an immediate retake.

Students may call the Testing Center at (417) 455-5433 or visit [www.crowder.edu](http://www.crowder.edu) for complete placement exam information and instructions. Additional placement exam guidelines are available for review in the Testing Center, or on the Crowder website.

### 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:

Class	Credit for:
Biology .....	BIOL 101
Calculus AB .....	MATH 150 & 160
Calculus BC .....	MATH 202
Chemistry .....	CHEM 111
Computer Science.....	COMP 111
Econ: Macro.....	ECON 201
Econ: Micro.....	ECON 202
English Lang & Comp .....	ENGL 101
English Lit & Comp.....	ENGL 101
.....	& ENGL 109
Human Geography.....	GEOG 101
Political Science .....	PLSC 103
Psychology .....	PSYC 101

Spanish Language .....	SPAN 101
US History .....	HIST 106

### 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 Testing Center (417) 455-5433.

Crowder College is a limited testing center.

### 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 Affairs.

### 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.

STUDENT  
CLASSIFICATIONS

## Degree Seeking Students

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

## Dual Credit/Dual Enrollment Students

Dual credit refers to college level courses taught by approved, college-qualified, high school instructors to high school students who are earning both high school credit and college credit for these courses simultaneously.

Dual enrollment refers to students concurrently enrolled in high school and at a post-secondary institution. Dually enrolled students attend classes online or at any Crowder College campus location and earn college credit. However, they may or may not earn high school credit.

## 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. This does not define tuition status.

## Lifetime Learner Students

Students who graduated from Crowder College before 2000 with a degree or certificate are granted a tuition waiver for one class (up to five credit hours) per semester. Students who graduated in 2000 or after are granted a tuition waiver for one class (up to three credit hours) per semester. Lifetime Learner students will be responsible for books, facility use fees, online course fees, lab fees, and any other fees associated with the class. The Lifetime Learner Waiver applies only to standard in-district or out-of-district tuition rates and is not applicable toward Community Education classes or special programs.

## 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.

## 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.

## Senior Citizen Students

Students age 65 or older before August first of the school year who reside in the state of Missouri and are otherwise eligible to attend will be granted a senior citizen tuition waiver. A student receiving a senior citizen tuition waiver will take all tuition-free courses on a non-credit basis and must satisfy all course prerequisites of the institution. Student will not be eligible for financial aid. Students are responsible for books, institutional support fees, security fees, online course fees, lab fees, and any other applicable fees. The tuition waiver applies only to standard in-district or out-of-district tuition rates and is not applicable toward Community Education classes or special programs. (*Per Missouri Revised Statute Chapter 173.091.1-.6.*)

Students who wish to take courses for credit must pay for such courses and are responsible for all tuition and fees. Other forms of financial aid may apply.

## DEGREE CLASSIFICATIONS

### Associate of Arts Degree (AA)

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.

### Associate of Science Degree (AS)

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 AS degrees in Nursing and Pre-Engineering.

## **Associate of Applied Science Degrees (AAS)**

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

## **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**

## **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.

## **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.

## **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.

## **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 transcribed if the student is not enrolled. No financial aid is available for this credit.

## **Online Course**

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

## **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.

## **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. A course may be repeated after graduation; however, the student will not be eligible for honors and recognitions after graduation unless the student is seeking another certificate or degree.

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+.

## 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.

## 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.

### PAYMENTS

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.

## Acceptable Payment Arrangements

1. 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 Fees & Tuition

Tuition is established by the Crowder College Board of Trustees and is subject to change without notice. For a small number of programs, a flat tuition rate is

charged for enrollment in the program. A few specialized programs charge "differentiated tuition." Differentiated tuition is the amount the student would pay based on their residency plus a percentage to cover program or equipment expenses.

For a majority of the programs at Crowder College, tuition is charged based on the number of credit hours in which a student is enrolled. Tuition is affected by residency status associated with three categories. Those three tuition categories are "In-District," "Out-of-District," and "International."

All fees are approved by the Crowder College Board of Trustees and are subject to change without notice. Tuition and facility use fees are charged to each student based on the number of credit hours or course in which a student is enrolled. These fees cover operational services at Crowder College. Additional fees may be charged based on the specific course in which a student is enrolled. These fees cover specific supplies or administrative costs needed for specific courses.

For a complete listing of Crowder College tuition and fees, please see: <http://www.crowder.edu/financial-aid/tuition-residency/>

## 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. Current FAFSA completed and all requested documents on file
3. Participation in the college sponsored payment plan.

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

### 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.

## **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 citizenship is to a foreign country at the time of registration. Students are not eligible to change their residency status while they remain citizens of a foreign country.

## **Course Cancellations**

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

refunded.

## **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.

## **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.

## **Tuition and Fees 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.

## **CHANGE OF RESIDENCY**

The burden of proof of establishing permanent 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 a permanent 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 Affairs.

## 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).

## FINANCIAL AID

### 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](http://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.

### 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.

## 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.

## 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](http://www.fafsa.gov).

## 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.

## 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.

The following individuals shall be charged the in-state rate, or otherwise considered a resident, for tuition purposes:

- A Veteran using educational assistance under either chapter 30 (Montgomery G.I. Bill – Active Duty Program) or chapter 33 (Post-9/11 G.I. Bill), of title 38, United States Code, who lives in the State of Missouri while attending a school located in the State of Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge from a period of active duty service of 90 days or more.
- Anyone using transferred Post-9/11 GI Bill benefits (38 U.S.C. § 3319) who lives in the State of Missouri while attending a school located in the State of Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge or release from a period of active duty service of 90 days or more.
- A spouse or child using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in the State of Missouri while attending a school located in the State of Missouri (regardless of his/her formal State of residence) and enrolls in the school within three years of the Service member's death in the line of duty following a period of active duty service of 90 days or more.
- Anyone described above while he or she remains



continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must have enrolled in the school prior to the expiration of the three year period following discharge or death described above and must be using educational benefits under chapter 30, chapter 31, or chapter 33, of title 38, United States Code.

- A Veteran using educational assistance under either chapter 31 or chapter 33 will not be penalized with late fees, the denial of access to classes, libraries or other institutional facilities, or the requirement to borrow additional funds to cover financial obligations to the institution due to the delayed disbursement of a payment by the U.S. Department of Veterans Affairs. The restriction on penalties would not apply in cases where the student owes additional payment to the school beyond the amount of the tuition and fee payment from VA to the school.

## STUDENT PROGRESS AND POLICIES

### Satisfactory Academic Progress for Financial Aid

The U.S. Department of Education requires institutions of higher education to define, establish, and enforce minimum standards of satisfactory progress for students receiving financial assistance. These standards must include qualitative and quantitative measures for evaluating the progress of financial aid recipients towards their educational goals. An assessment of these efforts will be performed after each semester. State, non-federal, and institutional programs have differing standards of satisfactory academic progress.

Federal financial aid regulations provide for assistance up to 150 percent of the length of the academic program. Students receiving financial aid must:

- successfully complete (with a grade of D or better) two-thirds (67%) of their total credit hours attempted, and
- must maintain a 2.0 cumulative grade point average (GPA).

If a student does not meet these requirements, the student will be placed on Financial Aid Warning for

one semester. At the end of the Financial Aid Warning semester, the student must meet the cumulative GPA and credit hour completion requirements in order to avoid being placed on Financial Aid Suspension.

Students placed on Financial Aid Suspension due to extenuating circumstances may appeal in writing to the Crowder College Financial Aid Office.

### 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 courses for which academic forgiveness has been granted.

Academic forgiveness may be granted for all Crowder College courses taken during one (1) semester and one (1) time during a student's academic career and must be requested prior to graduation.

- For students not continuously enrolled, academic forgiveness will be granted following a one (1) year absence or the most recent twelve (12) credit hours have been completed while achieving a minimum 2.0 semester GPA.
- For students continuously enrolled, academic forgiveness will be granted if the most recent twelve (12) credit hours have been completed while achieving a minimum 2.0 semester GPA.

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.

### Academic Warning

First time college students who earn a GPA below 2.0 will be placed on academic warning.

Continuing students with a semester GPA below 2.0 and a cumulative GPA higher than 2.0 will be placed on Academic Warning.

While College Connections (LOC 103) is not required for students on Academic Warning, an advisor may

recommend enrollment in the course with permission of the Division Chair of Learning Opportunities.

## **Academic Probation**

Continuing students on Academic Warning who earn a semester GPA below 2.0 will be placed on Academic Probation, regardless of the cumulative GPA. This also applies to students transferring in with a GPA below 2.0. After being placed on Academic Probation, the student must maintain a 2.0 GPA each semester until their cumulative GPA is above a 2.0 and the student will be in Academic Good Standing.

Students who are on Academic Probation who maintain a semester GPA of 2.0, but a cumulative GPA less than 2.0 will be placed on Academic Probation-Continued.

If the student with an Academic Probation-Continued status earns an additional semester GPA below 2.0, but maintains a cumulative GPA above 2.0, the student will remain on Academic Probation-Continued unless the cumulative GPA falls below 2.0, at which the student will go on Academic Suspension. Continuing students on Academic Warning who earn a semester GPA below 2.0 will be placed on Academic Probation, regardless of the cumulative GPA. This also applies to students transferring in with a GPA below 2.0. After being placed on Academic Probation, the student must maintain a 2.0 GPA each semester until their cumulative GPA is above a 2.0 and the student will be in Academic Good Standing.

Students who are on Academic Probation who maintain a semester GPA of 2.0, but a cumulative GPA less than 2.0 will be placed on Academic Probation-Continued.

If the student with an Academic Probation-Continued status earns an additional semester GPA below 2.0, but maintains a cumulative GPA above 2.0, the student will remain on Academic Probation-Continued unless the cumulative GPA falls below 2.0, at which the student will go on Academic Suspension.

All students who are placed on Academic Probation will be required to enroll in College Connections (LOC 103), unless they have previously taken the course while on Warning. A Student Success Hold will be placed on the student's account to signify this requirement.

A student who is on Academic Probation and earns a semester GPA above a 2.0, but still has a cumulative

GPA below 2.0 will be placed on Academic Probation-Continued. The student will not be in Academic Good Standing until their cumulative GPA is also above 2.0.

A student who is on Academic Probation and earns a semester GPA below 2.0, but still has a cumulative GPA above 2.0 will be placed on Academic Probation-Continued.

A student who is on Academic Probation or Academic Probation-Continued who earns a semester GPA and cumulative GPA less than 2.0 will be placed on Academic Suspension.

The student will not be in Academic Good Standing until they achieve a semester and cumulative GPA above 2.0.

## **Academic Suspension**

A student with a previous academic standing of Academic Probation or Academic Probation-Continued earning a semester GPA and cumulative GPA below 2.0 will be placed on Academic Suspension. Students may appeal the first Academic Suspension according to the procedures in the Student Handbook. Students who are on Academic Suspension will be required to complete College Connections (LOC 103), unless previously passed with a C or better while on Academic Warning or Academic Probation.

A student currently on Academic Suspension who earns a semester and cumulative GPA below 2.0 will be placed on a second Academic Suspension and will not be allowed to enroll or appeal the Academic Suspension for one year. The student must petition for admission and submit an Academic Suspension appeal in accordance with the policies in the Student Handbook.

A student currently on Academic Suspension who earns a semester GPA above 2.0, but cumulative GPA below 2.0 will be placed on Academic Probation-Continued until they are in Academic Good Standing. If the student has been placed on Academic Suspension two times and is placed on Academic Suspension a third time, the student is not eligible for admission to Crowder College. A student suspended three times may appeal to the Vice President of Student Affairs.

## **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.

## Administrative Withdrawal

In order to meet federal financial aid and Department of Education guidelines, Crowder College requires faculty to take attendance. To comply, a student does not attend a seated course or fails to participate in an online course for 14 consecutive calendar days will be administratively withdrawn from the course. Attendance at Crowder requires a student to be "academically engaged" in the course. Academic engagement includes:

- physically attending a class where there is an opportunity for direct interaction between the instructor and students;
- submitting an academic assignment;
- attending a student group that is assigned by the institution;
- participating in an online discussion about academic matters; and
- initiating contact with a faculty member to ask a question about the academic subject studied in the course.

If a student is administratively withdrawn from the course, the student will receive a letter and an email making them aware of the withdrawal. Within seven (7) calendar days after the withdrawal occurred, a student can request reinstatement by contacting the Academic Affairs Office. The Academic Affairs Office will work with the faculty member to determine if the request for re-instatement should be granted. If reinstated, Academic Affairs will notify the student and the Records Manager, both via email, and the student will be then be reinstated in the course. This request is the one as appeal level and the decision at this level is final.

## 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.

## Dean's List/Honors

Full-time students with a 3.50 or higher semester grade point average are placed on the Dean's List. (A full-time student is defined as a student taking twelve [12] credit hours or more. The twelve credit hours must consist of credit earning hours of courses numbered 100 or higher.) 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.

## Grades

Grades are awarded on the following point system:

<u>Work Quality</u>	<u>Grade</u>	<u>Grade Points</u>
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."

## Procedures for Implementing Finals due to School Cancellation

If Crowder College is closed during finals week due to inclement weather, the following procedures will be implemented regarding finals.

1. Due to state and national accreditation standards, students in the Crowder Nursing program and the Crowder Veterinary Technology program must participate in Final exams. Students in these programs do not have the option to take the grade they have earned going into the final exam. Students in these two programs should reference his or her program handbook for specific information regarding the procedures for implementing finals due to school cancellation in the Crowder Nursing Program and the Crowder Veterinary Technology.
2. Distance learning or online finals are held as planned. No adjustments in the plans, schedule, or process for online classes. If the online final is a proctored on-ground final, the rules in #3, #4, and #5 apply.
3. Students who miss an on-ground final exam due to school being cancelled on the day of the final at their attendance location may take the grade they have earned going into the final exam.
4. Students who miss an on-ground final as defined in #3 may ask the instructor to take the missed final exam. The student must contact his or her instructor via e-mail DURING FINALS WEEK ONLY (Monday thru Thursday). The instructor will set the time and date to take the exam, which needs to occur prior to the end of business day on Friday of finals week. If a student does not make arrangements during finals week, he or she will be given the grade he or she had going into the final exam. A student may not ask after finals week for a date to take a missed final. If a student makes arrangements to take the missed final exam, the grade earned including the final exam is the final grade for the class. The student may not return to the grade going into the final exam.
5. If the Crowder College Campus location where the class meets is closed all week, then the current grade will count as the final grade.

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

### **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 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
  - JUL graduates - MAR 1
2. Sign up for and take the exit exam. Dates for exit exams will be posted in the SSC and on the Crowder College web site.
3. Have all outstanding accounts cleared in the Cashier's Office, Library, and Bookstore.
4. 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**

#### **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 2<sup>nd</sup> floor of Newton Hall.

#### **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.

#### **Student Success Center (SSC)**

The SSC offers a wide range of assistance and resources to all Crowder students. The SSC offers advising, enrollment, tutoring services, make up testing, special accommodations testing, a computer lab, and 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 in the SSC Testing Center. The SSC and Testing Center staff are eager to assist students who desire to arrange tutoring, testing, or need assistance with enrollment, academic planning or transfer services.. The PLATO Learning Systems and HAWKES math software is available in the computer lab for all students. The SSC can be reached at (417) 455-5602. The Testing Center can be reached at 417-455-5433.

#### *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.

#### *Student Accessibility Office*

The Student Accessibility Office is committed to ensuring

that students with disabilities have equal access and reasonable accommodations to goods, services, and facilities. In addition, the Student Accessibility Office will ensure that students with disabilities are not excluded, denied services, segregated or otherwise treated differently than other people. The Student Accessibility Office also makes information accessible to and useable by people with communication disabilities.

The Student Accessibility office is located in the Student Success Center in McDonald Hall, 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](http://www.crowder.edu).

(See Student Handbook)

## 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 (Project Now)

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)

## Student Housing

Information and housing applications for the Brown Residence Complex or Roughrider Village Apartments are available in the Campus Life Office, (417) 455-5644 or by email at [CampusLife@crowder.edu](mailto:CampusLife@crowder.edu).

## 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](http://www.crowder.edu).

## Career and Salary Information

Pursuant to Missouri HB 1606 (2018), information regarding the number of credit hours, program length, employment rate, wage data, and graduates employed in careers related to their program of study at Crowder College can be found at the following URL: <https://scorecard.mo.gov/scorecard/>. Search using School / Program "Crowder College" and choose the degree or credential type of interest. The following limitations to the data apply: Information provided is based on the most recent cohorts available. Typically, most recent cohorts for wage and completion data are six years prior to the current academic year. Time to complete a program of study varies depending on the number of credit hours students earn per semester.

## 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.

For the most current version, please consult the online catalog at [www.crowder.edu](http://www.crowder.edu).

### GLOSSARY OF COLLEGE TERMS

Academic Forgiveness – A procedure which permits students with a low semester GPA to request that all grades for all classes for only one semester be excluded from his/her academic record. Credit hours are still used to determine eligibility for financial aid, athletics, and departmental scholarships. 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 courses for which academic forgiveness has been granted.

Academic Probation – A student on Academic Warning who has a semester GPA less than 2.0 will be placed on Academic Probation. Once on Academic Probation, the student must maintain a 2.0 GPA each semester to avoid being placed on Academic Suspension. Must enroll in and pass LOC 103 with a C or better.

Academic Suspension – Students with a semester and cumulative GPA below 2.0 after a semester of Academic Probation will be placed on Academic Suspension. The student will not be able to enroll for one semester. Students are

eligible to appeal the Academic Suspension and will be assigned a Suspension Advisor to determine eligibility for enrollment. Must enroll in and pass LOC 103 with a C or better, if not previously passed while on Academic Probation.

Academic Warning – First semester students with a cumulative GPA below a 2.0; or continuing students with a semester GPA below 2.0 and a cumulative GPA above 2.0.

Associate in Arts Degree (AA) – 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 (AAS) – 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 (AS) – 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 are not required to do the outside assignments or take the examinations. Standard in-district/

out-of-district fees apply. 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.

Dean's List – A list of the full-time students with a 3.5 or higher semester grade point average for the semester. (A full-time student is defined as a student taking twelve [12] credit hours or more. The twelve credit hours must consist of credit earning hours of courses numbered 100 or higher.)

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 from the second degree Major Courses (Required Courses or Approved Electives) 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, scholarships, or work study positions.

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

Full-time Student – A student taking twelve (12) credit hours or more. The twelve credit hours must consist of credit earning

hours of courses numbered 100 or higher.

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 program of study, 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.

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.

Program of Study – The academic courses required for a student to successfully complete a degree.

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.

Self-Directed Learning (SDL) – In this format, the student works independently on mastering the competencies for the class. Division Chair approval is required and this format is only utilized in rare and unique situations.

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 28 credit hours or more.

Suggested Plan of Study – The suggested sequence of courses, listed by semester, the students could follow to lead to completion of the degree.

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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## ACCOUNTING

### 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.

### 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.

### ACCT 165

#### **QuickBooks (3-0)**

**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 ACCT 201)

### ACCT 201

#### **Principles of Accounting I (3-0)**

**F,S,SU  
3 Credits**

This course includes double-entry accounting systems and concepts for business enterprises. Journals, ledgers and basic financial statements are covered.

### ACCT 202

#### **Principles of Accounting II (3-0)**

**F,S  
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) (2)

### ACCT 245

#### **Tax Accounting (3-0)**

**F  
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.

### ACCT 250

#### **Certified Bookkeeper Review (3-0)**

**S  
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 test sittings 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)

### ACCT 290

#### **Accounting Clerk Internship (1-2)**

**F,S  
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)

## ADVANCED MANUFACTURING TECHNOLOGY

### AMT 102

#### **Introduction to Industrial Electricity (2-2)**

**F,S**

**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. A course fee will apply.

### AMT 104

#### **Electrical Motor Controls (2-2)**

**F,S**

**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. A course fee will apply. (Prerequisites: AMT 102)

### AMT 111

#### **Introduction to Industrial Safety (1-0)**

**F,S**

**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. A course fee will apply.

### AMT 112

#### **Occupational Safety (1-3.5)**

**F,S**

**3 Credits**

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

### AMT 122

#### **Basic Machining (Manual) (2-2)**

**S**

**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. A course fee will apply.

### AMT 123

#### **Measurement and Print Reading (2-2)**

**F**

**3 Credits**

This course is designed to provide a working knowledge of basic machine measurements and print reading. Topics covered will include: U.S. customary measurement, measurement conversion, print reading, drawings and dimensions, holes and fasteners, tolerance, control frames and specialized equipment.

### AMT 124

#### **Computer Numeric Control (CNC) Programming (2-2) 3 Credits**

**F**

This course is designed to provide a working knowledge of basic CNC programming. Topics covered will include: Machine tool types, cutting concepts, machinability, saw processes, CNC operator panel, HMI panel, CNC program structure, monitoring and troubleshooting machines.

### AMT 125

#### **Computer Numeric Control (CNC) Milling (2-2)**

**F**

**3 Credits**

This course is designed to provide a working knowledge of basic operation of CNC milling. Topics covered will include: Milling machines, tooling, work holding, manual control and program execution.

**AMT 126** **F**  
**Computer Numeric Control (CNC) Turning (2-2)** **3 Credits**  
 This course is designed to provide a working knowledge of basic operation of CNC turning. Topics covered will include: Turning machines, turning operations, linear and circular interpolation. Students will be instructed on the components of and the proper operation of the lathe turning machine.

**AMT 132** **F**  
**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. A course fee will apply. (Prerequisites: AMT 111)

**AMT 142** **S**  
**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. A course fee will apply.

**AMT 162** **S**  
**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. A course fee will apply. (Prerequisites: AMT 102 or permission of instructor)

**AMT 182** **S**  
**Introduction to Automated Robotics (2-2)** **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 beginning programming examples. A course fee will apply. (Prerequisites: AMT 102)

**AMT 204** **F,S**  
**Programmable Logic 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. A course fee will apply. (Prerequisites: AMT 102 or Permission of Instructor; Co-Requisites: AMT 104)

**AMT 206** **F,S**  
**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. A course fee will apply. (Prerequisites: AMT 204 or Permission of Instructor)

**AMT 284** **S**  
**Automated Robotic Programming (2-2)** **3 Credits**  
 This course is designed to provide advance 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. This specialized training will give the students more advanced experience in the robotic field of study. A course fee will apply. (Prerequisites: AMT 182)

**AMT 290** **F,S**  
**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

*For Veterinary Science Courses see Veterinary Technology*

*Poultry Science courses have a POSC prefix and are listed alphabetically in this section*

**AGEC 123** **F,S**  
**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)

**AGEC 213** **F**  
**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: AGECE 123 or permission of instructor)

**AGEC 223** **F,S**  
**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** **F**  
**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.

**AGRI 105** **F,S,SU**  
**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** **F,S,SU**  
**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** **F,S,SU**  
**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. A course fee will apply.

**AGRI 108** **F,S,SU**  
**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** **F,S**  
**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** **As Needed**  
**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.

**AGRI 190** **F,S**  
**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** **S**  
**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.

**AGRI 204** **F,S,SU**  
**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** **F,S,SU**  
**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.

**AGRI 223** **S**  
**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.

**AGRI 233** **F,S,SU**  
**Travel Seminar in Agriculture (0-6)** **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. A course fee will apply.

**AGRI 299** **F,S,SU**  
**Topics: Travel Credit (0-6)** **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. A course fee will apply. (Prerequisite: AGRI 233 or permission of the instructor)

**AGRN 113** **F,S**  
**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.

**AGRN 121** **S**  
**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*)

**AGRN 214** **F,S**  
**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.

**AGRN 221** **S**  
**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)

**AGRN 223** **F (even years)**  
**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)

**AGRN 243** **S (odd years)**  
**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)

**ANSC 101, 121** **S**  
**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)

**ANSC 114** **F,S**  
**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 153** **S (Odd Yrs)**  
**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)

**ANSC 180** **F,S**  
**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: Taking BIOL 101 or 110 prior to or at the same time as taking this course is recommended)

**ANSC 203** **F**  
**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.

**ANSC 213** **S**  
**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.

**ANSC 223** **F**  
**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. (Prerequisite: ANSC 114)

**ANSC 232** **F**  
**Artificial Insemination and Reproduction (2-2)** **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. A course fee will apply. (Prerequisite: ANSC 114 or permission of instructor)

**ANSC 233** **S**  
**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.

**Poultry Science courses have POSC prefix and are listed alphabetically in this section**

**HORT 101** **As Needed**  
**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.

**HORT 103** **As Needed**  
**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.

**HORT 113** **S**  
**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.

**HORT 204** **As Needed**  
**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.

**POSC 101** **F,S**  
**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.

**POSC 104** **S (even years)**  
**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, quest speakers, interviews, oral presentations, and written reports. (Prerequisite: ANSC 114)

**POSC 105** **F (even years)**  
**Avian Biology (2-0)** **2 Credits**  
 In this course, students will be introduced to the biological sciences associated with poultry. Topics will include avian origin, types of domestic poultry, basic anatomy/physiology, poultry care/husbandry, and behavior. This course will serve as a foundation for poultry production classes. (Prerequisite: ANSC 114 or Permission of Instructor)

**POSC 201** **F,S**  
**Poultry Judging & Selection II (0-2)** **1 Credit**  
 This course expands the selection and judging process to compete with other schools in national contests.

**POSC 206** **F,S,SU**  
**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.

## ALTERNATIVE ENERGY

**ENER 105** **F,S**  
**Introduction to Energy (3-0)** **3 Credits**  
 Introduction to Energy is a survey 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, wave energy and geothermal energy. Course is offered at the Neosho campus in the Fall and online in the Spring. A course fee will



apply.

**ENER 142** **F**  
**Introduction to Wind (3-2)** **4 Credits**

This course will emphasize the basic concepts and principles of wind energy technology. Topics include the evolution of wind energy and turbine technology, basic turbine, blade, and tower components, tower/turbine siting, wind energy transference and turbine output, along with proper safety techniques used in the wind industry. Students will have lab experiences to acquire competencies in wind technology. A course fee will apply. (Students are encouraged to be co-enrolled in CNS 101)

**ENER 144** **S**  
**Wind Turbine Troubleshooting (3-2)** **4 Credits**

This course will cover the basic strategies and techniques used to troubleshoot, maintain, and repair mechanical and/or electrical problems in industrial machinery and how this relates to utility scale wind turbines. A course fee will apply. (Prerequisites: ENER 142, CNS 101)

**ENER 155** **Upon Request**  
**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) A course fee will apply.

**ENER 160** **F**  
**Introduction to Process Technology (3-0)** **3 Credits**

This course intends to provide basic concepts and principles concerning Process Technology common with power generation and general industry standards. Material used in this course is consistent with control and monitoring applications from the electrical generation field. Trained technicians are required to understand their role and responsibility within the environment they will work in. They must have a functional awareness of the equipment as well as system function. It may include the relationship of PLC's, diagnostic equipment, measurement systems, digital and analog readouts along with an understanding of general science and technology functions. Safety practices, procedures and regulatory guidelines will be integrated throughout the course work. A course fee will apply.

**ENER 162** **S**  
**Introduction to Electric Power Transmission and Distribution (3-0)** **3 Credits**

This is an overview study of the components, systems, and operations of power generation and power delivery. The course will look at the basic concepts and principles along with theory concerning the link between generation and conversion of power use. It will examine power collection methods, distribution of high and low voltage, underground transmission and sub-station operations. The course intends to give the student a general awareness of electrical control components, transformers and the general layout/architecture of the power grid. A variety of applications will be looked at so that the individual can realize the extensive reach of our power delivery system and network within the North American continent. It includes the connected relationship of science and technology of Alternative Energy as a growing method of power generation next to traditional systems. A course fee will apply. (Prerequisites: ENER 105, CNS 101)

**ENER 200** **F**  
**Passive Solar Systems (4-2)** **5 Credits**

This class provides an overview of passive solar space heating systems and natural daylighting. It provides a foundation in insulation theory, energy conservation, heat flow calculations, alternative architecture and design theory of passive solar systems. Lab work is project-based for the design and evaluation of passive solar systems. A course fee will apply. (Prerequisite: Placement scores must indicate proficiency level of Math 100 or higher or have completed Math 50)

**ENER 210** **S**  
**Solar Thermal Systems (4-2)** **5 Credits**

This class examines the design, installation, operation and maintenance of active solar equipment. Course topics include sizing hot water systems for residential applications and industrial heating. Other topics include concentrating collectors, tracking equipment, and solar cooling. System design, sizing, economics, installation, operation and maintenance are among the areas examined in detail. Lab work offers "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 course fee will apply. (Prerequisite: Placement scores must indicate proficiency level of Math 100 or higher or have completed Math 50)

**ENER 220** **F,S**  
**Solar Electric Systems (4-2)** **5 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 Associate exam. Lab provides hands-on experience with the key components of photovoltaic (PV) conversion systems to produce electricity from sunlight. A course fee will apply. (Prerequisite: Placement scores must indicate proficiency level of Math 100 or higher or have completed Math 50)

**ENER 232** **S**  
**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. This opportunity increases students' occupational competency, industry awareness and professionalism. Students will spend approximately 80 hours in the field during the semester as an intern. A course fee will apply. (Prerequisites: Permission of Instructor; AMT 112, ENER 142; Co-requisite: ENER 232 and ENER 144)

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

This course offers additional experience in solar or wind technology design and application. The course will be tailored toward a student's focus/need. This course may be offered in conjunction with a solar or wind project and/or internship. A course fee will apply. (Course content varies by semester.)

## ART & DESIGN

**ART 101** **F,S,SU**  
**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. (Will NOT satisfy core for Art & Design majors) A course fee will apply.

**ART 103** **S**  
**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 majors) A course fee will apply.

**ART 104** **F**  
**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 majors) A course fee will apply.

**ART 105, 205** **F**  
**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) A course fee may apply.

**ART 106** **F,S**  
**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 majors) A course fee will apply.

**ART 107** **S**  
**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) A course fee will apply.

**ART 110** **F,S**  
**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) A course fee will apply.

**ART 111** **S**  
**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) A course fee will apply.

**ART 119**  
**Printmaking I (2-4)** **3 Credits**  
 Printmaking I examines the technical processes, applications, and avenues of creative expression inherent to the methods of monotype, relief, intaglio, and mixed media printmaking. These distinctive procedures revolve around processes of manual printing; in black and white, as well as in color, through directed projects and personal experimentation. The historic, theoretic, and contemporary applications of printmaking as a unique art form are investigated and discussed alongside the physical production of fine art prints. Drawing, design principals, craftsmanship, and conceptual development are strongly emphasized and will be cultivated throughout all stages of the course. (Prerequisite: ART 103 & ART 106 are recommended)

**ART 189** **F**  
**Photography (2-4)** **3 Credits**  
 Introduction to digital photography and image editing emphasizing the technical and aesthetic issues and how these qualities inform

image content. Control of camera settings, natural and studio lighting, and basic Photoshop editing is explored as well as career options in digital photography. A final printed and digital portfolio will be prepared. Students enrolled in the course must own a digital camera. Lab fee required.

**ART 206** **F,S**  
**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. A course fee will apply. (Prerequisite: ART 106 or permission of the instructor)

**ART 207** **F,S**  
**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. A course fee will apply. (Prerequisite: ART 107 or permission of the instructor)

**ART 210** **S**  
**Ceramics II/Pottery (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. A course fee will apply. (Prerequisite: ART 110 or permission of the instructor)

**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. A course fee will apply. (Prerequisite: ART 111 or permission of instructor)

**ART 219** **F,S**  
**Printmaking II (2-4)** **3 Credits**  
 This course focuses on the refinement and expansion of printing methods previously studied in Printmaking I. Potential techniques include: intaglio, relief, lithography, monoprint, monotype, digital, and mixed media practices. The historic, theoretic, and contemporary applications of printmaking as a unique art form are further investigated and discussed alongside the manual production of fine art prints. Students will begin to cultivate an individual an distinct approach to printmaking that supports their personal skill set and developed interests. Personal mark-making, design principals, craftsmanship, portfolio building, and conceptual development are strongly emphasized and will be cultivated throughout all stages of the course. (Prerequisite: ART 119)

## AUTOMOTIVE TECHNOLOGY

**AUTO 114** **F**  
**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. A course fee will apply.

**AUTO 115** **F**  
**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. A course fee will apply.

**AUTO 124** **S**  
**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. A course fee will apply.

**AUTO 125** **S**  
**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. A course fee will apply.

**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. A course fee will apply. (Prerequisite: Permission of instructor)

**AUTO 214** **F**  
**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. A course fee will apply.

**AUTO 215** **F**  
**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. A course fee will apply.

**AUTO 223** **S**  
**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. A course fee will apply.

**AUTO 224** **S**  
**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. A course fee will apply.

**AUTO 225** **S**  
**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. A course fee will apply.

**AUTO 240** **F,S**  
**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)

**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. A course fee will apply. (Prerequisite: permission of instructor) (One credit may be earned in each of two semesters)

## BIOLOGY

**BIOL 101** **F,S,SU**  
**General Biology (3-2)** **4 Credits**  
 This introductory course explores the unifying principles of living organisms at the chemical, cellular, organismal, and population levels of organization, and includes cell structure and function, metabolism, genetics, evolution and ecology. Emphasis will be placed on core biological principles and human interactions with the natural world, as well as the possible outcomes of these interactions. A practical laboratory component emphasizes scientific investigating and supports lecture material. The course satisfies the life science general education requirement for the Associate of Arts degree.

**BIOL 102** **F,S**  
**Biology Concepts (3-0)** **3 Credits**  
 This course 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.

**BIOL 110** **F**  
**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; or ACT Composite Score 23 or above; or two years high school biology)

**BIOL 120** **S**  
**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; or ACT Composite Score 23 or above; or two years high school biology)



**BIOL 152** **F,S,SU**  
**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. (Prerequisite: College level reading, ACT score of 18, or comparable placement score)

**BIOL 220** **F,S**  
**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 nursing, and pre-professional degrees. (Prerequisite: BIOL 101, BIOL110, BIOL 120, or BIOL 152)

**BIOL 252** **F,S**  
**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)

**BIOL 260, 261, 262, 263** **SDL, Upon Request**  
**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)

## BUSINESS ADMINISTRATION

**BSAD 103** **F,S**  
**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)

**BSAD 108** **F,S,SU**  
**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.

**BSAD 110, 111, 210, 211** **F,S**  
**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)

**BSAD 115** **F**  
**Computer Concepts (3-0)** **3 Credits**  
 This course provides an introductory study of computer topics. Students completing this course will have a solid understanding of basic computer concepts, networking, using a personal computer, accessing information using the Internet, sending and receiving email, managing computer files, and utilizing operating system tools. In addition, the student will be introduced to productivity software including word processing, spreadsheets, and presentation software. No prior experience with computers is assumed.

**BSAD 121** **F,S**  
**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.

**BSAD 125** **F,S,SU**  
**Computer Applications (3-0)** **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.

**BSAD 130** **F,S**  
**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 higher)

**BSAD 150** **F,S,SU**  
**Introduction to Business (3-0)** **3 Credits**  
 This course surveys American business enterprises. Emphasis is on the characteristics, functions and problems of modern business.

**BSAD 197, 198, 199, 297, 298, 299** **As Needed**  
**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.

**BSAD 218** **S**  
**Advanced Excel (3-0)** **3 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)

**BSAD 230** **F,S**  
**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.

**BSAD 236** **F,S**  
**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 135)

**OA 215** **F,S**  
**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.

## CERTIFIED MEDICAL ASSISTANT

**MEDA 101** **F**  
**Introduction to Medical Assisting (3-0)** **3 Credits**  
 This is an introductory course that provides a knowledge base for medical assistant's interaction with ambulatory care patients. This course covers basic principles of psychology and human growth and development; focuses on communication in the medical office/ambulatory care setting; and focuses on legal and ethical responsibilities in patient care and management: laws pertaining to medical practice and medical assistants, application of medical ethics in performance of duties. (Prerequisites: College level reading & ENGL 100 and MATH 100 placement or equivalent)

**MEDA 102** **F**  
**Dosage Calculation & Medication Administration (2-0)** **2 Credits**  
 This course focuses on applications of basic mathematical principles in the medical office/ambulatory care setting. This course also provides instruction in the application of basic concepts required for medication administration: choice of equipment, proper techniques, hazards and complications, patient care; performance of intramuscular, subcutaneous, and intradermal injections; preparation and administration of oral medications; immunizations. (Prerequisites: MATH 100 or higher)

**MEDA 103** **F**  
**Medical Assisting Science I (4-0)** **4 Credits**  
 This course covers basic concepts of human anatomy and physiology as well as medical terminology related to the body as a whole and to each major body system. This course also identifies the relationship of food and nutrition to health. It covers the application of basic nutrition principles to personal well-being and the importance of nutrition in preventing chronic diseases. (Prerequisites: MEDA 101 & MEDA 102 or taken in the same semester)

**MEDA 104** **F**  
**Clinical Medical Assisting I (2-0)** **2 Credits**  
 Clinical Medical Assisting I provides principles of basic clinical care skills as an assistant to a physician in an ambulatory care facility setting. It also provides instruction and prepares for performing medical office procedures and diagnostics tests and follow-up care. (Prerequisites: MEDA 101 & MEDA 102 or can be taken in the same semester)

**MEDA 105** **F**  
**Administrative Medical Assisting I (2-0)** **2 Credits**  
 This course presents basic concepts and applications of computers and computer systems in administrative medical assisting practice. The course provides beginning instruction in administrative medical assisting practice in the front office. (Pre- or co-requisite: MEDA 103)

**MEDA 203** **S**  
**Medical Assisting Science II (4-0)** **4 Credits**  
 This course covers basic concept and characteristics of disease processes; etiology, methods of control, and development of selected diseases from each major body system and application of principles to the function of the medical practice. This course includes an overview of the broad scope of pharmacology, and a survey of medications commonly used in the prevention, diagnosis, and treatment of diseases. (Prerequisites: MEDA 103, MEDA 104, and MEDA 105)

**MEDA 204** **S**  
**Clinical Medical Assisting II (3-0)** **3 Credits**  
 This course prepares the student to carry out clinical care procedures as an assistant to a physician in an ambulatory care facility setting. This course also provides instructions in preparing for and performing routine and specialty medical office procedures, diagnostic tests, in-office/ambulatory surgical procedures, and follow-up care. (Prerequisite: MEDA 104)

**MEDA 205** **S**  
**Administrative Medical Assisting II (3-0)** **3 Credits**  
 This course provides further instruction in administrative medical assisting practice and the application of computers in medical assisting in the front office, administrative practice including transcription of medical reports and documentation, coding, and maintaining patient records and accounts. (Prerequisite: MEDA 105)

**MEDA 206** **S**  
**Medical Assisting Internship (0-7.5)** **5 Credits**  
 This course provides clinical experience for the development of professional characteristics as a practicing Medical Assistant. (Prerequisites: MEDA 204 & MEDA 205 or can be taken in same semester)

**MEDA 207** **S**  
**Medical Assisting Critique (1-0)** **1 Credits**  
 This course provides an analytical approach to the correlation of theory and learned skills to practical experience in the delivery of quality patient care in the ambulatory healthcare setting. (Pre- or co-requisites: MEDA 204 & MEDA 205; Co-requisite: MEDA 206)

**MEDA 208** **S**  
**Advanced Clinical Medical Assisting (2-0)** **2 Credits**  
 By using lab simulation and role-playing of actual clinical situations students in Advanced Clinical Medical Assisting will problem solve, think analytically and modify care as it relates to observed responses and conditions presented. (Pre- or co-requisites: MEDA 204 & MEDA 205)

**MEDA 209** **S**  
**Coding for the Physician's Office (5-0)** **5 Credits**  
 Coding for the Physician's Office provides detailed instruction in the application of an internationally accepted set of codes for the specific description of any medical procedure to treat a condition or injury to substantiate claims for reimbursement from third-party payers. (Pre-requisites: MEDA 204 & MEDA 205)

**MEDA 210** **S**  
**Medical Office Management (2-0)** **2 Credits**  
 Medical Office Management provides instruction in preparing for the roles of office manager and human resources representative of a medical office or ambulatory care facility. It also provides a specialty career pathway open to program graduates, professionalism, continuing education, correlation of theory and practice. (Pre-requisites: MEDA 204 & MEDA 205)

## CERTIFIED NURSING ASSISTANT

**MUST BE 18 BY COURSE COMPLETION**

**CNA 101** **F,S**  
**CNA Techniques (5-0)** **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. A course fee will apply. (Co-requisite: CNA 102 and must be 18 years old by course completion)

**CNA 102** **F,S**  
**CNA Clinical Experience (0-4)** **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. A course fee will apply. (Co-requisite: CNA 101)

**CNA 103** **S**  
**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** **S**  
**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** **F,S**  
**Phlebotomy Techniques (3-0)** **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. A course fee will apply.

**CNA 107** **F,S**  
**EKG (3-0)** **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. A course fee will apply.

**CNA 110** **S**  
**Restorative Nurse Assistant (2-0)** **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; Co-requisite: CNA 111)

**CNA 111** **S**  
**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; Co-requisite: CNA 110)

**CNA 120** **F**  
**Certified Medication Technician (4-0)** **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. A course fee will apply. (Prerequisites: CNA 101; CNA 102 or Active CNA Certification; must be CNA for 6 months and have letter from director of nursing)

**CNA 130** **F**  
**Basic Pharmacology (3-0)** **3 Credits**  
 This course discusses current medications being used and the mechanism of action. 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.

## CHEMISTRY

**CHEM 101** **F,S,SU**  
**Survey of Chemistry (3-2)** **4 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.

**CHEM 104** **F,S**  
**Chemistry for Health Sciences (3-2)** **4 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.

**CHEM 111** **F**  
**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 135 or 150; high school chemistry or its equivalent is recommended)

**CHEM 112** **S**  
**General Chemistry II (4-2)** **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)

**CHEM 201** **Upon Request**  
**Quantitative Analysis (3-4)** **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)

**CHEM 221** **5 Credits**  
**Survey of Organic and Biochemistry (3-4)** **5 Credits**  
 This is an introductory course in organic and bio-chemistry. It will not satisfy the organic chemistry requirement for a chemistry major but would serve as a good preparatory course for other organic chemistry courses or for other majors which require only one semester of organic chemistry, such as some of the allied health majors as well as some agriculture majors. The student should have some previous chemistry such as Survey of Chemistry or General Chemistry I. The course consists of three hours of classroom work and four hours of laboratory work which emphasize scientific investigations and supports lecture material. (Prerequisite: CHEM 101, CHEM 104, CHEM 111, or permission of instructor)



**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. (Prerequisite: Permission of department)

## COLLEGE SKILLS

**COLL 101****College Orientation (1-0)****F,S,SU****1 Credit**

Degree and certificate seeking students must complete COLL 101 in their first semester at Crowder, if required by the degree or certificate they have declared. Non-degree seeking students are not required to take COLL 101. However, if students become degree or certificate seeking and the degree or certificate requires the class, they will be required to successfully complete the course. Transfer students who have successfully completed an equivalent college orientation class at another institution or have a cumulative grade point average of 2.0 on a minimum of 12 credit hours earned after high school graduation are exempt from COLL 101. 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. Recommend taking course on ground. A course fee will apply.

## COLLISION REPAIR (AUTO BODY)

**CLRP 102****Auto Body Construction and Sheet Metal (2-2)****F****3 Credits**

This course introduces the topics of non-structural and structural repair. 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). A course fee will apply.

**CLRP 104****Auto Body Plastics and Composites (2-2)****F****3 Credits**

This course covers 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). A course fee will apply.

**CLRP 202****Auto Body Welding and Structural Straightening (2-2)****S****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 movable 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). A course fee will apply.

**CLRP 204****Auto Body Painting and Refinishing (2-2)****S****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). A course fee will apply.

## COMPUTER AND NETWORK SUPPORT

**CNS 101****Introduction to Electronics (2-2)****F,S,SU****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. A course fee will apply.

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

This course guides students through employability skills activities that are covered in seven levels of the program. Course includes activities that closely align with 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. Lessons include self-assessments in communications skills, ethics, conflict resolution, government awareness, time management skills, career research, interviewing knowledge and others.

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

This course is a continuation of CNS 105. Course includes the activities that closely align with 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. Lessons include identifying stress sources, characterizing a positive image, complete a job application, and complete a job resume. Component emphasizes scientific investigations and supports lecture material. A course fee will apply. (Prerequisites: CNS 105 or Permission of Instructor)

**CNS 111****PC Basics I (1-3)****F,S****3 Credits**

This course covers the fundamentals of computing and peripheral devices, 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. A course fee will apply.

**CNS 112****PC Basics II (1-3)****F,S****3 Credits**

This course addresses the software side of the computing device 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. A course fee will apply. (Prerequisites: CNS 111 or Permission of Instructor)

**CNS 115****Cisco Networking I (1-3)****F,S****3 Credits**

The Cisco Certified Network Administration (CCNA) Introduction to Networks course will introduce the student to fundamental networking concepts and technologies. These online course materials will assist in developing the skills necessary to plan and implement small networks across a range of applications. The specific skills covered in each chapter are described at the start of each chapter. Online

materials coupled with hands-on lab experiences will assist students in developing the skills necessary to plan and implement small networks across a range of applications. A course fee will apply.

**CNS 116** **F,S**  
**Cisco Networking II (1-3)** **3 Credits**

The Cisco Certified Network Administration (CCNA) Routing and Switching (R&S) Essentials course will introduce the architecture, components, and operations of routers and switches in a small network. In this course, you will learn how to configure a router and a switch for basic functionality. These online course materials will assist in developing the skills necessary to plan and implement small networks across a range of applications. The specific skills covered in each chapter are described at the start of each chapter. The course uses both online and hands-on lab experiences to provide an introduction to routing and remote access, addressing, and network services. It will also familiarize students with servers providing email services, web space, and Authenticated Access. A course fee will apply. (Prerequisite: CNS 115)

**CNS 121** **F,S**  
**Introduction to Game Development 2-2)** **3 Credits**

This course will introduce the students to the world of gaming and gaming development. Students will be trained on the foundations of game design concepts, including core actions, themes, and play experience. Students will gain an understanding of different kinds of games, how they work, and the processes game designers use to create them.

**CNS 122** **F,S**  
**VMware VSphere: Install, Configure, Manage (1-3)** **3 Credits**

This course will introduce the students to intensive hands-on training that focuses on installing, configuring, and managing VMware vSphere® 6.5, which includes VMware ESXi™ 6.5 and VMware vCenter Server® 6.5. This course prepares students to administer a vSphere infrastructure for an organization of any size. It is the foundation for most other VMware technologies in the software-defined data center.

**CNS 131** **F,S**  
**Introduction to Gaming Programming (2-2)** **3 Credits**

This course will introduce the students to basic programming concepts to be applied to gaming development. This course will give the students the fundamentals of C++ from a game programming perspective. Students will start with beginning C++ and work their way through to game programming assuming no previous programming experience. Students will work with different game programs and learn new concepts in each chapter. The course will end with a final game project drawing together a comprehensive collection of the course. (Prerequisite: CNS 121 or permission of Instructor)

**CNS 141** **F,S**  
**Programming for Gaming (2-2)** **3 Credits**

This course will introduce students to the fascinating world of game programming for Windows using Visual Studio and DirectX. Students will enhance their basic understanding of the C++ language and be exposed to a solid introduction to DirectX programming. Students learn the basics of making sprite-based games. This course will provide step-by-step instruction on game creation. Students will learn how to take game ideas from concept to reality using today's standard professional game-creation tools. (Prerequisites: CNS 131)

**CNS 149** **F**  
**Cybersecurity I (2-2)** **3 Credits**

This course introduces the fundamentals of Network security by examining the current challenges in computer security and why security is so difficult to achieve. This course will also examine fundamental attacks including malware, viruses, Trojans and botnets. The students will be introduced to attacks that target server-side and client-side web applications. Students will explore cryptology and its uses in the security realm. This course includes instructions on understanding common network protocols and employing network design principles. Students will experience securing three popular

types of network applications. IP telephony, virtualization, and cloud computing. (Prerequisites: CNS 112 & CNS 115)

**CNS 217** **F,S**  
**Cisco Networking III (1-3)** **3 Credits**

The Cisco Certified Network Administration (CCNA) Routing & Switching (R&S) Scaling Networks course will introduce the student to the architecture, components, and operations of routers and switches in a larger and more complex network. Students will learn how to configure routers and switches for advanced functionality. These online course materials will assist in developing the skills necessary to plan and implement small networks across a range of applications. The specific skills covered in each chapter are described at the start of each chapter. Online materials coupled with hands-on lab experiences assist the student in developing skills necessary to use protocols and to maximize enterprise Local Area Network (LAN)/Wide Area Network (WAN) performance. A course fee will apply. (Prerequisite: CNS 116)

**CNS 218** **F,S**  
**Cisco Networking IV (1-3)** **3 Credits**

The Cisco Certified Network Administration Routing & Switching Connecting Networks course will introduce the students to the Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. In this course, you will learn the selection criteria of network devices and WAN technologies to meet network requirements. These online course materials will assist in developing the skills necessary to plan and implement small networks across a range of applications. A course fee will apply. (Prerequisite: CNS 217)

**CNS 221** **F,S**  
**Desktop Game Development (2-2)** **3 Credits**

This course will instruct students to build successful games with the Unity game development platform. Students will use the powerful C# language, Unity's intuitive workflow tools, and a state-of-the-art rendering engine to build and deploy desktop, and console games. This course will provide students the knowledge to develop the skills to go from application coder to game developer. Each sample project illuminates specific Unity features and game development strategies. Students will have hands-on skill based training in settings to create graphically driven 2D and 3D game applications. (Prerequisites: CNS 141 and MATH 100 or higher)

**CNS 222** **F,S**  
**VMware VSphere: Optimize and Scale (1-3)** **3 Credits**

This course will instruct the students on advanced skills for configuring and maintaining a highly available and scalable virtual infrastructure. Through a mix of lecture and hands-on labs, students will configure and optimize the VMware vSphere® 6.5 features that build a foundation for a truly scalable infrastructure, and students will discuss when and where these features have the greatest effect. This course will deepen your understanding of vSphere and how its advanced features and controls can benefit any organization.

**CNS 231** **F,S**  
**Android Mobile Game Development (2-2)** **3 Credits**

This course provides a progressive, hands-on guide to developing highly interactive and complex Android games from scratch. Student will learn all the aspects of developing a game using a space shooter game as the example that will evolve with them through the course. This course instructs the students on frame-by-frame animations and resource animations. Students will create responsive menus and dialogs and explore the different options for playing sound effects and music in Android. The course will provide training on the basics of creating a particle system. (Prerequisites: CNS 141)

**CNS 241** **F,S**  
**IOS Development for Gaming (2-2)** **3 Credits**

Design games for IOS, Watch OS and TVOS Apple platforms in Swift, using Apple's built-in 2D game framework: SpriteKit. Students will be instructed through a series of mini-games and challenges, to advance their knowledge game development. Students will make complete mini-games, from an action game to a puzzle game to a tower defense game. (Prerequisites: CNS 141 & MATH 104 or

higher)

**CNS 249** **S**  
**Cybersecurity II (2-2)** **3 Credits**  
This course enhances student's security knowledge as a second course in cyber security. This course will introduce the students to attacks on wireless devices and the security procedures. Students will be instructed on different types of mobile devices and the associated security risks. Students will be introduced principles and practices of access control by examining access control terminology, the standard control models, and their best practices. Students will receive instructions on authentication and the secure management of user accounts that enforces authentication. Students will explore disaster recover, environmental controls, incident response procedures, and forensics, security policies and the different types of policies that are used to reduce risk. (Prerequisites: CNS 112 and CNS 115)

**CNS 250** **F**  
**Linux Network Administration (1-3)** **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. A course fee will apply.

**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. A course fee will apply. (Prerequisite: Permission of instructor)

**CNS 275** **S**  
**Advanced Microsoft Server (1-3)** **3 Credits**  
This course provides advanced 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. A course fee will apply. (Prerequisites: CNS 260 or Permission of Instructor)

**CNS 285** **F,S**  
**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: Permission of Instructor)

## COMPUTER PROGRAMMING

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

**COMP 111** **F,S**  
**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 135)

**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 department)

## CONSTRUCTION

*(Energy Efficient Building Technology)*

**CONS 103** **F**  
**Sustainable Building Fundamentals (2-2)** **3 Credits**  
Provides an introductory survey of new and existing building technologies which enhance energy efficiency, livability, and sustainability of a structure. The course is based on the NCCER (National Center for Construction Education and Research) curriculum modules "Your Role in the Green Environment," "Introduction to Weatherization" and "Sustainable Construction Supervisor". 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. A course fee will apply.

**CONS 105** **F**  
**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. A course fee will apply.

**CONS 112** **S**  
**Carpentry Fundamentals (2-2)** **3 Credits**  
This course is based on the NCCER (National Center for Construction Education and Research) Level 1 Carpentry Fundamentals curriculum. It is designed to provide a broad range of information and hands-on practice to students in the fundamentals of construction. Topics studied include trade orientation, building materials, fasteners/adhesives, hand and power tools, reading plans/elevations, introduction to concrete, reinforcing materials, floor systems, windows and exterior doors, wall/ceiling framing, roof framing, and basic stair layout. A course fee will apply. (Prerequisite: CONS 105 or Permission of Instructor)

**CONS 116** **S**  
**Framing and Finishing (2-2)** **3 Credits**  
This course is based on the 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 include roofing applications, thermal/moisture protection, exterior finishing/siding, and cold-formed steel framing, drywall installation/finishing, doors/door hardware, suspended ceilings, trim for windows, doors, floors and ceilings, and cabinet fabrication/ installation. A course fee will apply. (Prerequisite: CONS 105 or Permission of Instructor)

**CONS 121** **S**  
**Masonry (2-2)** **3 Credits**  
This course is based on the NCCER's (National Center for Construction Education and Research) Level 1 Masonry curriculum. Topics covered in the course include introduction to masonry and masonry units, masonry tools/equipment, measurements, basic installation, drawings/specifications, and mortar. A course fee will apply.

**CONS 131** **F**  
**Plumbing (2-2)** **3 Credits**  
This course is based on 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. Also included are copper/cast-iron/carbon steel/stainless piping/fittings, fixtures/ faucets, DWV (Drain, Waste, and Venti-lation) systems, and water distribution systems. A course fee will apply.

**CONS 141** **F**  
**Electrical (2-2)** **3 Credits**  
 This course is based on the NCCER's (National Center for Construction Education and Research) Level 1 Electrical curriculum. Topics covered include an introduction to the electrical trade, safety, basic circuits/theory, introduction to the NEC (National Electrical Code), device boxes and conduit bending/installation, raceways/fittings, conductors/cables, electrical drawings, residential and commercial services, test equipment and materials and labor estimating. A course fee will apply. (Prerequisite: CONS 105 or AMT 111 or AMT 112 or Permission of Instructor)

**CONS 151**  
**Introduction to National Electrical Code (3-0)** **3 Credits**  
 This course will introduce the students to the National Electric Code (NEC). The students will learn the minimum requirements for safe electrical installations in a single, standardized source. Students will be instructed on the use and layout of the NEC. This course explores Articles of the NEC including definitions and basic initial electrical requirements.

**CONS 155** **S**  
**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. A course fee will apply. (Prerequisite: CONS 105 or AMT 111 or Permission of Instructor)

**CONS 174** **S**  
**Carpentry Forms (2-2)** **3 Credits**  
 This course is based on the NCCER's (National Center for Construction Education and Research) Level 3 Carpentry Fundamentals 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, trenching, excavating, foundations and slab-on-grade, vertical formwork, horizontal formwork, and tilt-up wall panels. A course fee will apply. (Prerequisite: CONS 105 or Permission of Instructor)

**CONS 232** **F**  
**Site Layout (2-2)** **3 Credits**  
 This course is based on the 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, proper tool/equipment handling, surveying math/operations, basic data collection/computer entry skills, concrete properties, and means/methods. A course fee will apply.

**CONS 245** **S**  
**Project Management (2-2)** **3 Credits**  
 This course is based on the 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, cost estimation/ control, scheduling, resource/quality control, and continuous improvement. A course fee will apply.

**CONS 251**  
**National Electric Code Wiring Methods (3-0)** **3 Credits**  
 This course continues to introduction of the National Electric Code (NEC). The students will learn the requirements for wiring methods and materials. Students will be instructed on the use and layout of the NEC wiring methods. This course will explore the articles of the

NEC including wiring methods, cables, conduit and wireways.

**CONS 264** **S**  
**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. A course fee will apply. (Prerequisite: CONS 155 or Permission of Instructor)

**CONS 265** **F**  
**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. A course fee will apply. (Prerequisite: CONS 105 or Permission of Instructor)

**CONS 268** **S**  
**Energy Usage Auditing (2-2)** **3 Credits**  
 This course is 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, energy conservation equipment, 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. A course fee will apply. (Prerequisite: CONS 155 and CONS 103 or Permission of Instructor)

**CONS 290** **F,S**  
**Construction Internship (0-8)** **3 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)

## CRIMINAL JUSTICE

**CJ 101** **F,S**  
**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. A course fee will apply.

**CJ 102** **F,S**  
**Crime Scene Processing (2-2)** **3 Credits**  
 This Course covers the actions of the initial responding officer at the crime scene. Students will learn the nature of physical evidence, processing methodology, basics in crime scene assessment, photography, sketching, mapping, and proper documentation



techniques. Students will be required to demonstrate they can properly collect evidentiary material that can withstand the scrutiny of the legal system. This is the practical portion of criminal investigation that law enforcement officers are required to demonstrate on a daily basis. A course fee will apply.

**CJ 103** **S**  
**Telecommunications (2-2)** **3 Credits**

This course guides students through employability skills and activities that are covered in levels of Emergency Communications. Course includes lessons and activities that closely align with the competencies outlined by the National Academies of Emergency Dispatch (NAED). The Course will cover the roles and responsibilities of the Emergency Telecommunicator, Technologies, Interpersonal Communications, Essentials, Caller management, call Classifications (Law Enforcement, Fire, and Medical), Catastrophic Events, and Radio Broadcast procedures, Legal Aspects, Quality Improvement and Stress management. A commercially available trainer will be used to give the students acquire hands-on training need for the Emergency Dispatcher. A course fee will apply.

**CJ 190** **F,S**  
**Patrol Operations (2-2)** **3 Credits**

This course is designed to integrate the academic and practical aspects of the basic patrol function for a law enforcement officer. The course examines patrol officer's duties, functions, and responsibilities as well as providing techniques to effectively respond to varied calls-for-service. The course includes lecture and practical applications in the areas of officer safety, traffic stops, contact and arrest, traffic enforcement, natural disasters, and other duties as they relate to the basic patrol function. A course fee will apply.

**CJ 200** **F,S**  
**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. A course fee will apply.

**CJ 210** **F,S**  
**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. A course fee will apply.

**CJ 230** **F,S,SU**  
**Criminal Justice Internship (3-0)** **3 Credits**

Criminal Justice Internship is a planned program of participant observation in a selected criminal justice agency, private corporation or related field. Students will work with the internship instructor to select an appropriate organization for placement based on the students anticipated career goals and interests. Students will be at their placement organization from 8 to 10 hours per week. Students are required to turn in weekly assignments utilizing the online course companion. (Prerequisite: CJ 101, CJ 280 & Permission of Instructor)

**CJ 250** **F,S**  
**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. A course fee will apply.

**CJ 265** **F,S**  
**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. A course fee will apply.

**CJ 270** **F,S**  
**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. A course fee will apply.

**CJ 275** **F,S**  
**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. A course fee will apply.

**CJ 280** **F,S**  
**Report Writing (3-0)** **3 Credits**

This course will identify the areas of concern in regard to proper documentation of police related activities. It will focus on report writing skills, proper structuring of interviews and chronological documentation of events. Course will incorporate proper sentence structure, the use of correct terminology, and accuracy in written reports. A course fee will apply.

**CJ 285** **F**  
**Family Violence (3-0)** **3 Credits**

This course develops the student's ability to think critically about the dynamics of violence between victims, offenders and other household members in shared relationships. This course focuses on response, recognition, and assessment of violence including signs and symptoms displayed by the parties involved. The overall goals of the course are to deepen the students' skills in the assessment of family violence and in responding legally and ethically where violence has occurred.

**CJ 290** **F,S**  
**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. A course fee will apply.

## DIESEL TECHNOLOGY

**DIES 124** **F**  
**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. A course fee will apply.

**DIES 134** **S**  
**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. A course fee will apply.

**DIES 144** **F**  
**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. A course fee will apply.

**DIES 164** **S**  
**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. A course fee will apply.

**DIES 184** **F**  
**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. A course fee will apply.

**DIES 204** **F**  
**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. A course fee will apply.

**DIES 224** **S**  
**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 light and 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. A course fee will apply.

**DIES 234** **F**  
**Air Conditioning (2-4)** **4 Credits**  
 This study of the theory and operation of air conditioning systems as they are used with automotive 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. A course fee will apply.

**DIES 244** **F,S**  
**Diesel Internship (0-10)** **4 Credits**  
 The student will receive on-the-job experience in an approved 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)

**DIES 284** **F,S**  
**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. A course fee will apply.

**DIES 294** **S**  
**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. A course fee will apply. (Prerequisite: DIES 144 or Permission of the Instructor)

## DRAFTING AND DESIGN TECHNOLOGY

**DRFT 101** **F,S**  
**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. A course fee will apply.

**DRFT 102** **F**  
**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. A course fee will apply.

**DRFT 103** **S**  
**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, tolerance requirements, steel details and basic structural drawing. Editing and viewing commands, drafting practices and standards, file management practices and practical uses of CAD drawings. A course fee will apply.

**DRFT 105** **S**  
**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). A course fee will apply.

**DRFT 115** **F,S**  
**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. A course fee will apply.

**DRFT 120** **F,S**  
**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. A course fee will apply. (Prerequisite: DRFT 101)

**DRFT 141** **F**  
**Assembly Drawings (1-3)** **3 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. A course fee will apply. (Prerequisite: DRFT 101)

**DRFT 144** **F**  
**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. A course fee will apply. (Prerequisite: DRFT 101)

**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. A course fee may apply. (Prerequisite: Permission of instructor)

**DRFT 202** **S**  
**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. A course fee will apply. (Prerequisite: sophomore standing)

**DRFT 203** **S**  
**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 and tolerance requirements will be covered. A course fee will apply. (Prerequisite: DRFT 101, 141)

**DRFT 205** **F**  
**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. A course fee will apply. (Prerequisite: DRFT 115)

**DRFT 215** **S**  
**Advanced Computer Aided Drafting (Inventor)(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. A course fee will apply. (Prerequisite: DRFT 205)

**DRFT 217** **S**  
**Advanced CAD (Solid Works) (2-2)** **3 Credits**  
 This course is a continuation of Computer Aided Drafting. The primary focus is on Basic-level 3- dimensional with SOLIDWORKS including Command usage, drawing commands, viewing commands and modifying commands. Topics include drawing layouts, 3-dimensional drawing, editing and viewing commands, drafting practices and standards, file management practices and practical uses of CAD drawings.

**DRFT 220** **S**  
**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. A course fee will apply. (Prerequisite: DRFT 101)

**DRFT 280** **F,S**  
**Drafting and Design Internship (3-0)** **3 Credits**  
 This course is a capstone course designed to prepare students for the responsibilities of being a draftsman/designer and is focused on obtaining hands-on experience in a "real-world" design environment. The other courses completed before taking this practicum course will provide them with the appropriate skills to complete this course. During the course, students spend 120 hours completing hands-on tasks at the physical location of a designated hosting organization. (Prerequisites: Completion of 30 hours of required technical courses or Permission of Instructor)

## ECONOMICS

**ECON 201** **F,S,SU**  
**Principles of Macroeconomics (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 college level) (MATH 100 or higher is recommended)

**ECON 202** **F,S,SU**  
**Principles of Microeconomics (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 college level) (MATH 100 or higher is recommended) (Note: ECON 201 is not a prerequisite for ECON 202)

## 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 125** **F,S,SU**  
**Introduction to Education (3-0)** **3 Credits**  
 This course familiarizes students with the personal and professional demands of teaching, explores the field of teaching, introduces teacher education programs and certifications, and examines the historical, philosophical, political, and legal foundations of the American public education system. In introducing students to the education field, the course depicts reaching in its realistic intricacies, describes the considerations of professional teaching, and examines traits of effective schools and educators. In introducing students to the foundations of education, the design and organization of school curricula at the local, state, and federal levels, past and present ethical and legal school issues, school/community relations, and critical cultural and social issues in education. This course includes a 5-hour observation in a classroom. A cleared FSCR background check is required before any observation takes places.

**EDUC 205** **F,S**  
**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 college level)

**EDUC 206** **F,S**  
**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: ENGL 101 or higher and reading at least at college level)

**EDUC 212** **F,S**  
**Educational Technology (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 231** **F,S,SU**  
**Educational Psychology (3-0)** **3 Credits**  
 This course is designed to help students relate theories and principles of educational psychology to teaching, learning, and assessment. This course focuses on the diversity of learners and learning processes, as well as teacher characteristics, classroom strategies, and data analysis in P-12 classrooms. Appropriate strategies for increasing motivation, multi-dimensional development, and academic achievement for all learners are introduced. (Prerequisite: PSYC 101)

**EDUC 240** **F,S,SU**  
**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. The content of this course includes the history of Special Education, legal and ethical issues, state and federal guidelines, characteristics of the exceptional student, methods and techniques for instruction, school/community resources, and assistive/adaptive technology. (Prerequisite: PSYC 101)

**EDUC 251** **F,S,SU**  
**Teaching Profession with Field Experience (3-0)** **3 Credits**  
 This course includes an introductory, minimum thirty (30) hours of school field experience in accredited P-12 classrooms that provide opportunities to observe and contribute to teaching and learning. This course allows preservice teachers to connect firsthand school experience with an emerging professional knowledge base. The course develops professional knowledge of diverse educational settings through observation, instruction, experience, and reflection. This course is designed to assist students in determining if a career in teaching is an appropriate goal. Requirements for teacher preparation and certification are reviewed. (Prerequisite: ENGL 101 & EDUC 125)

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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** **Upon Request**  
**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.

## EMERGENCY MEDICAL SERVICES

**EMR 101** **F**  
**Emergency Medical Responder (3-0)** **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** **F,S**  
**Emergency Medical Technician (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 mellitus 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 NREMT certification exams. A course fees will apply. (Prerequisites: AHA Healthcare Provider level CPR certification, is recommended prior to taking this course, fingerprint background check at the cost of the student PRIOR to acceptance into program; and college level reading. Acceptance to EMT course required to enroll)

**EMTP 225** **F,S**  
**Emergency Medical Technician-Paramedic (7-2)** **9 Credits**  
 This is the first of five courses which follow 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, medical ethics, legal aspects, pharmacology, learn proper documentation/communication methods and apply critical thinking skills to skill lab scenarios. A course fee will apply. (Prerequisites: Current EMT national certification and/or state licensure AHA BLS Healthcare Provider level card required. Acceptance to Paramedic Program required to enroll)

**EMTP 230** **F,S**  
**Emergency Medical Technician-Paramedic (7-2)** **9 Credits**  
 This is the second of five courses which follow the United States Department of Transportation Paramedic National Standard Curriculum. In this course the students will to medical patient assessment, respiratory and cardiovascular emergencies, airway management strategies, capnography, ECG interpretation and pharmacology integration. A course fee will apply. (Prerequisites: EMTP 225 & AHA BLS Healthcare Provider level card required)

**EMTP 235** **F,S**  
**Emergency Medical Technician – Paramedic (7-2)** **9 Credits**  
 This is the third of five courses which follow the United States Department of Transportation Paramedic National Standard Curriculum. In this course, the students will be exposed to neurological, abdominal, GI/GU, endocrine, immunologic emergencies, and pharmacology integration. A course fee will apply. (Prerequisites: EMTP 230 & AHA BLS Healthcare Provider level card required)

**EMTP 240** **F,S**  
**Emergency Medical Technician – Paramedic (4-5)** **9 Credits**  
 This is the fourth of five courses which follow the United States Department of Transportation Paramedic National Standard Curriculum. In this course, the students will be exposed to recognizing, assessing and managing patients with acute injuries, obstetrical, neonatal/pediatric emergencies and EMS operations. A course fee will apply. (Prerequisites: EMTP 235, Current EMT national certification and/or state licensure, AHA BLS Healthcare Provider level card required. Acceptance to Paramedic Program required to enroll)

**EMTP 250** **S,SU**  
**Emergency Medical Technician – Paramedic Capstone (0-6)** **6 Credits**  
 This is the fifth of five courses which follow the United States Department of Transportation Paramedic National Standard Curriculum. In this course, the students will be exposed to

intrahospital and out-of-hospital (OOH) clinical experiences. The purpose of clinical education is to provide students with opportunities to reinforce knowledge, skills, and abilities acquired in the classroom and laboratory settings. When provided with opportunities to practice with actual patients, students transition from a basic understanding to an advanced level of comprehensive data-gathering, application and analysis. NREMT and Psychomotor testing fees are the responsibility of the student. (Prerequisites: EMT-P 240, AHA BLS Healthcare Provider level CPR certification & approval from Program Director and Medical Director).

**EMTP 275** **F**  
**RN to Paramedic Bridge (6-3)** **9 Credits**

This course is designed to prepare registered nurses, in good standing, for the National Registry Paramedic (NRP) psychomotor and cognitive examinations. In this course the student will be exposed to the areas of healthcare and pre-hospital environment that differs from the RN scope of practice. The student will be exposed to the paramedic scope of practice, legal/ethical issues of emergency medical services, pre-hospital treatment and care of acutely ill and injured persons, EMS operations, and the clinical skills performed by a paramedic that are outside of a standard RN scope of practice. (Prerequisites: Current RN license with two or more years of Emergency/Critical Care, ICE, CVICU, CCU or equivalent, one year of emergency and one year of critical care experience OR one year of RN experience, ER/Critical Care with a current EMT license and one year of pre-hospital experience OR one year of RN experience with current CFRN, CCRN, CEN or CTRN certification and is actively working in emergency/critical care, must prove documented RN work experience in emergency/critical care of at least 1000 hours in the last 2 years, Current American Heart Association BLS and ACLS provider certifications, GPA of 2.5 on a 4.0 scale in all college coursework prior to entering program, EMT license, pre-hospital, critical care, or transport experience is preferred, and PALS, PHTLS, TNCC and ENPC certification(s) are preferred)

## ENGLISH AND LITERATURE

**ENGL 99** **F,S,SU**  
**Composition Support Lab (3-0)** **3 Credits**

This course will focus on assisting students who need extra support in order to successfully complete English 101. This class will work concurrently with English 101 based on the appropriate placement scores and allow students to complete the gateway course with additional instruction in grammar, usage, mechanics, and style.

**ENGL 100** **F**  
**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 may be required of students depending on scores on placement criteria, is recommended for students returning to school from a prolonged absence, and is beneficial for elementary or secondary education majors although it is not an approved education elective. The course does not fulfill communications requirements for the AA degree and may be taken concurrently with ENGL 101 if the student has the appropriate placement score for ENGL 101.

**ENGL 101** **F,S,SU**  
**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: Successful completion of COMM 92 ENGL 100 or an appropriate score on the placement exam; keyboarding skill are necessary)

**ENGL 102** **F,S,SU**  
**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)

**ENGL 104** **S**  
**Honors English Composition**

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. This course is taken within ENGL 102 and is pass/fail; there are no additional credits awarded. (Prerequisite: Limited to Honors Program Participants and completion of ENGL 101)

**ENGL 109** **F,S,SU**  
**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. (Prerequisite: College level reading score on appropriate placement exam or completion of LOC 50)

**ENGL 113, 114, 213, 214** **SDL/Upon Request**  
**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.

**ENGL 203** **S**  
**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)

**ENGL 222** **F**  
**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 others, emphasizing literature not from British or American authors. (Prerequisite: College level reading score on appropriate placement exam or completion of LOC 50 or completion of the COMM 90 sequence)

**ENGL 225** **S**  
**World Literature II (3-0)** **3 Credits**

A survey of landmarks of world literature from the eighteenth century to the twentieth century, emphasizing literature not from British or American authors. (Prerequisite: College level reading score on appropriate placement exam or completion of LOC 50 or completion of the COMM 90 sequence)

**ENGL 230** **F**  
**Survey of American Literature I (3-0)** **3 Credits**

Selected readings in American literature from its native roots through the end of the Civil War, with emphasis on the oral traditions of native peoples, the poetry and essays of the Puritans and early settlers. Rationalism and Enlightenment treatises supporting the founding of the United States and establishment of its government, and the major writings of Emily Dickinson, Ralph Waldo Emerson, Henry David Thoreau, and Walt Whitman from the American Romantic tradition. The course will include multiple genres, including essays, poetry, short stories, and novels and will fulfill three hours of the nine required humanities for an Associate of Arts degree.

(Prerequisite: College level reading score on appropriate placement exam or completion of LOC 50 or completion of the COMM 90 sequence)

**ENGL 235** **S**  
**Survey of American Literature II (3-0)** **3 Credits**  
 Selected readings in American literature from 1865 to the present. Periods of American Literature including Realism, Naturalism, Modernism, and Postmodernism will form the structure of the course and will include work by Mark Twain, Kate Chopin, John Steinbeck, Ernest Hemingway, and Arthur Miller among others. from the American Romantic tradition. The course will include multiple genres, including essays, poetry, short stories, and novels and will fulfill three hours of the nine required humanities for an Associate of Arts degree. (Prerequisite: College level reading score on appropriate placement exam or completion of LOC 50 or completion of the COMM 90 sequence)

**ENGL 240** **F**  
**British Literature I (3-0)** **3 Credits**  
 This course will survey the major British authors and works from the Old English period to the eighteenth century, connecting the literature with the historical and cultural influences of the different periods. Readings will include authors such as Chaucer, Marlowe, Shakespeare, Donne, Milton, Swift, Pope, and other major British writers of the Middle Ages to 1790. (Prerequisite: College level reading score on appropriate placement exam or completion of LOC 50 or completion of the COMM 90 sequence)

**ENGL 245** **F**  
**British Literature II (3-0)** **3 Credits**  
 This course will survey the major British authors and works from the Romantic Movement to the present day, connecting the literature with the historical and cultural influences of the different periods. Readings will include Wordsworth, Keats, Wollstonecraft, Tennyson, Browning, Woolf, Lessing and other influential British writers spanning from the Romantic Movement to the present. This course will include multiple genres, including essays, poetry, short stories, plays, and novels. (Prerequisite: College level reading score on appropriate placement exam or completion of LOC 50 or completion of the COMM 90 sequence)

## FIRE SCIENCE

**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.

## GEOGRAPHY

**GEOG 111** **F,S**  
**World Regional 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.

## GEOLOGY

**GEOL 115** **F,S**  
**Introduction to Geology (3-2)** **4 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.

**GEOL 210** **S**  
**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)

## GRAPHIC DESIGN

**ART 190** **F,S**  
**Graphic Design I in Illustrator (2-4)** **3 Credits**  
 Graphic Design 1 is an introductory course into the world of art and design with an emphasis in learning and using Adobe Illustrator. Students will become proficient in using Illustrator while learning principles for making artwork and developing projects for a working portfolio. Students will learn page layout, illustrative and type skills, while apply those skills toward corporate or small business development and promotional scenarios. Warning: This is a project based class. (Required core for Graphic Design majors.) A course fee will apply.

**ART 191** **F,S**  
**Graphic Design II in Photoshop (2-4)** **3 Credits**  
 Graphic Design 2 is an introductory course into the world of art and design with an emphasis in learning and using Adobe Photoshop. Students will become proficient in using Photoshop while learning principles for making artwork and developing projects for a working portfolio. Students will learn to create, alter, manage, and store digital images and creative illustrations, while apply those skills toward corporate or small business development and promotional scenarios. Warning: This is a project based class. (Required core for Graphic Design majors) A course fee will apply.

**ART 192** **F**  
**Graphic Design III in Indesign & Web Design (2-4)** **3 Credits**  
 Graphic Design 3 is an advanced course into the world of art and design with an emphasis in learning and using Adobe InDesign, as well as learning practical web design skills using all available software (including Facebook!). Students will become proficient in using InDesign and become comfortable with the ever-changing web design outlets while learning principles for making artwork and developing projects for a working portfolio. Projects will be based on real world scenarios with applications for a wide range of companies or small businesses. Warning: This is a project based class. (Required core for Graphic Design majors.) A course fee will apply. (Prerequisites: ART 190 and ART 191)

**ART 193** **F**  
**Graphic Design in Typography (2-4)** **3 Credits**  
 Graphic Design Typography is an advanced course into the world of art and design with an emphasis in learning about, creating, and crafting beautiful letter forms, as well as learning practical professional knowledge in good type use, and how to create type and hand-crafted lettering. Students will become job ready while making artwork and developing projects for a working portfolio. Warning: This is a project based class. A course fee will apply. (Prerequisites: ART 190 and ART 191)

**ART 194** **S**  
**Graphic Design IV in Portfolio & Professional Development (2-4)** **3 Credits**  
 Graphic Design 4 is an advanced course into the world of art and design with an emphasis in creating a strong portfolio for professional use. Students will also learning practical professional knowledge including resume building, interviewing skills and tips, and how to create and manage contracts, while learning about the history of graphic design and its styles. Students will become job ready while making artwork and developing projects for a working portfolio based



on practical scenarios for potential companies or small business. Warning: This is a project based class. (Required core for Graphic Design majors.) A course fee will apply. (Prerequisites: ART 190, ART 191, and ART 192)

**ART 195** **F**  
**Graphic Design Animation** **3 Credits**  
 Introduction to animation and the basics of film editing. Techniques and procedures for applying the principles of animation to produce 2D animated projects using motion graphics software for web and digital media outputs. Students will create a portfolio of animated projects with various applications. Lab fee required. (Prerequisite: ART 190 & ART 191)

## HISTORY

**HIST 101** **F,S**  
**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 college level)

**HIST 102** **S**  
**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. (Prerequisite: Reading at least at college level) (Note: HIST 101 is not a prerequisite for HIST 102)

**HIST 106** **F,S,SU**  
**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. Students successfully completing this course fulfill the Civics requirement in constitutional study within the Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level)

**HIST 107** **F,S**  
**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 fulfill the Civics requirement in constitutional study within the Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level) (Note: HIST 106 is not a prerequisite for HIST 107)

**HIST 111, 112, 113** **Upon Request**  
**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 college level)

## HONORS

**HONR 151, 152, 251, 252** **F,S**  
**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 or a member of Phi Theta Kappa)

**HONR 103, 104, 203, 204** **F,S**  
**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** **S**  
**Honors English Composition**  
 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)

**PLSC 104** **F**  
**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)

## JOURNALISM AND PUBLIC RELATIONS

**COMM 101** **S**  
**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.

**COMM 102** **F**  
**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.

**COMM 111** **S**  
**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)

**COMM 112** **S**  
**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)

**COMM 150** **F**  
**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: Basic computer and keyboarding skills are necessary; Co-requisite or prerequisite: ENGL 101)



**COMM 151** **F,S**  
**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)

**COMM 152** **F,S**  
**Applied Journalism (1-0)** **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)

**COMM 160** **Upon Request**  
**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.

**COMM 171, 172, 173, 271, 272, 273** **SDL/Upon Request**  
**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.

**COMM 211** **S**  
**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)

**COMM 212** **S**  
**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)

**COMM 220** **F,S**  
**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 225** **Upon Request**  
**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 231** **S**  
**Photocommunication II (3-0)** **3 Credits**  
 This course continues COMM 220 (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 220)

**COMM 250** **F,S**  
**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)

**COMM 251** **F,S**  
**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)

**COMM 252** **F,S**  
**Applied Journalism (1-0)** **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)

## LANGUAGES

**ASL 101** **F,S**  
**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** **S**  
**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 101) 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. Not offered at the Neosho campus.

**SPAN 101** **F,S**  
**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.

**SPAN 102** **Upon Request**  
**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)

**SPAN 103** **Upon Request**  
**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** **Upon Request**  
**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. Students will be required to log conversation hours with the instructor and classmates. Students will be required to pay for and take the computerized Oral Proficiency Interview (OPIc). This assessment costs \$115, and scholarships are available through the Spanish department. (Prerequisites: SPAN 102 or equivalent)

**SPAN 106** **Upon Request**  
**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. Students will be required to log conversation hours with the instructor and classmates. This class may apply toward a major requirement for an A.A. in Spanish. (Prerequisite: SPAN 105 or equivalent)

**SPAN 111** **Upon Request**  
**Introduction to Spanish for Health Care Workers** **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 a major requirement for an A.A. in Spanish.

**SPAN 112** **Upon Request**  
**Introduction to Spanish for Health Care Workers II** **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 class may apply toward a major requirement for an A.A. in Spanish. (Prerequisite: SPAN 111 or permission of instructor)

**SPAN 107, 108, 109, 207, 208, 209** **SDL/Upon Request**  
**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. These classes may apply toward major requirements for an A.A. in Spanish.

**SPAN 201** **Upon Request**  
**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 a major requirement for an A.A. in Spanish or may apply toward a foreign language requirement for a bachelor of arts. (Prerequisite: SPAN 102 or permission of instructor)

**SPAN 202** **Upon Request**  
**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 a major requirement for the A.A. in Spanish or may apply toward a foreign language requirement for a bachelor of arts. (Prerequisite: SPAN 201 or permission of instructor)

## LEARNING OPPORTUNITIES

**COMM 91, 92, 93, 94** **F,S**  
**Developmental Communication Arts (0-4)** **2 Credits**

This course provides integrated reading and writing and college success instruction. The course includes success strategies for disciplines across the curriculum, advanced critical reading skills to facilitate comprehension of academic text, discipline specific vocabulary, and utilization of the writing process to compose paragraphs utilizing the standards of conventional writing for academic purposes. College success knowledge, skills, and dispositions are integrated throughout the course. The course is offered on a credit / no credit basis. Mastery of at least twenty-five percent of the course competencies is required to earn the two hours 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. A course fee will apply.

**ELI 30** **F,S**  
**ELI Basic I (6-0)** **6 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) A course fee will apply.

**ELI 32** **F,S**  
**ELI Basic 2 (6-0)** **6 Credits**

This course provides non-native speakers with intensive training in basic, moving towards more complex and intermediate, 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, read simplified printed material, and produce clear and logical written text. A course fee will apply. (Placement by Assessment)

**ELI 33** **F,S**  
**ELI 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 30 and ELI 32 and/or placement by assessment) A course fee will apply.

**ELI 35** **F,S**  
**ELI Advanced (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, 38, 39, 40** **F,S**  
**ELI 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. (Prerequisites: ELI 30 and ELI 32 and/or placement by assessment)

**LOC 100** **F,S**  
**College Success (3-0)** **3 Credits**  
 This course is designed to increase success in college by assisting students in the acquisition and mastery of skills necessary for students to reach their personal and educational goals. Course topics 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 they may face as a college student. A course fee will apply.

**LOC 103** **F,S,SU**  
**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 students in the acquisition and mastery of implementing many proven strategies to create greater academic, professional, and personal success. Individual and group discussions, activities, and assignments, guided journal writing, as well as personal one-on-one meetings are part of the course. A grade of "C" or higher is required to meet academic status requirements. (Prerequisite: Only students on academic probation or returning from suspension may enroll in this course) A course fee will apply.

**LOC 105** **1 Credit**  
**Career Directions (1-0)**  
 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. (Course location varies)

**LOC 206** **1 Credit**  
**Career Exploration (0.5-1.25)**  
 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. (Course location varies)

## MANAGEMENT

**BMGT 115** **F,S**  
**Customer Service (3-0)** **3 Credits**  
 This course covers the critical workplace skills necessary for providing effective customer service in today's professional environment. Areas covered include identifying customers, problem solving, listening, communicating with customers, etiquette, time management, teamwork, and telephone skills.

**BMGT 175** **F,S**  
**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.

**BMGT 200** **F,S**  
**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.

**BMGT 223** **F,S**  
**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.

**BMGT 285** **S**  
**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)

**BMGT 280** **F,S**  
**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.

**BMGT 197, 198, 199, 297, 298, 299** **As Needed**  
**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.

## MATHEMATICS

**MATH 80** **F,S,SU**  
**Support for Quantitative Reasoning (2-0)** **2 Credits**  
 This course is a co-requisite to Quantitative Reasoning (MATH 125). It is designed to provide additional support and just-in-time instruction on skills needed for students to succeed in MATH 125. This course will not count towards degree requirements.

**MATH 85** **2 Credits**  
**Support for Elementary Statistics (2-0)**  
 This course is a co-requisite to Elementary Statistics (MATH 130). It is designed to provide additional support and just-in-time instruction on skills needed for a student to succeed in MATH 130. This course will not count towards degree requirements.

**MATH 100** **F,S,SU**  
**Intermediate Algebra (3-0)** **3 Credits**  
 This preparatory course is for students 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: An appropriate math placement score)

**MATH 104** **F**  
**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: An appropriate math placement score)

**MATH 108** **F,S**  
**Basic and Intermediate Algebra (5-0)** **5 Credits**  
 This course provides students with the same algebraic skills discussed in MATH 100 (Intermediate Algebra) with additional review and practice of elementary algebraic skills. Topics include: introduction to exponents and polynomials, equations, inequalities, applications, graphing, functions, and systems of equations. This course will not satisfy most degree requirements for mathematics. It will count as an elective on your transcript. (Prerequisite: An appropriate math placement score)



**MATH 112** **F, S**  
**Trigonometry (3-0)** **3 Credits**  
 Trigonometry involves the study of the six trigonometric functions and their applications. (Prerequisite: MATH 100 or an appropriate placement score)

**MATH 125** **F, S, SU**  
**Quantitative Reasoning (3-0)** **3 Credits**  
 This course studies the skills necessary to process and communicate quantitative information found in daily life. Specific topics include: probability, statistics, proportional reasoning, modeling data, financial mathematics, and problem solving. This course will satisfy most degree requirements in Mathematics and should transfer to most four-year institutions. (Prerequisite: An appropriate math placement score)

**MATH 130** **3 Credits**  
**Elementary Statistics (3-0)**  
 This is a first course in statistics for any student whose college and career paths require knowledge of the fundamentals of the collection, analysis, and interpretation of data. Topics include the presentation and interpretation of univariate data using graphical and numerical methods, probability, discrete and continuous probability distributions, linear regression, an understanding of good practice in study design, statistical inference, confidence intervals, and hypothesis testing. Emphasis is placed on the development of statistical thinking. (Prerequisite: Placement by appropriate placement score)

**MATH 135** **F, S, SU**  
**Algebra for Calculus (3-0)** **3 Credits**  
 This course studies the foundations of functions, analysis of functions, algebraic reasoning, and conic sections. It is designed for students who intend to pursue a degree in the fields of Science, Technology, Engineering, or Mathematics, as well as other fields that require a high level of algebraic reasoning. This course is intended to prepare students for higher level mathematics courses, but will satisfy most degree requirements in Mathematics and should transfer to any four-year institution. (Prerequisite: Placement by an appropriate placement score)

**MATH 150** **F, S**  
**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 135 (may be taken concurrently) or an appropriate placement exam score; MATH 112 (may be taken concurrently) or an appropriate placement score.)

**MATH 160** **S**  
**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)

**MATH 201** **F**  
**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, parametric curves and the polar coordinate system. (Prerequisite: MATH 160)

**MATH 202** **S**  
**Calculus III (5-0)** **5 Credits**  
 This course completes the calculus/analytical geometry sequence. Topics include vectors, vector-valued functions, graphing in three dimensions, calculus of multiple variables, line and surface integrals. (Prerequisite: MATH 201)

**MATH 210** **S**  
**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)

**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. (Prerequisite: Permission of department)

## MUSIC

**MUSC 101** **F, S, SU**  
**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 115** **F, S**  
**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.

**MUSC 118, 119, 218, 219** **S**  
**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)

**MUSC 195, 196, 295, 296** **F**  
**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.

**MUSIC, APPLIED** **F, S**  
**Private Lessons (Open to All Students)** **1 Credit**  
 This course will provide individual instruction in vocal technique (i.e. breathing, breath support, tone production), while also covering the stylistic elements of performance, stage presence, vocal diction and other aspects of singing. Private voice lessons are open to all students. One half-hour lesson per week = 1 credit hour. One hour lesson per week = 2 credit hours. A course fee will apply.

MUSC 120, 121, 220, 221 Piano  
 MUSC 140, 141, 240, 241 Voice  
 MUSC 180, 181, 280, 281 Guitar  
**2 Credits**

MUSC 122, 123, 222, 244 Piano  
 MUSC 142, 143, 242, 243 Voice  
 MUSC 182, 183, 282, 283 Guitar

## PRACTICAL NURSING

**PN 150**  
**Personal & Vocational Concepts I (3-0)** **3 Credits**  
 Concepts emphasized are those relating to stress, time management, study skills, nursing history, nursing process, personal & social wellness, therapeutic communications, cultural & spiritual differences.

**PN 151**  
**PN Anatomy & Physiology (3-1)** **4 Credits**  
 This course is designed to furnish the beginning student with a basic understanding of how the parts of the body are structured & how they perform the complex functions necessary to maintain life. Vocabulary & spelling are stressed. This course provides the basis for other nursing courses.

**PN 152****Fundamentals in Nursing I (3-1)****4 Credits**

Introduction of skills & concepts that allows performance of basic patient care. Included are theories of wellness, physical & emotional support of patients, safety issues, medical vocabulary, growth & development principles, and skill check-offs.

**PN 153****Fundamentals in Nursing II (3-2)****5 Credits**

Building on the skills of Fundamentals I, this course presents more complex nursing skills in classroom and laboratory. Skill competency, CPR, time management, scenarios, therapeutic relationships, and direct patient care are performed in a patient care setting with direct supervision. The IV therapy major emphasis is to prepare the LPN to participate in IV fluid therapy. Student must pass IV therapy final examination with an 85% or better in order to graduate from the PN program as required by MO rule 4 CSR 200-3.100. (Prerequisite: PN 152)

**PN 154****Medical Surgical Nursing I (4-0)****4 Credits**

Instruction involves scientific principles associated with illness, effects on body systems & current trends in patient care. Course will include both nutritional and pharmacological aspects that apply to each disease/disorder. (Prerequisite: PN 151)

**PN 155****Introduction to Pharmacology (5-0)****5 Credits**

This course includes an assessment of current knowledge of simple multiplication, division, fractions, decimals, and percentages. Rounding rules will be discussed. Course also covers principles of drug actions and interactions, the nursing process as it relates to pharmacology, patient education and health promotion, medication calculations, principles of medication administration and an introduction to drug classifications. Students must pass a Math for Meds final with a 90% or above to remain in this nursing program.

**PN 156****Gerontology (3-0)****3 Credits**

Modification of nursing skills to maintain & optimize the quality of life of the aging client is stressed.

**PN 250****Fundamentals in Nursing III (0-8)****8 Credits**

Continuing the progression from most basic to more complex, this course extends into the realm of clinical nursing practice. Previously learned skills, care mapping, and problem-solving methods are transferred to patient care in a variety of clinical settings and under direct supervision. Leadership skills are enhanced by using the knowledge gained and the supervision of preceptors and instructors. Students participate in scheduled activities such as preschool screening, case study, and simulation scenarios. Prerequisite is successful completion of Fundamentals of Nursing I, II, and III. (Prerequisite: PN 153)

**PN 251****Medical Surgical Nursing II (10-0)****10 Credits**

Building on the skills of Medical/Surgical Nursing I, instruction involves scientific principles associated with illness, effects on body systems & current trends in patient care. Course will include both nutritional and pharmacological aspects that apply to each disease/disorder. (Prerequisite: PN 154)

**PN 252****Maternity Nursing (3-0)****3 Credits**

This course is designed to provide students with the skills & scientific knowledge base to perform basic patient care of the maternity patient/family in a variety of settings. Critical thinking & ethical decision-making are stressed.

**PN 253****Pediatric Nursing (2-0)****2 Credits**

This course emphasizes nursing care of children with common childhood illnesses as well as children with special problems.

**PN 254****Personal & Vocational Concepts II (2-0)****2 Credits**

This course will cover legal & ethical decision-making, leadership & management styles, delegation, quality assurance, resume writing, and job interviewing skills. (Prerequisite: PN 150)

**PN 255****Mental Health & Mental Illness (3-0)****3 Credits**

This course is to assist the student in developing a basic understanding of anxiety and its relationship to stress & change. The mental illness component is designed to enable students to recognize maladaptive behaviors and ineffective coping mechanisms.

## REGISTERED NURSING

**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, skills, and simulations 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 220 and BIOL 252)

**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. A course fee will apply. (Prerequisite: ADN 170 or ADN 200 and BIOL 220; Co-requisite: MATH 125, MATH 130, or MATH 135)

**ADN 263****Nursing Concepts II (2-0)****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 clinical experiences in addition to simulation in promoting accountability, responsibility, and communication within the health care team. Dosage calculation opportunities may be provided. The student will be given the opportunity to master nursing skills in a variety of settings. A course fee will apply. (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 (2-0)****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, ADN 260, ADN 263, & ADN 267)

**ADN 277****Clinical IV (0-12)****3 Credits**

This course provides clinical experiences and simulation in promoting

accountability, responsibility, and communication within the health care team. Dosage calculation opportunities 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. A course fee will apply. (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. A course fee will apply. (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, OB titrations, 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 I, II, and III with emphasis on developing and expanding critical dosage calculations as related to the Critical Care Setting.

#### **NURS 111**

##### **Health Concepts IA (2.5-0.5)**

**3 Credits**

This course introduces students to beginning nursing concepts for health promotion. Emphasis is placed on basic assessment skills and the ability to safely perform foundational psychomotor skills. (Prerequisite: BIOL 152)

#### **NURS 112**

##### **Health Concepts IB (2.5-0.5)**

**3 Credits**

This course introduces students to therapeutic communication, normal growth and development, and safe, evidence-based interventions through application of the nursing process. Students will also have the opportunity to continue developing psychomotor nursing skills needed to assist individuals in meeting basic human needs. (Prerequisites: NURS 111)

#### **NURS 121**

##### **Health Concepts IIA (2.5-1.5)**

**4 Credits**

This course focuses on beginning prioritizations skills when caring for the patient throughout the lifespan experiencing commonly occurring acute and chronic illnesses, including common medical-surgical and mental health problems. Students will have the opportunity to apply this knowledge in a variety of health care experiences. (Prerequisites: NURS 112)

#### **NURS 122**

##### **Health Concepts IIB (2.5-1.5)**

**4 Credits**

This course will provide focus on perinatal care with normal variances. Assessment and care of the newborn will be a primary focus on this course. Students will have the opportunity to apply this knowledge in a variety of health care experiences. (Prerequisites: NURS 121, NURS 141 & NURS 172)

#### **NURS 141**

##### **Pharmacology I (1-.50.5)**

**2 Credits**

This course introduces students to safe administration practices using a variety of routes and basic dosage calculations. (Prerequisite: NURS 171)

#### **NURS 142**

##### **Pharmacology II (1-0)**

**1 Credit**

This course continues to focus on the nurse's role in medication safety, administration, and calculations for drugs given to patients experiencing acute and chronic illnesses across the lifespan. Medications given in maternal-child health settings will also be discussed. (Prerequisite: NURS 141)

#### **NURS 171**

##### **Professional Concepts I (1-0)**

**1 Credit**

This course introduces students to the role of the professional nurse, focusing on QSEN and core curricular concepts.

#### **NURS 172**

##### **Professional Concepts II (1-0)**

**1 Credit**

This course builds on concepts learned in PN 1 and further explores professional nursing including concepts of legal issues, ethics in nursing care, healthcare organizations, and clinical judgement. (Prerequisite: NURS 171)

#### **NURS 201**

##### **LPN to RN Transition (2-0)**

**2 Credits**

This course is designed for the licensed practical nurse entering into professional nursing. The course provides essential concepts and skills to facilitate the assimilation of knowledge and incorporation of the professional nursing role for currently licensed practical nurses that have been selected for admission to the Associate Degree of nursing program. (Prerequisites: BIOL 152, COLL 101, MATH 125, 130 or 135; Co-requisite: BIOL 220 & 252)

#### **NURS 211**

##### **Health Concepts IIIA (2-2)**

**4 Credits**

This course builds on concepts learned in earlier courses by focusing on prioritizing and collaborating nursing care for patients with acute and chronic complex health problems across the life span. Students will have the opportunity to apply this knowledge in a variety of health care experiences. (Prerequisites: NURS 122, NURS 142 & NURS 172)

#### **NURS 212**

##### **Health Concepts IIIB (2-2)**

**4 Credits**

This course focuses on inter-professional collaborative care of patients with multi-system health problems, including patients who are acutely and critically ill across the lifespan. In this course, the student applies previously learned concepts and theories related to the care of individuals, families or groups experiencing a critical disruption in one or more needs. Students will have the opportunity to prioritize and translate this knowledge in a variety of health care experiences. (Prerequisite: NURS 211)

#### **NURS 221**

##### **Health Concepts IV (2-1)**

**3 Credits**

This course focuses on inter-professional collaborative care of patients with multi-system health problems, including patients who are acutely and critically ill across the lifespan. In this course, the student applies previously learned concepts and theories related to the care of individuals, families or groups experiencing a critical disruption in one or more needs. Students will have the opportunity to prioritize and translate this knowledge in a variety of health care experience. (Prerequisite: NURS 212)

#### **NURS 241**

##### **Pharmacology III (1-0)**

**1 Credit**

This course focuses on nursing interventions associated with medications used for patients experiencing complex medic-surgical, and mental health problems. (Prerequisite: NURS 142)

#### **NURS 242**

**Pharmacology IV (1-0)****1 Credit**

This course builds on previous pharmacology courses within the program with emphasis on medications and dosage calculations for adult patients with multi-system and emergent health problems. (Prerequisites: NURS 241)

**NURS 271****Professional Concepts III (2-0)****2 Credits**

This course expands the student's appreciation for the role of the nurse leader and manager of care in a variety of health care organizations. (Prerequisite: NURS 172)

**NURS 290****Nursing Capstone (1.5-0.5)****2 Credits**

This course will examine State Licensure and NCLEX testing processes. Clinical simulation will be utilized to assess individual clinical reasoning and judgment. (Prerequisites: NURS 221, NURS 242)

## OCCUPATIONAL THERAPY ASSISTANT

(Offered only at Webb City)

**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. A course fee will apply. (Co-requisites: OTA 111 & 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. A course fee will apply. (Co-requisites: OTA 101 and OTA 111)

**OTA 125****Occupational Therapy Documentation (2-0)****2 Credits**

This course will examine documentation of occupational therapy services. This course will include use of professional language and proper documentation for Occupational Therapy Services. This course will address understanding and writing of documentation, electronic documentation, and goal writing in diverse Occupational Therapy settings. (Co-requisites: OTA 101 & OTA 116)

**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. A course fee will apply. (Prerequisite: BIOL 252 and MATH 125, 130 or 135; Co-requisites: OTA 140 and OTA 201)

**OTA 199****F,S****Occupational Therapy: An Overview (1-0)****1 Credits**

This course will introduce the profession of Occupational Therapy. This course provides an overview of the history, philosophy, and role of Occupational Therapy in the health care environment as well as describing the educational requirements of Occupational Therapy practitioners.

**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. A course fee will apply. (Prerequisite: OTA 116; Co-requisites: OTA 131 and OTA 140)

**OTA 211****Principles of Occupational Therapy Practice: Mental Health (3-4)****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. A course fee will apply. (Prerequisite: OTA 116; Co-requisites: OTA 236 and OTA 221)

**OTA 218****Occupational Therapy Test and Fieldwork Preparation (2-0)****2 Credits**

This course is designed to prepare individuals for their national certification test and Level II fieldwork experiences. This course will include examination of the steps needed to register for the national certification test and the use of problem solving skills to improve performance on the test. This course will address the guidelines required for Level II fieldwork experiences and reinforcement of professional behavior. (Prerequisite: OTA 201; Co-Requisite: OTA 236 and OTA 221)

**OTA 221****Principles of Occupational Therapy Practice: Physical Rehabilitation (3-4)****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. A course fee will apply. (Prerequisite: OTA 131; Co-Requisites: OTA 211 and OTA 236)

**OTA 228****Occupational Performance Across the Lifespan(3-0)****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 236****Occupational Performance Issues in Later Adulthood (3-2)****4 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. A course fee will apply. (Prerequisite: OTA 140; Co-requisites: OTA 211 and OTA 221)

**OTA 240** **F**  
**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. A course fee will apply. (Prerequisite: OTA 221)

**OTA 245** **F**  
**Occupational Therapy Management (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; the role of the Occupational Therapy Assistant (OTA) in OT, program evaluation; supervisory requirements; reimbursement issues; personnel training and supervision; continued learning; and job search skills. (Prerequisite: OTA 221, Co-requisite: OTA 240 and OTA 250)

**OTA 250** **F**  
**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. A course fee will apply. (Prerequisite: OTA 240)

## PHARMACY TECHNICIAN

**PHAR 101** **S**  
**Pharmacy Techniques I (3-0)** **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. A course fee will apply. (Prerequisites: HS Diploma or high school equivalency. Eligible to register to take a National certification exam)

**PHAR 102** **S**  
**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. A course fee will apply. (Prerequisites: PHAR 101)

**PHAR 110** **S**  
**Pharmacology Concepts (3-0)** **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. A course fee will apply.

**PHAR 150** **S**  
**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 56 hours of supervised work

experiences during the semester. A course fee will apply. (Co-requisite: PHAR 102)

## PHILOSOPHY

**PHIL 101** **F,S**  
**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 college level)

**PHIL 121** **F,S**  
**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. This course partially fulfills requirements for humanities in general education.

**PHIL 201** **F,S**  
**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 practically fulfill Humanities general education requirements.

**PHIL 202** **F,S**  
**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 college level)

## PHYSICAL EDUCATION

The following are physical education activity courses.

**PE 103** **Upon Request**  
**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)

**PE 104** **Upon Request**  
**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) (Course location varies)

**PE 105** **F,S**  
**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.

**PE 110** **Upon Request**  
**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)

**PE 111** *Lifetime Activities (0-2)* **Upon Request**  
**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. A course fee may apply.

**PE 113** *Lifetime Fitness and Wellness (1-1)* **F,S**  
**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. A course fee may apply.

**PE 114** *Badminton and Table Tennis (0-2)* **Upon Request**  
**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.

**PE 117** *Walking for Fitness (0-2)* **Upon Request**  
**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. (Course location varies)

**PE 121/122** *Strength Training for Athletes (0-2)* **F,S**  
**1 Credit**  
 This course is designed to assist participating varsity athletes in maintaining and improving their general physical conditioning. The class emphasizes muscular strength and endurance training through conditioning exercises and body mechanics. (Prerequisite: Must be a freshman varsity athlete at Crowder)

**PE 144** *Introduction to Tae Kwon Do (0-2)* **F,S**  
**1 Credit**  
 This course is the introduction to the history, discipline, skills and training involved in the study and practice of Tae Kwon Do.

**PE 145** *Beginning Tae Kwon Do (0-2)* **F,S**  
**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)

**PE 204** *Advanced Rhythmic Aerobics (0-2)* **Upon Request**  
**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) (Course location varies)

**PE 205** *Advanced Weight Training (0-2)* **F,S**  
**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)

**PE 221/222** *Strength Training for Athletes (1-0)* **F, S**  
**1 Credits**  
 This course is designed to assist participating varsity athletes in maintaining and improving their general physical conditioning. The class emphasizes muscular strength and endurance training through conditioning exercises and body mechanics. (Prerequisite: Must be

on a sophomore varsity athlete at Crowder)

**PE 244** *Intermediate Tae Kwon Do (0-2)* **F,S**  
**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)

**PE 245** *Advanced Tae Kwon Do (0-2)* **F,S**  
**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)

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The following are physical education lecture courses.

**PE 115** *First Aid (2-0)* **F**  
**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.

**PE 120** *Introduction to Health, Physical Education & Recreation (2-0)* **F**  
**2 Credits**  
 This course is to acquaint students with the principles, objectives, methods, subject matter and career materials in Physical Education.

**PE 125** *Athletic Training (2-0)* **S**  
**2 Credits**  
 Instruction is given in the prevention and care of athletic injuries, including taping, exercise and other training techniques.

**PE 142** *Personal and Community Health (3-0)* **F,S**  
**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.

**PE 150** *Psychological Aspects of Physical Activity and Sports (2-0)* **F**  
**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.

**PE 160** *Coaching Methods I (Basketball) (2-0)* **Upon Request**  
**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.

**PE 206, 207** *Physical Education for Athletes (Men)* **F,S**  
**1 Credit**  
 This class is designed for varsity participation and preparation in soccer. This class is for sophomores only. PE 206 must be taken in the fall semester followed by PE 207 in the spring semester.

**PE 260** *Coaching Methods II (Baseball/Softball) (2-0)* **S**  
**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.

**PE 197****Topics in Physical Education**

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****1 Credit**

## PHYSICS AND PHYSICAL SCIENCE

**PHYS 101****Survey of Physical Science (3-2)**

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.

**F,S,SU****4 Credits****PHYS 105****Descriptive Astronomy**

This is an introductory lecture course in astronomy. Topics include the history of Astronomy, the Moon, the Sun, the Solar System, Gravity and planetary motion, stellar evolution, neutron stars, black holes, galaxies and the evolution of the Universe. The course satisfies part of the general education science requirements for the Associate in Arts degree.

**F,S****3 Credits****PHYS 190****General Physics I (4-2)**

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)

**S****5 Credits****PHYS 210****General Physics II (4-2)**

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 MATH 160)

**F****5 Credits****PHYS 250****Statics (3-0)**

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)

**S****3 Credits****PHYS 271, 272, 273****Topics in Physics**

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. (Prerequisite: Permission of department)

**1-3 Credits**

## POLITICAL SCIENCE

**PLSC 103****National, State, Local Government (3-0)**

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. Students successfully completing this course fulfill the Civics requirement in constitutional study within the Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level)

**F,S,SU****3 Credits****PLSC 104****National, State, Local Government Honors (3-0)**

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. Students successfully completing this course fulfill the Civics requirement in constitutional study within the Social and Behavioral Science general education requirements. (Prerequisite: admission to Honors Program or consent of the instructor and reading at the college level)

**F****3 Credits****PLSC 111, 112, 113****Topics in Political Science (1-3)**

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 college level)

**Upon Request****1-3 Credits**

## PRESCHOOL TEACHER/ PARAPROFESSIONAL

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

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 college level)

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

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 college level. Successfully complete first aid and CPR certification for adult, child and infant by the end of the semester)

**F****3 Credits****ECD 201****Curriculum for Early Childhood Programs (3-0)**

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 college level; ECD 101 and ECD 103 or current CDA)

**S****3 Credits****ECD 203****Early Childhood Practicum (2-0)**

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 college level and provide a current copy of the criminal background check. Concurrent enrollment in ECD 201 is expected)

**S****2 Credits**

## PSYCHOLOGY

**PSYC 101****General Psychology (3-0)**

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

**F,S,SU****3 Credits**

education requirements.

**PSYC 110** **F**  
**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 college level)

**PSYC 203** **F,S**  
**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** **F**  
**Applied Behavior Analysis for Educators (3-0)** **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 211** **F,S**  
**Lifespan Development (3-0)** **3 Credits**  
This is a study of human development across the lifespan. From conception to death, this course will examine physical, cognitive, and socioemotional changes along developmental milestones. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: PSYC 101)

**PSYC 290** **S**  
**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.

#### **Educational Psychology**

(See EDUC 231)

## **SOCIAL WORK**

**SWK 200** **F,S**  
**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 college level)

**SWK 221** **S**  
**Basic Helping Skills (3-0)** **3 Credits**  
This course combines the theories of social work practice with social work practice skills using common models and theoretical frameworks. It presents and provides structured practice of fundamental interpersonal skills required for effective social work practice. This class teaches interviewing skills and critical thinking about the interview processes beginning with intake and ending with termination and evaluation. The models, theories, and processes learned in this course serve as the foundation for generalist practice

with individuals, families, groups, and communities. Students will also be required to volunteer at different service agencies for a specific amount of service hours to complete the course.

**SWK 230** **F**  
**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** **F,S,SU**  
**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.

## **SPEECH**

**COMM 104** **F,S,SU**  
**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. Communications 104 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)

**SPCH 121, 122, 123, 124**  
**Competitive Speech** **1 Credit**  
Designed for students interested in improving communicative and public speaking skills through the practical application of competitive speech and debate. This class covers speech research, preparation, outlining, and delivery. Provides students with practical experience in both practice rounds and intercollegiate competitions.

**SPCH 193**  
**Topics (3-0)** **3 Credits**  
Variable content, appropriate to student needs, is included in this elective course. Lectures and/or studio projects in the fields of speech and debate may be used. (Consult the registration schedule for specific topics when class is offered)

## **THEATRE**

*Note: Only four hours of Theatre Practicum (Performance or Technical, not four hours of each) may be applied toward graduation.*

**TA 105** **F**  
**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.

**TA 106, 107, 206, 207** **F,S,SU**  
**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)



**TA 108** **F**  
**Playwriting (3-0)** **3 Credits**  
 This course is designed to introduce students to the fundamentals of script writing for stage and screen. Participants in this class will learn to properly compose and format scripts, while also exploring the freedom of creative expression through writing. Throughout the semester we will explore the three act structure, read various literary works and apply technique through various written and performance projects.

**TA 112** **S**  
**Directing I (3-0)** **3 Credits**  
 This course is designed to introduce students to the fundamentals of directing. Participants in this class will learn how to execute the art and responsibilities of directing; from casting to strike. This course will provide students with a hands-on approach to directing, while also encouraging them to engage in play analysis, critical thinking and creative application.

**TA 115** **S**  
**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.

**TA 116, 117, 216, 217** **F,S,SU**  
**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)

**TA 125, 225** **SU**  
**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.

**TA 180** **F**  
**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.

**TA 205** **F,S,SU**  
**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.

**TA 208** **S**  
**Scenework (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 both on stage and in life. 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. (Prerequisite: TA 205 or Instructor approval)

**TA 150, 151, 152, 250, 251, 252** **SDL, Upon Request**  
**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** **13 Credits**  
**Transport Training (13-0)**  
 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** **F,S**  
**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. (Taking BIOL 101 or BIOL 110 prior to or at the same time as taking this course is recommended.)

**VETC 110** **F**  
**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** **S**  
**Veterinary Hospital Technology I (1.5-3)** **3 Credits**  
 As an introduction to anesthetics and surgical assisting, the course includes 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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 130** **S**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 140** **F**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 180** **F**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 220** **F**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 230** **S**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 250** **S**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 263** **S**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 270** **S**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 280** **F**  
**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. A course fee will apply. (Prerequisite: Admittance to the Veterinary Technology program)

**VETC 284** **SU**  
**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** **S**  
**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** **F,S**  
**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** **F,S**  
**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. A course fee will apply.

**WELD 117** **F**  
**Welding Blueprint Reading (2-1)** **2 Credits**  
 This course is the basic blue printing interpretation including the principles of reading, engineering drawings, and symbol used to understand prints in sufficient detail to give students the working knowledge of the subject. Instruction is based on a combination of traditional lecture/classroom exercises coupled with hands-on shop activities. A course fee will apply.

**WELD 124** **S**  
**Fabrication Methods I (2-1)** **2 Credits**  
 This course instructs students on fabrication techniques as they relate to product manufacturing, maintenance and repair. Students will learn how to use basic shop tools and shop equipment efficiently and safely. A course fee will apply.

**WELD 135** **F**  
**Basic Metallurgy (2-1)** **2 Credits**  
 This course will study the basic fundamentals of metallurgy. We will discuss the behavior of metals and how they relate to the field of welding. Topics include identification, classification and properties of ferrous metals, nonferrous metals, alloys, heat treatment, destructive and non-destructive tests, cast iron and plastics. A course fee will apply.

**WELD 140** **S**  
**Fabrication Methods II (2-1)** **2 Credits**  
 This is an advanced course for students to learn fabrication techniques as they relate to product manufacturing, maintenance and repair. Students will learn how to use advanced shop tools and shop equipment efficiently and safely. Notes and handouts from instructor will be handed out along with production prints for making class projects. A course fee will apply. (Prerequisite: WELD 124)

**WELD 145** **F,S**  
**Gas Metal Arc Welding-GMAW (1-3)** **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. A course fee will apply. (Prerequisite: WELD 113 or Permission of Instructor)

**WELD 150** **F,S**  
**Gas Tungsten Arc Welding-GTAW (1-3)** **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. A course fee will apply. (Prerequisite: WELD 113 or Permission of Instructor)

**WELD 151** **F**  
**Welding Theory I (2-1)** **2 Credits**  
 This theory course introduces the processes of, Gas Tungsten ARC Welding (GTAW), Shielded Metal ARC Welding (SMAW), Gas Metal ARC Welding (GMAW), and Oxy-Fuel Cutting (OFC). Safety for students such as Personal Protection Equipment (PPE) and safe welding practices in the welding shop emphasized. Welding and cutting equipment, selection of welding supplies and Materials that are used in industry are introduced. A course fee will apply. (Co-requisites: WELD 153)

**WELD 152** **F**  
**Welding Theory II (2-1)** **2 Credits**  
 This theory course focuses on advanced lessons in Gas Metal Arc Welding, Gas Tungsten Arc Welding, Shielded Metal Arc Welding, and Oxy-Fuel Cutting. Flux Core Arc Welding and Plasma Arc Cutting are also introduced. The course will also study welding symbols, drawings, nonferrous welding applications, welding codes, specifications and tests with special emphasis on The American Welding Society (AWS) welder qualifications. A course fee will apply. (Prerequisite: WELD 151; Co-requisites: WELD 154)

**WELD 153** **F**  
**Fillet Plate Lab (0-10)** **5 Credits**  
 This course gives beginning instructions in laboratory safety, use of Personal Protection Equipment (PPE), with a strong emphasis on the safe handling of welding and cutting equipment. Basic hands-on instruction in Gas Tungsten Arc Welding (GTAW), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Oxy-Fuel Cutting (OFC) on various thicknesses of metal, and the techniques used. Also covered are welding supplies and equipment maintenance. A course fee will apply. (Co-requisites: WELD 151)

**WELD 154** **F**  
**Groove Plate Lab (0-10)** **5 Credits**  
 Instruction will consist of perfecting skilled welding on plate steel in all positions using Shield Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), Flux-Core Arc Welding (FCAW) and Carbon Arc Cutting-Air (CAC-A). Students will practice and weld plates in accordance to The American Welding Society (AWS) certification guidelines. This course will also have planned industry Field trips, Welding Competitions State and local, and Career Fairs when scheduled. A course fee will apply. (Prerequisite: WELD 153; Co-requisites: WELD 152)

**WELD 155** **F,S**  
**Shielded Metal Arc Welding-SMAW (1-3)** **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. A course fee will apply. (Prerequisite: WELD 113 or Permission of Instructor)

**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. A course fee may apply. (Prerequisite: Permission of instructor)

**WELD 201** **S**  
**Welding Theory III (2-1)** **2 Credits**  
 This course will provide the student with technical understanding in advanced welding theory which includes the study of electricity for the different welding and cutting processes. It will provide the student with a theoretical understanding of welding and cutting processes when using mechanical and computer controlled (CNC) equipment. It will also provide the student with theory for writing Numerical Control (NC) programming. The course will also provide the student with theory on metallurgy pertaining to welding and cutting. A student portfolio will be designed. A course fee will apply. (Prerequisite: WELD 152; Co-requisites: WELD 211)

**WELD 202** **S**  
**Welding Theory IV (2-0)** **2 Credits**  
 This course provides theory to develop welding skills necessary to make certified welds according to the American Welding Society (AWS), American Society of Mechanical Engineers (ASME), or American Petroleum Institute (API) Codes. Weld-ability of ferrous and non-ferrous metals, metal identification, nondestructive and destructive testing, industrial safety, and OSHA regulations will be covered. This course will also provide the student with a technical understanding of weld procedures and the advanced operation of welding equipment including robotic applications. The student will learn various advanced welding certification and inspection applications which include what it takes to become a Certified Welding Inspector and a CWI's inspection duties. A course fee will apply. (Prerequisites: WELD 201; Co-requisites: WELD 213/216)

**WELD 211** **S**  
**Pipe Groove Lab (0-14)** **7 Credits**  
 This course provides the student an opportunity to learn various advanced welding applications which include Gas Metal Arc Welding (GMAW), and Shielded Metal Arc Welding (SMAW) and Gas Tungsten Arc Welding (GTAW). The student will also learn a technical understanding of machine control cutting and robotic welding operations which include Numerical Control (NC) programming and teach pendant control. This course will also provide the student with a technical understanding of tacking and welding techniques for completing projects to reflect industry standards. A course fee will apply. (Prerequisites: WELD 154; Co-requisites: WELD 201)

**WELD 213** **S**  
**Advanced Pipe Groove Lab (0-8)** **4 Credits**  
 This course provides the student an opportunity to learn various advanced welding applications which include Gas Metal Arc Welding-Pulse (GMAW-P), Flux Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW) and Shielded Metal Arc Welding (SMAW). The student will also learn a technical understanding of advanced cutting operations including Numerical Control (NC) programming. The student will also learn advanced CNC and robotic controls to correctly operate fabrication equipment. This course will also provide the student with a technical understanding of calculating material and use of proper procedures for the completion of projects manufactured in the lab. A course fee will apply. (Prerequisites: WELD 211; Co-requisites: WELD 124 and WELD 140)

**WELD 216** **S**  
**Pipe and Plate Fabrication Lab (0-8)** **4 Credits**  
 This course provides the student an opportunity to learn various advanced welding applications for pipe welding which include SMAW, GTAW and GMAW. The student will also learn codes and certifications from various national welding standards including an unlimited thickness certification. This course will also provide the student with a technical understanding of calculating material and use of proper procedures for the completion of pipe weldments. A course fee will apply. (Prerequisites: WELD 211; Co-requisites: WELD 202)



## CERTIFICATE TO AAS

### Advanced Manufacturing Technology: Programmable Logic Controller (PLC) Technician Certificate

### Advanced Manufacturing Technology: Automation/Robotics Technician Certificate

### Advanced Manufacturing Technology: Automation/Robotics Option AAS

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.

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.

This certificate prepares students to enter a career in industrial technology with a basic skill set that will provide entry level knowledge of basic electricity, motor controls, and programmable logic controllers (PLC). The PLC classes will provide general and advanced training in programmable logic controllers as they are used in industry to manage multiple automated processes.

#### Program of Study

<b>PLC Certificate Courses</b>			<b>16 hours</b>
AMT	102	Introduction to Industrial Electricity (3)	
AMT	104*	Electrical Motor Controls (3)	
AMT	111	Introduction to Industrial Safety (1)	
AMT	142*	Manufacturing Mechanics (3)	
AMT	204*	Programmable Logic Controllers I (3)	
AMT	206*	Programmable Logic Controllers II (3)	
<b>Auto/Robotics Certificate Courses</b>			<b>13 hours</b>
AMT	132	Industrial Hydraulics (3)	
AMT	182*	Introduction to Automated Robotics (3)	
AMT	284*	Automated Robotic Programming (3)	
CNS	101	Introduction to Electronics (3)	
COLL	101	College Orientation (1)	
<b>Auto/Robotics Mathematics</b>			<b>3 hours</b>
MATH	104*	(3)	
MATH	135*	(3)	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*	(3)	
ENGL	102*	(3)	
ENGL	203*	(3)	
<b>Oral Communications (3 hours)</b>			
COMM	104*	(3)	
<b>Civics</b>			<b>3 hours</b>
HIST	106*, 107*	(3)	
PLSC	103*	(3)	
<b>Support Courses</b>			<b>10-11 hours</b>
BSAD	103	(2)	
BSAD	115	(3) – OR – BSAD 125	
DRFT	101	(3)	
WELD	113	(3) – OR – WELD 151*	
<b>Advanced Manufacturing Courses</b>			<b>3 hours</b>
AMT	290*	Manufacturing Internship (3)	
<b>Automation/Robotics Courses</b>			<b>3 hours</b>
CNS	115	Cisco Networking I (3)	

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
AMT	102	Intro to Industrial Electricity	3
AMT	104	Electrical Motor Control	3
AMT	111	Introduction to Industrial Safety	1
AMT	142	Manufacturing Mechanics	3
AMT	204	Programmable Logic Controllers I	3
AMT	206	Programmable Logic Controllers II	3
COLL	101	College Orientation	1
<b>TOTAL</b>			<b>17</b>

<b>Spring Semester</b>			<b>Hours</b>
AMT	132	Industrial Hydraulics	3
AMT	182	Intro to Automated Robotics	3
AMT	284	Automated Robotic Programming	3
CNS	101	Intro to Electronics	3
Approved Mathematics Course			3
<b>TOTAL</b>			<b>15</b>

Graduate with PLC Certificate  
Graduate with Automation/Robotics Certificate

##### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
BSAD	115	Comp Apps – OR – BSAD 125	3
CNS	115	Cisco Networking I	3
COMM	104	Fundamentals of Speech	3
WELD	113	Introduction to Welding	3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>15</b>

<b>Spring Semester</b>			<b>Hours</b>
AMT	290	AMT Internship	3
BSAD	103	Professional Development	2
DRFT	101	Intro to Engineering Drawing	3
Approved Civics Course			3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>14</b>

Graduate with AAS

Total PLC CERTIFICATE Hours Required	16
Additional Hours Needed for AAS	13
Total A/R CERTIFICATE Hours Required	28
Additional Hours Needed for AAS	33
Total AAS Hours Required	61

Courses for Certificate	
Additional Courses for AAS Degree	

**CERTIFICATE****Programmable Logic Controller (PLC) Technician**

Students must earn 16 hours for this certificate.			Done	Curr	To do				
Major Courses			16 hours						
AMT	102	Introduction to Industrial Electricity (3)							
AMT	104	Electrical Motor Controls* (3)							
AMT	111	Introduction to Industrial Safety (1)							
AMT	142	Manufacturing Mechanics (3)							
AMT	204	Programmable Controllers I* (3)							
AMT	206	Programmable Controllers II* (3)							

**CERTIFICATE****Automation/Robotics Technician**

Students must complete 28 hours for the Automation/Robotics Technician certificate.

			Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>		
COLL	101	College Orientation			
<b>Mathematics</b>			<b>3 hours</b>		
MATH	104	Technical Mathematics* (3)			
MATH	135	Algebra for Calculus* (3)			
<b>Major courses</b>			<b>24 hours</b>		
AMT	102	Intro to Industrial Electricity (3)			
AMT	104	Electrical Motor Controls* (3)			
AMT	132	Industrial Hydraulics (3)			
AMT	182	Intro to Automated Robotics* (3)			
AMT	204	Programmable Controllers* (3)			
AMT	206	Programmable Controllers II* (3)			
AMT	284	Automated Robotic Programming* (3)			
CNS	101	Introduction to Electronics (3)			

**ASSOCIATE OF APPLIED SCIENCE DEGREE****Advanced Manufacturing Technology:  
Automation/Robotics Option**

			Done	Curr	To do			
<b>Orientation</b>			<b>1 hour</b>					
COLL	101		_____	_____	_____			
<b>Communications</b>			<b>9 hours</b>					
<b>Written Communications (6 hours)</b>								
ENGL	101*		_____	_____	_____	ENGL	203*	
ENGL	102*, 104*		_____	_____	_____			
<b>Oral Communications (3 hours)</b>								
COMM	104*		_____	_____	_____			
<b>Mathematics</b>			<b>3 hours</b>					
MATH	135*		_____	_____	_____	MATH	104*	
<b>Civics</b>			<b>3 hours</b>					
HIST	106*		_____	_____	_____	PLSC	103*, 104*	
HIST	107*		_____	_____	_____			
<b>Advanced Manufacturing Core</b>			<b>19 hours</b>					
AMT	102	Intro to Industrial Electricity* (3)	_____	_____	_____			
AMT	104	Electrical Motor Controls* (3)	_____	_____	_____	AMT	142	Mech Power Transmission* (3)
AMT	111	Intro to Industrial Safety (1)	_____	_____	_____	AMT	204	Programmable Controllers* (3)
AMT	132	Industrial Hydraulics* (3)	_____	_____	_____	AMT	290	Manufacturing Internship* (3)
<b>Support Courses</b>			<b>10-11 hours</b>					
BSAD	103	Professional Development (2)	_____	_____	_____			
BSAD	115	Computer Concepts (3)	_____	_____	_____	<b>OR</b>	BSAD 125	Computer Apps (3)
DRFT	101	Intro to Engineering Drwg (3)	_____	_____	_____			
WELD	113	Intro to Welding* (3)	_____	_____	_____	<b>OR</b>	WELD 151	Welding Theory I* (2)
<b>Automation/Robotics</b>			<b>15 hours</b>					
AMT	182	Intro to Automated Robotics* (3)	_____	_____	_____			
AMT	206	Programmable Controllers II* (3)	_____	_____	_____			
AMT	284	Auto Robotic Programming* (3)	_____	_____	_____			
CNS	101	Introduction to Electronics (3)	_____	_____	_____			
CNS	115	Cisco Networking I (3)	_____	_____	_____			

\*Prerequisite course(s) or minimum test scores required. See catalog course descriptions for details.

## CERTIFICATE TO AAS

### Advanced Manufacturing Technology: Industrial Maintenance Technician Certificate

### Advanced Manufacturing Technology: Manufacturing Maintenance Option AAS

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.

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.

#### Program of Study

Certificate Technical Courses			11 hours
AMT	102	Introduction to Industrial Electricity (3)	
AMT	104*	Electrical Motor Control (3)	
AMT	111	Introduction to Industrial Safety (1)	
AMT	204*	Programmable Logic Controllers I (3)	
COLL	101	College Orientation (1)	
Certificate Support Courses			8-9 hours
BSAD	115	Computer Concepts (3) – OR – BSAD 125	
DRFT	101	Introduction to Engineering Drawing (3)	
WELD	113	Introduction to Welding (3) – OR – WELD 151*	
Approved Certificate Electives			6 hours
Certificate Electives Required for AAS			(15 for AAS)
AMT	122	Basic Machining (Manual) (3) [Required for AAS]	
AMT	132*	Industrial Hydraulics (3) [Required for AAS]	
AMT	142*	Mech Power Trans (3) [Required for AAS]	
CONS	131	Plumbing (3) [Required for AAS]	
CONS	155*	Basic HVAC (3) [Required for AAS]	
Certificate Electives that are AAS Electives			
AMT	206*	Programmable Logic Controllers II (3)	
WELD	145*	GMAW Welding (3) – OR – WELD 152*	
WELD	150*	GTAW Welding (3) – OR – WELD 153*	
WELD	155*	SMAW Welding (3) – OR – WELD 154*	
Communications			9 hours
Written Communications (6 hours)			
ENGL	101*	(3)	ENGL 102* (3)
ENGL	203*	(3)	
Oral Communications (3 hours)			
COMM	104*	(3)	
Mathematics			3 hours
MATH	104*	(3)	MATH 135* (3)
Civics			3 hours
PLSC	103*	(3)	HIST 106*, 107* (3)
Support Courses			2 hours
BSAD	103	(2)	
Advanced Manufacturing Courses			3 hours
AMT	290*	Manufacturing Internship (3)	
Manufacturing Maintenance Courses			6 hours
See additional elective options in certificate electives			
AMT	162*	Industrial Process Control I (3)	
DEPT	XXX	Any Technology or Business Div Course (3)	

#### Suggested Plan of Study

Fall Semester				Hours
AMT	102	Intro to Industrial Electricity		3
AMT	104	Electrical Motor Control		3
AMT	111	Intro to Industrial Safety		1
AMT	142	Manufacturing Mechanics		3
AMT	204	Programmable Logic Controllers		3
AMT	206	Programmable Logic Controllers II		3
COLL	101	College Orientation		1
TOTAL				17

Spring Semester				Hours
AMT	122	Basic Machining (Manual)		3
BSAD	115	Comp Concepts – OR – BSAD 125		3
CNS	101	Introduction to Electronics		3
DRFT	101	Intro to Engineering Drawing		3
WELD	113	Introduction to Welding		3
TOTAL				15

#### Graduate with Industrial Maintenance Tech Certificate

#### SECOND YEAR

SECOND YEAR				Hours
Fall Semester				
AMT	132	Industrial Hydraulics		3
COMM	104	Fundamentals of Speech		3
CONS	131	Plumbing (Fall only)		3
ENGL	101	English Composition		3
MATH	135	Algebra for Calculus		3
TOTAL				15

<b>Spring Semester</b>			<b>Hours</b>
AMT	290	AMT Internship	3
CNS	105	Technical Career Development	1
CNS	106	Technical Career Development II	1
CONS	155	Basic HVAC (Heating, Vent, AC)	3
ENGL	102	English Composition II	3
HIST	106	American History or PLSC 103	3
<b>TOTAL</b>			<b>14</b>

#### Graduate with AMT: Manufacturing Maintenance AAS

<b>Total CERTIFICATE Hours Required</b>	<b>32</b>
<b>Additional Hours Needed for AAS</b>	<b>29</b>
<b>Total AAS Hours Required</b>	<b>61</b>

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



## CERTIFICATE

### Industrial Maintenance Technician

Students must complete 26 hours for this certificate.

			Done	Curr	To do			Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>							
	COLL	101 College Orientation								
<b>Major Courses</b>			<b>10 hours</b>							
	AMT	102 Introduction to Industrial Electricity (3)				AMT	111 Intro to Indust Safety (1)			
	AMT	104 Electrical Motor Controls* (3)				AMT	204 Prgrmble Controllers I* (3)			
<b>Support Courses</b>			<b>9 hours</b>							
	BSAD	115 Computer Concepts (3) - OR -				BSAD	125 Computer Apps (3)			
	DRFT	101 Introduction to Engineering Draw ing (3)								
	WELD	113 Introduction to Welding (3) - OR -				WELD	151 Welding Theory I* (2)			
<b>Approved Electives</b>			<b>6 hours</b>							
	AMT	122 Basic Machining (Manual) (3)								
	AMT	132 Industrial Hydraulics* (3)								
	AMT	142 Mechanical Pow er Transmission* (3)								
	AMT	206 Programmable Controllers II* (3)								
	CONS	131 Plumbing (3)								
	CONS	155 Basic HVAC* (3)								
	WELD	145 GMAW Welding* (3)				OR	WELD 152* (2)			
	WELD	150 GTAW Welding* (3)				OR	WELD 153* (5)			
	WELD	155 SMAW Welding* (3)				OR	WELD 154* (5)			



## ASSOCIATE OF APPLIED SCIENCE DEGREE

### Advanced Manufacturing: Manufacturing Maintenance Option

			Done	Curr	To do			Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>							
	COLL	101								
<b>Communications</b>			<b>9 hours</b>							
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>				
	ENGL	101*				COMM	104*			
	ENGL	102*, 104*								
	ENGL	203*								
<b>Mathematics</b>			<b>3 hours</b>							
	MATH	135*				MATH	104*			
<b>Civics</b>			<b>3 hours</b>							
	HIST	106*				PLSC	103*, 104*			
	HIST	107*								
<b>Advanced Manufacturing Core</b>			<b>19 hours</b>							
	AMT	102 Intro to Industrial Electricity* (3)				AMT	142 Manufacturing Mechanics* (3)			
	AMT	104 Electrical Motor Controls* (3)				AMT	204 Programmable Controllers* (3)			
	AMT	111 Intro to Industrial Safety (1)				AMT	290 Manufacturing Internship* (3)			
	AMT	132 Industrial Hydraulics* (3)								
<b>Support Courses</b>			<b>10 hours</b>							
	BSAD	103 Professional Development (2)				OR	BSAD 125			
	BSAD	115 Computer Concepts (3)								
	DRFT	101 Intro to Engineering Drwg (3)				OR	WELD 151 Welding Theory I* (2)			
	WELD	113 Intro to Welding* (3)								
<b>Maintenance Manufacturing Courses</b>			<b>15 hours</b>							
<b>Required Courses (9 hours)</b>										
	AMT	122 Basic Machining* (3)				CONS	155 Basic HVAC* (3)			
	CONS	131 Plumbing (3)								
<b>Specialty Electives (6 hours)</b>										
	AMT	162 Ind Process Control* (3)				WELD	145* GMAW (3) –OR– WELD 152*			
	AMT	206 Progrm Controllers II* (3)				WELD	150* GTAW (3) – OR – WELD 153*			
	CNS	101 Intro to Electronics (3)				WELD	155* SMAW (3) – OR – WELD 154*			
	CNS	115 Intro to Networking (3)				DEPT	XXX Any Technology or Business (3)			

\*Prerequisite course(s) or minimum test scores required. See catalog course descriptions for details.

## CERTIFICATE

### Advanced Manufacturing Technology: Machining Certificate

This certificate prepares students to enter a career in industrial maintenance with a skill set that will provide entry level knowledge of basic Machining including Manual and Computer Numeric Control (CNC) Programming. This program will cover the CNC process including operator panel, HMI panel, program structure, Milling, and Turning. Students will receive hands-on training on all related tools and equipment.

#### Program of Study

<b>Certificate Courses</b>	<b>15 hours</b>
AMT 122 Basic Machining (Manual) (3)	
AMT 123 Measurement and Print Reading (3)	
AMT 124 CNC Programming ( 3)	
AMT 125 CNC Milling (3)	
AMT 126 CNC Turning (3)	

#### Suggested Plan of Study

<b>FIRST YEAR</b>		
<b>Fall Semester</b>		<b>Hours</b>
AMT 122	Basic Machining (Manual)	3
AMT 123	Measurement and Print Reading	3
AMT 124	CNC Programming	3
AMT 125	CNC Milling	3
AMT 126	CNC Turning	3
<b>TOTAL</b>		<b>15</b>
<b>Total Hours Required</b>		<b>15</b>





# **CERTIFICATE** **AMT: Machining**

General Education Core			Done	Curr	To do		Done	Curr	To do
<b>Required Courses</b>		<b>15 hours</b>							
	AMT	122 Basic Machining (Manual) (3)							
	AMT	123 Measurement & Print Read (3)							
	AMT	124 CNC Programming (3)							
	AMT	125 CNC Milling (3)							
	AMT	126 CNC Turning (3)							

## ASSOCIATE OF APPLIED SCIENCE DEGREE

### Agri-Business Technology: Agronomy Option AAS

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.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*		
<b>Civics</b>		<b>3 hours</b>	
HIST	106*, 107*		
PLSC	103*		
<b>Agri-Business Core</b>		<b>27 – 29 hours</b>	
AGEC	123*		
AGEC	213*		
AGEC	223		
AGMC	205		
AGRI	202		
AGRI	212 & 222	<b>OR</b>	AGRI 204
AGRN	113		
AGRN	214*		
ANSC	114		
<b>Agri-Business Agronomy</b>		<b>18 hours</b>	
AGRI	123		ANSC 213
AGRI	223	<b>OR</b>	AGRI 190*
AGRN	223*		HORT 113
AGRN	243*		

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGEC 223 Ag Computer App	3
AGRI 111 Ag Career Orientation	1
AGRN 113 Crop Science	3
MATH 125 Quantitative Reasoning	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>13</b>

<b>Spring Semester</b>	<b>Hours</b>
AGRI 123 Ag Chemicals	3
AGRN 243 Forage Crops (Even yrs)	3
ANSC 114 Animal Science	4
COMM 104 Fundamentals of Speech	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

##### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGEC 213 Farm Business Mgmt (Fall Only)	3
AGMC 205 Ag Mechanics	3
AGRN 214 Fundamentals of Soil Science	4
AGRN 223 Grain Crops (Even yrs)	3
Approved Civics Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AGEC 123 Principles of Ag Econ	3
AGRI 202 Ag Capstone	2
AGRI 212 & AGRI 222 – OR – AGRI 204	4
AGRI 223 – OR – AGRI 190	3
ANSC 213 Feed & Nutrition	3
HORT 113 Greenhouse Management	3
<b>TOTAL</b>	<b>18</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite requirement

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF APPLIED SCIENCE DEGREE AGRI-BUSINESS TECHNOLOGY: Agronomy Option

				Done	Curr	To do				
<b>Orientation</b> <span style="float: right;"><b>1 hour</b></span>										
AGRI	111						COLL	101		
<b>Communications</b> <span style="float: right;"><b>9 hours</b></span>										
<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>			
ENGL	101*						COMM	104*		
ENGL	102*, 104*									
ENGL	203*									
<b>Mathematics</b> <span style="float: right;"><b>3 hours</b></span>										
MATH	125* (3)									
<b>Civics</b> <span style="float: right;"><b>3 hours</b></span>										
HIST	106*(3)						PLSC	103*, 104* (3)		
HIST	107* (3)									
<b>Agri-Business Core</b> <span style="float: right;"><b>27 - 29 hours</b></span>										
AGEC	123 Prin of Ag Econ* (3)						AGRN	113 Crop Science (3)		
AGEC	213 Farm Business Mgmt* (3)						AGRN	214* Soil Science (4)		
AGEC	223 Ag Comp Apps (3)						ANSC	114 Animal Science (4)		
AGMC	205 Ag Mechanics (3)									
AGRI	202 Ag Capstone (2)									
AGRI	212 & 222 SOE (2)						<b>OR</b>	AGRI 204 Internship (4)		
<b>Agri-Business Agronomy Option</b> <span style="float: right;"><b>18 hours</b></span>										
AGRI	123 Ag Chemicals (3)									
AGRI	223 Public Relations in Agri-Bs (3)									
AGRN	223 Grain Crops* (3)									
AGRN	243 Forage Crops* (3)									
ANSC	213 Feeds & Nutrition (3)						<b>OR</b>	AGRI 190* World Foods (3)		
HORT	113 Greenhouse Management (3)									

## ASSOCIATE OF APPLIED SCIENCE DEGREE

### Agri-Business Technology: Livestock Production Option AAS

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.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*		
<b>Civics</b>		<b>3 hours</b>	
HIST	106*, 107*		
PLSC	103*		
<b>Agri-Business Core</b>		<b>27 – 29 hours</b>	
AGEC	123*		
AGEC	213*		
AGEC	223		
AGMC	205		
AGRI	202		
AGRI	212 & 222	<b>OR</b>	AGRI 204
AGRN	113		
AGRN	214*		
ANSC	114		
<b>Livestock Option</b>		<b>18 hours</b>	
AGRN	243*	ANSC	213
AGMC	205	ANSC	232*
ANSC	153*	ANSC	233
ANSC	203		

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGMC 205 Ag Mechanics	3
AGRI 111 Ag Career Orientation	1
ANSC 114 Animal Science	4
MATH 125 Quantitative Reasoning	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
AGEC 123 Principles of Ag Economics	3
AGEC 223 Agriculture Computer App.	3
AGRN 113 Crop Science	3
ANSC 233 Horse Science	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>15</b>

##### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGEC 213 Farm Business Management	3
AGRN 214 Fundamentals of Soil Science	4
ANSC 203 Meat Science	3
ANSC 232 Artificial Insemination	3
COMM 104 Fundamentals of Speech	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AGRI 202 Ag Capstone	2
AGRI 212 & AGRI 222 – OR – AGRI 204	2-4
AGRN 243 Forage Crops	3
ANSC 153 Beef Cattle Production	3
ANSC 213 Feeds & Nutrition	3
Approved Civics Course	3
<b>TOTAL</b>	<b>16-18</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite requirement

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF APPLIED SCIENCE DEGREE

## AGRI-BUSINESS TECHNOLOGY: Livestock Production Option

				Done	Curr	To do				
<b>Orientation</b>				<b>1 hour</b>						
AGRI	111 (Recommended)						COLL	101		
<b>Communications</b>				<b>9 hours</b>						
<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>			
ENGL	101*						COMM	104*		
ENGL	102*, 104*									
ENGL	203*									
<b>Mathematics</b>				<b>3 hours</b>						
MATH	125*									
<b>Civics</b>				<b>3 hours</b>						
HIST	106*						PLSC	103*, 104*		
HIST	107*									
<b>Agri-Business Core</b>				<b>27-29 hours</b>						
AGEC	123 Prin of Ag Econ* (3)						AGRN	113 Crop Science (3)		
AGEC	213 Farm Business Mgmt* (3)						AGRN	214 Soil Science* (4)		
AGEC	223 Ag Comp Apps (3)						ANSC	114 Animal Science (4)		
AGMC	205 Ag Mechanics (3)									
AGRI	202 Ag Capstone (2)									
AGRI	212 & 222 SOE (2)						<b>OR</b>	AGRI 204 Internship* (4)		
<b>Agri-Business Livestock Option</b>				<b>18 hours</b>						
AGRN	243 Forage Crops* (3)									
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)									



## ASSOCIATE OF APPLIED SCIENCE DEGREE

### Agri-Business Technology: Marketing and Management Option AAS

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.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*		
<b>Civics</b>		<b>3 hours</b>	
HIST	106*, 107*		
PLSC	103*		
<b>Agri-Business Core</b>		<b>27 – 29 hours</b>	
AGEC	123*		
AGEC	213*		
AGEC	223		
AGMC	205		
AGRI	202		
AGRI	212 & 222*	OR AGRI	204*
AGRN	113		
AGRN	214*		
ANSC	114		
<b>Marketing &amp; Management</b>		<b>Select 18 hours</b>	
AGRI	190*	BMGT	223
AGRI	223	BMGT	285*
BMGT	175	BSAD	230
BMGT	200		

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGMC 205 Ag Mechanics	3
AGRI 111 Ag Career Orientation	1
ANSC 114 Animal Science	4
MATH 125 Quantitative Reasoning	3
Approved Written Communications	3
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
AGEC 123 Principles of Ag Economics	3
AGEC 223 Agriculture Computer App	3
AGRN 113 Crop Science	3
COMM 104 Fundamentals of Speech	3
Approved Written Communications	3
<b>TOTAL</b>	<b>15</b>

##### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGEC 213 Farm Business Management	3
AGRN 214 Fundamentals of Soil Science	4
BMGT 175 Management	3
BMGT 223 Business Ethics	3
Approved Civics Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AGRI 190 World Foods	3
AGRI 202 Ag Capstone	2
AGRI 212 & AGRI 222 – OR – AGRI 204	2-4
AGRI 223 Public Relations in Agri-Business	3
BMGT 285 Human Resource Mgmt	3
BSAD 230 Business Law	3
<b>TOTAL</b>	<b>16-18</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite requirement

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF APPLIED SCIENCE DEGREE

## AGRI-BUSINESS TECHNOLOGY: Marketing & Management Option

				Done	Curr	To do				
<b>Orientation</b>				<b>1 hour</b>						
AGRI	111									
<b>Communications</b>				<b>9 hours</b>						
<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>			
ENGL	101*						COMM	104*		
ENGL	102*, 104*									
ENGL	203*									
<b>Mathematics</b>				<b>3 hours</b>						
MATH	125*									
<b>Civics</b>				<b>3 hours</b>						
HIST	106*						PLSC	103*, 104*		
HIST	107*									
<b>Agri-Business Core</b>				<b>27-29 hours</b>						
AGEC	123 Prin of Ag Econ* (3)						<b>OR</b> AGRI 204 Internship* (4)			
AGEC	213 Farm Business Mgmt* (3)									
AGEC	223 Ag Comp Apps (3)									
AGMC	205 Ag Mechanics (3)									
AGRI	202 Ag Capstone (2)									
AGRI	212 & 222 SOE (2)									
AGRN	113 Crop Science (3)									
AGRN	214 Soil Science* (4)									
ANSC	114 Animal Science (4)									
<b>Agri-Business Marketing &amp; Management</b>				<b>18 hours</b>						
AGRI	190 World Food and Society* (3)						Students must select courses from Agriculture or approved courses from Business.			
AGRI	223 Public Relations in Agri-Business (3)									
BMGT	175 Management (3)									
BMGT	200 Marketing (3)									
BMGT	223 Business Ethics (3)									
BMGT	285 Human Resource Management* (3)									
BSAD	230 Business Law (3)									

# ASSOCIATE OF ARTS DEGREE

## Agriculture – Ag Business Option AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111#	COLL	101
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101#, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 111*#		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	AGEC	123 (Ag majors only)
PLSC	103*	ECON	201*, 202*
		GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>17 hours</b>	
<b>Required Courses (14 Hours)</b>			
AGEC	223	AGRN	214*
AGRN	113	ANSC	114
<b>Approved Electives (3 Hours)</b>			
AGEC	213	AGRI	223
AGRI	190	AGRI	233

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGRI 111 Ag Career Development	1
AGRN 113 Crop Science	3
COMM 104 Fundamentals of Speech	3
ENGL 101 English Composition I	3
Approved Science Course	5
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
AGEC 223 Ag Computer Applications	3
ANSC 114 Animal Science	4
ENGL 102 English Composition II	3
MATH 135 Algebra for Calculus	3
Approved Humanities Course	3
<b>TOTAL</b>	<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGRN 214 Fundamentals of Soil Science	4
Approved Humanities Course – OR – Ag Elective	3
Approved Science Course	5
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
AGEC 123 Principles of Ag Economics	3
Approved Ag Elective – OR – Humanities Course	3
Approved Civics Course	3
Approved GE Core Elective	2-5
Approved Humanities Course	3
<b>TOTAL</b>	<b>14-17</b>

**TOTAL HOURS REQUIRED 60-63**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



### Programs of Study

# ASSOCIATE OF ARTS DEGREE

## Agriculture – Ag Education Option AA

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. The AAT degree requires a minimum GPA of 2.75 and a passing score approved by DESE on each section of the MoGEA. Because GPA and MoGEA entrance score requirements vary by institution, it is important to work closely with your Ag 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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111#	COLL	101
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101#, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	111*#		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Required (9 hours)</b>		<b>Additional Elective Courses</b>	
HIST	106*, 107*	AGEC	123#
PLSC	103*	ECON	201*, 202*
PSYC	101	GEOG	111
		PSYC	211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
AGEC 123—Approved Elective—Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>21 hours</b>	
AGRN	113	EDUC	231
AGRN	214*	EDUC	251
ANSC	114	HORT	113

### Suggested Plan of Study

		FIRST YEAR	Hours
<b>Fall Semester</b>			
AGRI	111	Ag Career Development	1
ANSC	114	– OR – AGRN 113 (3hrs)	4
ENGL	101	English Composition I	3
PSYC	101	General Psychology	3
		Approved Science Course	3-5
		<b>TOTAL</b>	<b>14-16</b>
<b>Spring Semester</b>			
AGRN	113	– OR – ANSC 114 (4hrs)	3
COMM	104	Fundamentals of Speech	3
ENGL	102	English Composition II	3
HIST	106	– OR – HIST 107	3
MATH	135	Algebra for Calculus	3
		<b>TOTAL</b>	<b>15</b>
		SECOND YEAR	Hours
<b>Fall Semester</b>			
AGRN	214	Fundamentals of Soil Science	4
EDUC	231	Educational Psychology	3
PLSC	103	– OR – PLSC 104	3
		Approved GE Core Elective	3
		Approved Science Course	3-5
		<b>TOTAL</b>	<b>16-18</b>
<b>Spring Semester</b>			
EDUC	251	Teaching Prof w/Field Exp.	3
HORT	113	Greenhouse Management	3
		Approved GE Core Elective	2-3
		Approved Humanities Course	3
		Approved Humanities Elective	3
		Approved Humanities Course	3
		<b>TOTAL</b>	<b>17-18</b>
		<b>TOTAL HOURS REQUIRED</b>	<b>62-67</b>

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option





# ASSOCIATE OF ARTS DEGREE

## Agriculture - Ag Education Option

General Education Core			Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>			<b>Or</b>			
AGRI	111 (Recommended)					COLL	101		
<b>Communications</b>			<b>9 hours</b>						
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>			
ENGL	101*					COMM	104*		
ENGL	102*, 104*								
<b>Humanities</b>			<b>9 hours</b>						
ART	101, 106					HIST	101*, 102*		
ASL	101, 102*					MUSC	101		
ENGL	109*, 222*, 225*					PHIL	101*, 121, 201*, 202*		
ENGL	230*, 235*, 240*, 245*					SPAN	101, 102*		
FREN	101					TA	205		
<b>Mathematics</b>			<b>3 hours</b>						
MATH	125*								
MATH	130*								
MATH	135* (Recommended)								
<b>Science</b>			<b>7 hours</b>						
<b>Lab</b>						<b>Non-Lab</b>			
BIOL	101, 110, 120					PHYS	105		
BIOL	152*, 252*								
CHEM	101								
CHEM	111* (Recommended)								
GEOL	115, 210*								
PHYS	101, 190*								
<b>Social and Behavioral Science</b>			<b>9 hours</b>						
<b>Civics</b>			<b>6 hours</b>			<b>Additional 3 hours</b>			
HIST	106*					AGEC	123#		
HIST	107					ECON	201*, 202*		
PLSC	103*, 104*					GEOG	111		
						PSYC	101 (Required)		
						PSYC	211*		
						SOC	101		
<b>GE Core Electives</b>			<b>5 hours</b>						
AGEC 123 - Approved Elective. Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.									
<b>Major Courses</b>			<b>21 hours</b>						
AGRN	113 Crop Science (3)					## Ag Education majors need to take PLSC 103 or PLSC 104 and HIST 106 to meet DESE certification guidelines.			
AGRN	214 Fund Soil Science* (4)								
ANSC	114 Intro to Animal Sci (4)								
EDUC	231 Educational Psych (3)								
EDUC	251 Teaching Pro w/Field Exp (3)								
HORT	113 Greenhouse Mgmt (3)								

# ASSOCIATE OF ARTS DEGREE

## Agriculture - Agronomy Option AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111#	COLL	101
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101#, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	111*#		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	AGEC	123# (Ag majors only)
PLSC	103*	ECON	201*, 202*
		GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>17 hours</b>	
<b>Required Courses (14 Hours)</b>			
AGEC	223	AGRN	214*
AGRN	113	ANSC	114
<b>Approved Electives (3 Hours)</b>			
AGRI	123	ANSC	213
AGRI	233	HORT	101
AGRN	121	HORT	103
AGRN	221	HORT	113
AGRN	223	HORT	204
AGRN	243		

### Suggested Plan of Study

FIRST YEAR		
<b>Fall Semester</b>		<b>Hours</b>
AGRI 111	Ag Career Development	1
AGRN 113	Crop Science	3
COMM 104	Fundamentals of Speech	3
ENGL 101	English Composition I	3
MATH 135	Algebra for Calculus	3
	Approved GE Core Elective	3
	<b>TOTAL</b>	<b>16</b>
<b>Spring Semester</b>		<b>Hours</b>
AGEC 223	Ag Computer Applications	3
ANSC 114	Animal Science	4
ENGL 102	English Composition II	3
	Approved Science Course	3-5
	<b>TOTAL</b>	<b>13-15</b>
SECOND YEAR		
<b>Fall Semester</b>		<b>Hours</b>
AGRN 214	Fundamentals of Soil Science	4
	Approved Civics Course	3
	Approved Humanities Course or Ag Elective	3
	Approved Science Course	3-5
	<b>TOTAL</b>	<b>13-15</b>
<b>Spring Semester</b>		<b>Hours</b>
AGEC 123	Principles of Ag Economics	3
	Approved Ag Elective or Humanities Course	3
	Approved GE Core Elective	2
	Approved Humanities Course	3
	Approved Humanities Course or Ag Elective	3
	<b>TOTAL</b>	<b>14</b>
<b>TOTAL HOURS REQUIRED</b>		<b>60</b>

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option



# ASSOCIATE OF ARTS DEGREE

## Agriculture - Agronomy Option

General Education Core			Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>						<b>Or</b>			
	AGRI 111	(Recommended)				COLL 101			
<b>Communications</b>									
<b>9 hours</b>									
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>			
	ENGL 101*					COMM 104*			
	ENGL 102*, 104*								
<b>Humanities</b>									
<b>9 hours</b>									
	ART 101, 106					HIST 101*, 102*			
	ASL 101, 102*					MJSC 101			
	ENGL 109*, 222*, 225*					PHIL 101*, 121, 201*, 202*			
	ENGL 230*, 235*, 240*, 245*					SPAN 101, 102*			
	FREN 101					TA 205			
<b>Mathematics</b>									
<b>3 hours</b>									
	MATH 125*					MATH 135* (Recommended)			
	MATH 130*								
<b>Science</b>									
<b>7 hours</b>									
<b>Lab</b>						<b>Non-Lab</b>			
	BIOL 101, 110, 120					PHYS 105			
	BIOL 152*, 252*								
	CHEM 101								
	CHEM 111* (Recommended)								
	GEOL 115, 210*								
	PHYS 101, 190*								
<b>Social and Behavioral Science</b>									
<b>9 hours</b>									
<b>Civics (3 hours)</b>									
	HIST 106*					AGEC 123 (Ag majors only)			
	HIST 107*					ECON 201*, 202*			
	PLSC 103*, 104*					GEOG 111			
						PSYC 101, 211*			
						SOC 101			
<b>GE Core Electives</b>									
<b>5 hours</b>									
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.									
<b>Major Courses</b>									
<b>14 hours</b>									
<b>Required (14 hours)</b>						<b>Approved Electives (3 hours)</b>			
	AGEC 223 Ag Computer Apps (3)					AGRI 123 Agriculture Chemicals (3)			
	AGRN 113 Crop Science (3)					AGRI 233 Travel Seminar in Agriculture (3)			
	AGRN 214 Fund Soil Science* (4)					AGRN 121 Crop Evaluation (1)			
	ANSC 114 Intro to Animal Sci (4)					AGRN 221 Soil Evaluation (1)			
						AGRN 223 Grain Crops (3)			
						AGRN 243 Forage Crops (3)			
						ANSC 213 Feeds and Nutrition (3)			
						HORT 101 General Horticulture (3)			
						HORT 103 Floriculture (3)			
						HORT 113 Greenhouse Management (3)			
						HORT 204 Nursery Mgmt/Landscape (4)			
						Courses determined by transferring institution's requirements and consultation with the Agriculture faculty.			

# ASSOCIATE OF ARTS DEGREE

## Agriculture - Animal Science Option AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111#	COLL	101
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	111* #		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	AGEC	123# (Ag majors only)
PLSC	103*	ECON	201*, 202*
		GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>17 hours</b>	
<b>Required Courses (13 Hours)</b>			
AGEC	223	ANSC	114*
AGRN	113	ANSC	213
<b>Approved Electives (4 Hours)</b>			
AGRI	233	ANSC	180
AGRN	214	ANSC	223
AGRN	243	ANSC	232
ANSC	101	ANSC	233
ANSC	153		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGRI 111 Ag Career Development	1
ANSC 114 Animal Science	4
COMM 104 Fundamentals of Speech	3
ENGL 101 English Composition I	3
MATH 135 Algebra for Calculus	3
Approved GE Core Elective	3
<b>TOTAL</b>	<b>17</b>

<b>Spring Semester</b>	<b>Hours</b>
AGEC 223 Ag Computer Applications	3
AGRN 113 Crop Science	3
ENGL 102 English Composition II	3
Approved GE Core Elective	2
Approved Science Course	3-5
<b>TOTAL</b>	<b>14-16</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGEC 123 Principles of Ag Economics	3
CHEM 111 General Chemistry	5
Approved Civics Course	3
Approved Humanities Course/or Ag Elective	3-4
<b>TOTAL</b>	<b>14-15</b>

<b>Spring Semester</b>	<b>Hours</b>
ANSC 213 Feeds & Nutrition	3
Approved Ag Elective/or Humanities Course	3-4
Approved Humanities Course	3
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15-16</b>

**TOTAL HOURS REQUIRED 60-64**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option



# ASSOCIATE OF ARTS DEGREE

## Agriculture - Animal Science Option

General Education Core			Done	Curr	To do			Done	Curr	To do
<b>Orientation</b>						<b>Or</b>				
	AGRI	111 (Recommended)				COLL	101			
<b>Communications</b>										
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>				
	ENGL	101*				COMM	104*			
	ENGL	102*, 104*								
<b>Humanities</b>										
	ART	101, 106				HIST	101*, 102*			
	ASL	101, 102*				MUSC	101			
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*			
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*			
	FREN	101				TA	205			
<b>Mathematics</b>										
	MATH	125*, 130*				MATH	135* (Recommended)			
<b>Science</b>										
	<b>Lab</b>					<b>Non-Lab</b>				
	BIOL	101, 110, 120				PHYS	105			
	BIOL	152*, 252*								
	CHEM	101								
	CHEM	111* (Recommended)								
	GEOL	115, 210*								
	PHYS	101, 190*								
<b>Social and Behavioral Science</b>										
	<b>Civics (3 hours)</b>									
	HIST	106*				AGEC	123 (Ag majors only)			
	HIST	107*				ECON	201*, 202*			
	PLSC	103*, 104*				GEOG	111			
						PSYC	101, 211*			
						SOC	101			
<b>GE Core Electives</b>										
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.										
<b>Major Courses</b>										
	<b>Required (13 hours)</b>					<b>Approved Electives (4 hours)</b>				
	AGEC	223 Ag Computer Apps (3)				AGRI	233 Travel Seminar in Agriculture (3)			
	AGRN	113 Crop Science (3)				AGRN	214 Fundamentals of Soil Science (3)			
	ANSC	114* Intro to Animal Sci (4)				AGRN	243 Forage Crops (3)			
	ANSC	213 Feeds & Nutrition (3)				ANSC	101 Livestock Selection (1)			
						ANSC	153 Beef Cattle Production (3)			
						ANSC	180 Intro to Veterinary Science (2)			
						ANSC	223 Farm Animal Health (3)			
						ANSC	232 Artificial Insem & Reprod (3)			
						ANSC	233 Horse Science (3)			
						Courses determined by transferring institution's requirements and consultation with the Agriculture faculty.				



# ASSOCIATE OF ARTS DEGREE

## Agriculture - Poultry Science Option AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI	111#	COLL	101
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	111*#		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	AGEC	123# (Ag Majors Only)
PLSC	103*	ECON	201*, 202*
		GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>17 hours</b>	
AGEC	223	ANSC	213
AGRN	113	POSC	104
ANSC	114*	POSC	105

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGRI 111 Ag Career Development	1
ANSC 114 Animal Science	4
COMM 104 Fundamentals of Speech	3
ENGL 101 English Composition I	3
MATH 135 Algebra for Calculus	3
Approved GE Core Elective	3
<b>TOTAL</b>	<b>17</b>

<b>Spring Semester</b>	<b>Hours</b>
AGEC 223 Ag Computer Applications	3
AGRN 113 Crop Science	3
ENGL 102 English Composition II	3
POSC 104 Intro to Careers in Poultry	2
Approved Science Course	3-5
<b>TOTAL</b>	<b>14-16</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGEC 123 Principles of Ag Economics	3
CHEM 111 General Chemistry	5
POSC 105 Avian Biology	2
Approved GE Core Elective	2
Approved Humanities Course	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
ANSC 213 Feeds & Nutrition	3
Approved Civics Course	3
Approved Humanities Course	3
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option



# ASSOCIATE OF ARTS DEGREE

## Agriculture - Poultry Science Option

General Education Core			Done	Curr	To do				Done	Curr	To do
<b>Orientation</b> <span style="float: right;"><b>1 hour</b></span>						<b>Or</b>					
	AGRI	111 (Recommended)				COLL	101				
<b>Communications</b> <span style="float: right;"><b>9 hours</b></span>											
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>					
	ENGL	101*				COMM	104*				
	ENGL	102*, 104*									
<b>Humanities</b> <span style="float: right;"><b>9 hours</b></span>											
	ART	101, 106				HIST	101*, 102*				
	ASL	101, 102*				MUSC	101				
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*				
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*				
	FREN	101				TA	205				
<b>Mathematics</b> <span style="float: right;"><b>3 hours</b></span>											
	MATH	125*, 130*				MATH	135* (Recommended)				
<b>Science</b> <span style="float: right;"><b>7 hours</b></span>											
	<b>Lab</b>					<b>Non-Lab</b>					
	BIOL	101, 110, 120				PHYS	105				
	BIOL	152*, 252*									
	CHEM	101									
	CHEM	111* (Recommended)									
	GEOL	115, 210*									
	PHYS	101, 190*									
<b>Social and Behavioral Science</b> <span style="float: right;"><b>9 hours</b></span>											
	<b>Civics (3 hours)</b>										
	HIST	106*				AGEC	123 (Ag majors only)				
	HIST	107*				ECON	201*, 202*				
	PLSC	103*, 104*				GEOG	111				
						PSYC	101, 211*				
						SOC	101				
<b>GE Core Electives</b> <span style="float: right;"><b>5 hours</b></span>											
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.											
<b>Major Courses</b> <span style="float: right;"><b>17 hours</b></span>											
	AGEC	223 Ag Computer Apps (3)									
	AGRN	113 Crop Science (3)									
	ANSC	114 Intro to Animal Sci (4)									
	ANSC	213 Feeds & Nutrition (3)									
	POSC	104 Careers in Poultry Sci (2)									
	POSC	105 Avian Biology (2)									

# CERTIFICATE TO AAS

## Alternative Energy: Solar Energy Technician Certificate

### Alternative Energy – Solar AAS

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 PV Associate exam given as part of the ENER 220 course. Students must also report their score to the College for completion of this degree program.

The Solar Energy Technician certificate emphasizes learning through coursework and applied hands-on labs. 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 PV Associate exam given as part of the ENER 220 course. Students must also report their score to the College for completion of this certificate program.

#### Program of Study

<b>Certificate Courses</b>		<b>25 hours</b>
AMT 112	Occupational Safety (3)	
CONS 105	Introduction to Construction (3)	
CONS 131	Plumbing (3)	
CONS 141*	Electrical (3)	
ENER 105	Intro to Energy (3)	
ENER 210*	Solar Thermal Systems (5)	
ENER 220*	Solar Electrical Systems (5)	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL 101*		
ENGL 102*		
ENGL 203*		
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Mathematics</b>		<b>3 hours</b>
MATH 104*	(3)	
MATH 125*	(3)	
MATH 135*	(3)	
<b>Science</b>		<b>5 hours</b>
PHYS 101	(5)	
<b>Orientation</b>		<b>1 hour</b>
COLL 101	College Orientation (1)	
<b>Civics</b>		<b>3 hours</b>
HIST 106*, 107*		
PLSC 103*		
<b>Required Courses</b>		<b>13 hours</b>
BSAD 103 (2)	DRFT 101 (3)	
CNS 101 (3)	ENER 200* (5)	
<b>Approved Electives</b>		<b>5 hours</b>
AMT 102 (3)	ENER 142 (4)	
CONS 245 (3)	ENER 256, 257, 258 Projects (1-3)	
DRFT 103 (3)		

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AMT 112	Occupational Safety	3
CONS 105	Introduction to Construction	3
CONS 131	Plumbing	3
ENER 105	Introduction to Energy	3
<b>TOTAL</b>		<b>12</b>

<b>Spring Semester</b>		<b>Hours</b>
CONS 141	Electrical	3
ENER 210	Solar Thermal Systems	5
ENER 220	Solar Electric Systems	5
Approved Mathematics Course		3
<b>TOTAL</b>		<b>16</b>

##### Graduate with Active Solar Technician Certificate

<b>Fall Semester</b>		<b>Hours</b>
CNS 101	Intro to Electronics	3
COLL 101	College Orientation	1
COMM 104	Fundamentals of Speech	3
ENER 200	Passive Solar Systems	5
<b>TOTAL</b>		<b>12</b>

<b>Spring Semester</b>		<b>Hours</b>
BSAD 103	Professional Development	2
DRFT 101	Intro to Engineering Drawing	3
PHYS 101	Survey of Physics	5
Approved Elective		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>16</b>

##### THIRD YEAR

<b>Fall Semester</b>		<b>Hours</b>
Approved Civics Course		3
Approved Elective		2
Approved Written Communications Course		3
<b>TOTAL</b>		<b>8</b>

##### Graduate with Solar AAS

<b>Total CERTIFICATE Hours Required</b>	<b>25</b>
<b>Additional Hours Needed for AAS</b>	<b>39</b>
<b>Total AAS Hours Required</b>	<b>64</b>

Students interested in enrolling in alternative energy classes should be advised through the MARET Center. For additional information, please contact 417-455-5422.

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



# **CERTIFICATE** **Solar Energy Technician**

Students must earn 25 hours for this certificate.

			Done	Curr	To do			
<b>Major Courses</b>			<b>25 hours</b>					
AMT	112	Occupational Safety (3)	_____	_____	_____			
CONS	105	Intro to Construction (3)	_____	_____	_____			
CONS	131	Plumbing (3)	_____	_____	_____			
CONS	141	Electrical* (3)	_____	_____	_____			
ENER	105	Intro to Energy (3)	_____	_____	_____			
ENER	210	Solar Thermal Systems* (5)	_____	_____	_____			
ENER	220	Solar Electric Systems* (5)	_____	_____	_____			



## **ASSOCIATE OF APPLIED SCIENCE DEGREE** **Alternative Energy - Solar**

			Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>						
	COLL	101	_____	_____	_____				
<b>Communications</b>			<b>9 hours</b>						
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>			
	ENGL	101*	_____	_____	_____	COMM	104*	_____	_____
	ENGL	102*, 104	_____	_____	_____				
	ENGL	203*	_____	_____	_____				
<b>Mathematics</b>			<b>3 hours</b>						
	MATH	104*	_____	_____	_____	MATH	125*	_____	_____
	MATH	135*	_____	_____	_____				
<b>Science</b>			<b>5 hours</b>						
	PHYS	101	_____	_____	_____				
<b>Civics</b>			<b>3 hours</b>						
	HIST	106*	_____	_____	_____	PLSC	103*, 104*	_____	_____
	HIST	107*	_____	_____	_____				
<b>Required Courses</b>			<b>38 hours</b>						
	AMT	112 Occupational Safety (3)	_____	_____	_____	<b>Approved Electives (5 hours)</b>			
	BSAD	103 Professional Development (2)	_____	_____	_____	AMT	102 Intro to Industrial Elect (3)	_____	_____
	CNS	101 Introduction to Electronics (3)	_____	_____	_____	CONS	245 Project Management (3)	_____	_____
	CONS	105 Introduction to Construction (3)	_____	_____	_____	DRFT	103 Technical Draw ing (3)	_____	_____
	CONS	131 Plumbing (3)	_____	_____	_____	ENER	142 Introduction to Wind (4)	_____	_____
	CONS	141 Electrical* (3)	_____	_____	_____	ENER	256, 257, 258 Projects (1-3)	_____	_____
	DRFT	101 Intro to Engineering Draw ing (3)	_____	_____	_____				
	ENER	105 Introduction to Energy (3)	_____	_____	_____				
	ENER	200 Passive Solar Systems (5)	_____	_____	_____				
	ENER	210 Solar Thermal Systems (5)	_____	_____	_____				
	ENER	220 Solar Electric Systems (5)	_____	_____	_____				

# CERTIFICATE TO AAS

## Alternative Energy: Wind Energy Technician Certificate

### Alternative Energy – Wind AAS

The Alternative Energy Program AAS Degree provides students with a practical 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.

The Wind Energy Technician certificate provides students with hands-on learning opportunities. The curriculum is designed to prepare students for entry level employment. 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.

#### Program of Study

<b>Certificate Courses</b>		<b>29 hours</b>
AMT 102	Introduction to Industrial Electricity (3)	
AMT 104	Electrical Motor Controls (3) ±	
AMT 112	Occupational Safety (3)	
AMT 204*	Programmable Logic Controllers (3)	
CNS 101	Introduction to Electronics (3)	
ENER 142	Introduction to Wind (4)	
ENER 144*	Wind Turbine Troubleshooting (4)	
ENER 232*	Wind Turbine Internship (3)	
MATH 104*	Technical Mathematics – <b>OR</b> – MATH 125* (3)	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL 101*		
ENGL 102*		
ENGL 203*		
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Science</b>		<b>5 hours</b>
PHYS 101	(5)	
<b>Orientation</b>		<b>1 hour</b>
COLL 101	College Orientation (1)	
<b>Civics</b>		<b>3 hours</b>
HIST 106*, 107*		
PLSC 103*		
<b>Required Courses</b>		<b>20 hours</b>
AMT 132* (3)	ENER 105 (3)	
BSAD 103 (2)	ENER 160 (3)	
CNS 115 (3)	ENER 162* (3)	
<b>AAS Approved Electives</b>		<b>3 hours</b>
BSAD 115 (3)	ENER 256.257.258 Projects (1-3)	
BSAD 125 (3)	MATH 112* (3)	

\* Prerequisite requirement

± Not required for AAS

#### Suggested Plan of Study

FIRST YEAR		
<i>Fall Semester</i>		<i>Hours</i>
AMT 102	Introduction to Industrial Electricity	3
AMT 104	Electrical Motor Controls	3
AMT 112	Occupational Safety	3
ENER 142	Introduction to Wind	4
<b>TOTAL</b>		<b>13</b>

<i>Spring Semester</i>		<i>Hours</i>
AMT 204	Programmable Logic Controllers	3
CNS 101	Introduction to Electronics	3
ENER 144	Wind Turbine Troubleshooting	4
ENER 232	Wind Turbine Internship	3
MATH 104 – OR – MATH 125		3
<b>TOTAL</b>		<b>16</b>

#### Graduate with Wind Energy Technician Certificate

SECOND YEAR		
<i>Fall Semester</i>		<i>Hours</i>
COLL 101	College Orientation	1
ENER 105	Introduction to Energy	3
ENER 160	Intro to Process Technology	3
PHYS 101	Survey of Physical Science	5
<b>TOTAL</b>		<b>12</b>

<i>Spring Semester</i>		<i>Hours</i>
AMT 132	Industrial Hydraulics	3
COMM 104	Fundamentals of Speech	3
ENER 162	Intro to Electric Power Trans	3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>12</b>

THIRD YEAR		
<i>Fall Semester</i>		<i>Hours</i>
BSAD 103	Professional Development	2
CNS 115	CISCO Networking I	3
Approved Civics Course		3
Approved Elective		3
Approved Written Communication Course		3
<b>TOTAL</b>		<b>14</b>

#### Graduate with Wind Energy Technician AAS

<b>Total CERTIFICATE Hours Required</b>	<b>29</b>
<b>Additional Hours Needed for AAS</b>	<b>38</b>
<b>Total AAS Hours Required</b>	<b>67</b>

Students interested in enrolling in alternative energy classes should be advised through the MARET Center. For additional information, please contact 417-455-5422.

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



# **CERTIFICATE** **Wind Energy Technician**

Students must earn 29 hours for this certificate.

			Done	Curr	To do			
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	104 Technical Mathematics* (3)						
<b>OR</b>	MATH	125 Quantitative Reasoning (3)						
<b>Major Courses</b>			<b>26 hours</b>			Notes: NCCER Registration is available with the addition of CONS 105		
	AMT	102 Introduction to Industrial Electricity (3)						
	AMT	104 Electrical Motor Controls* (3)						
	AMT	112 Occupational Safety (3)						
	AMT	204 Programmable Logic Controllers I* (3)						
	CNS	101 Introduction to Electronics (3)						
	ENER	142 Introduction to Wind (4)						
	ENER	144 Wind Turbine Troubleshooting* (4)						
	ENER	232 Wind Turbine Internship* (3)						



## **ASSOCIATE OF APPLIED SCIENCE DEGREE**

### **Alternative Energy - Wind**

			Done	Curr	To do			
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
	<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
	ENGL	203*						
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	104*						
	MATH	125*						
<b>Science</b>			<b>5 hours</b>					
	PHYS	101						
<b>Civics</b>			<b>3 hours</b>					
	HIST	106*				PLSC	103*, 104*	
	HIST	107*						
<b>Required Courses</b>			<b>40 hours</b>			<b>Approved Electives</b>		
	AMT	102 Intro to Industrial Electricity (3)				BSAD	115 Computer Concepts (3)	
	AMT	112 Occupational Safety (3)				BSAD	125 Computer Applications (3)	
	AMT	132 Industrial Hydraulics* (3)				ENER	256, 257, 258 Projects (1-3)	
	AMT	204 Programmable Controllers* (3)				MATH	112 Trigonometry (3)	
	BSAD	103 Professional Development (2)						
	CNS	101 Introduction to Electronics (3)						
	CNS	115 CISCO Networking I (3)						
	ENER	105 Introduction to Energy (3)						
	ENER	142 Introduction to Wind (4)						
	ENER	144 Turbine Troubleshooting* (4)						
	ENER	160 Intro to Process Tech (3)						
	ENER	162 Intro to Elect Pow er Trans* (3)						
	ENER	232 Wind Turbine Internship* (3)						



# ASSOCIATE OF ARTS DEGREE

## Art and Design AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109, 222, 225	PHIL	101*, 121, 201*, 202*
ENGL	230, 235, 240, 245	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125* #, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>18 hours</b>	
ART	103	ART	107 – OR – ART 119
ART	104	ART	110
ART	106	ART	111
<b>Other Enhancement Course Options</b>			
ART	105	ART	207*
ART	189	ART	210*
ART	205	ART	211*
ART	206*	ART	219*

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
ART 104	Intro to 3-D Design	3
COLL 101	College Orientation	1
ENGL 101	English Composition I	3
MATH 125	Quantitative Reasoning	3
MUSC 101 – OR – TA 205		3
Approved GE Core Elective		3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ART 103	Intro to 2-D Design	3
ART 110	Ceramics I	3
COMM 104	Fundamentals of Speech	3
ENGL 102	English Composition II	3
Approved Science Course		3-5
<b>TOTAL</b>		<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
ART 106	Drawing I	3
Approved GE Core Elective		2
Approved Humanities Course		3
Approved Science Course		3-5
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>14-16</b>

<b>Spring Semester</b>		<b>Hours</b>
ART 107	Painting I	3
ART 111	Sculpture I	3
Approved Civics Course		3
Approved Humanities Course		3
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 62-64**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option



# ASSOCIATE OF ARTS DEGREE

## Art and Design

General Education Core			Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>						
	COLL	101							
<b>Communications</b>			<b>9 hours</b>						
	<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
	ENGL	101*					COMM	104*	
	ENGL	102*, 104*							
<b>Humanities</b>			<b>9 hours</b>						
	ASL	101, 102*					MUSC	101	
	ENGL	109*, 222*, 225*					PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*					SPAN	101, 102*	
	FREN	101					TA	205	
	HIST	101*, 102*							
<b>Mathematics</b>			<b>3 hours</b>						
	MATH	125* (Recommended)					MATH	130*, 135*	
<b>Science</b>			<b>7 hours</b>						
	<b>Lab</b>						<b>Non-Lab</b>		
	BIOL	101, 110, 120					PHYS	105	
	BIOL	152*, 252*							
	CHEM	101, 104, 111*							
	GEOL	115, 210*							
	PHYS	101, 190*							
<b>Social and Behavioral Science</b>			<b>9 hours</b>						
	<b>Civics (3 hours)</b>								
	HIST	106*					ECON	201*, 202*	
	HIST	107*					GEOG	111	
	PLSC	103*, 104*					PSYC	101, 211*	
							SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>						
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.									
<b>Major Courses</b>			<b>18 hours</b>						
	ART	103 Intro to 2D Design (3)					<b>Other Recommended Courses</b>		
	ART	104 Intro to 3D Design (3)					ART	105 Topics in Art (1-3)	
	ART	106 Drawing I (3)					ART	189 Photography (3)	
	ART	107 Painting I (3)					ART	205 Topics in Art (1-3)	
	OR	ART 119 Printmaking I (3)					ART	206 Drawing II* (3)	
	ART	110 Ceramics I (3)					ART	207 Painting II* (3)	
	ART	111 Sculpture I (3)					ART	210 Ceramics II* (3)	
							ART	211 Sculpture II* (3)	
							ART	219 Printmaking II* (3)	

# ASSOCIATE OF APPLIED SCIENCE

## Automotive Technology AAS: Autobody Option

The Autobody option of the Automotive Technology program is aimed preparing students for employment in the field of collision repair or related occupations in the automotive industry. Successful automotive graduates can expect to find employment in the automotive service industry as technicians, parts managers, service managers, or in sales positions. 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.

### Program of Study

<b>Orientation</b>	<b>1 hour</b>
COLL 101 College Orientation (1)	
<b>Communications</b>	<b>9 hours</b>
<b>Written Communications (6 hours)</b>	
ENGL 101* English Composition (3)	
ENGL 102* Advanced English Composition (3)	
ENGL 203* Technical Report Writing (3)	
<b>Oral Communications (3 hours)</b>	
COMM 104* Fundamentals of Speech (3)	
<b>Mathematics</b>	<b>3 hours</b>
BSAD 121* Business Mathematics (3)	
MATH 104* Technical Mathematics (3)	
<b>Civics</b>	<b>3 hours</b>
HIST 106*, 107*	
PLSC 103*	
<b>Technical Core</b>	<b>49 hours</b>
AUTO 114 Auto Fuel Systems (4)	
AUTO 115 Engine Repair (5)	
AUTO 124 Auto Brake Systems (5)	
AUTO 125 Auto Electrical Systems (4)	
AUTO 214 Auto Air Conditioning (4)	
AUTO 224 Computer Engine Cont (4)	
AUTO 225 Auto Suspen and Steer (5)	
BSAD 115 Computer Concepts (3) – OR – BSAD 125	
BSAD 150 Intro to Business (3)	
CLRP 102 Auto Body Construction and Sheet Metal (3)	
CLRP 104 Auto Body Plastics and Composites (3)	
CLRP 202 Auto Body Welding and Structural Straight (3)	
CLRP 204 Auto Body Painting and Refinishing (3)	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AUTO 114 Fuel Systems	4
AUTO 115 Engine Repair	5
AUTO 214 Air Conditioning	4
CLRP 102 Auto Body Construction & Sheet Metal	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AUTO 124 Brakes	4
AUTO 125 Electrical Systems	5
AUTO 224 Computer Engine Control	4
AUTO 225 Suspension and Steering	5
CLRP 202 Auto Body Welding & Structural	3
<b>TOTAL</b>	<b>21</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
BSAD 115 Comp Concepts – OR – BSAD 125	3
CLRP 104 Auto Body Plastics and Composites	3
COLL 101 College Orientation	1
COMM 104 Fundamentals of Speech	3
Approved Mathematics Course	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
BSAD 150 Intro to Business	3
CLRP 204 Auto Body Painting and Refinishing	3
Approved Civics Course	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>12</b>

#### Graduate with Auto Technology AAS

**Total Autobody AAS Hours Required 65**

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Auto Technology: Autobody Option

			Done	Curr	To do				Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>								
COLL	101		_____	_____	_____				_____	_____	_____
<b>Communications</b>			<b>9 hours</b>								
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>					
ENGL	101*		_____	_____	_____	COMM 104*			_____	_____	_____
ENGL	102*, 104*		_____	_____	_____						
ENGL	203*		_____	_____	_____						
<b>Mathematics</b>			<b>3 hours</b>								
BSAD	121*		_____	_____	_____	MATH 104*			_____	_____	_____
<b>Civics</b>			<b>3 hours</b>								
HIST	106*		_____	_____	_____	PLSC 103*, 104*			_____	_____	_____
HIST	107*		_____	_____	_____						
<b>Technical Core</b>			<b>49 hours</b>								
AUTO	114 Auto Fuel Systems (4)		_____	_____	_____	BSAD	115 Computer Concepts (3)		_____	_____	_____
AUTO	115 Engine Repair (5)		_____	_____	_____	<b>OR</b>	BSAD 125 Computer Apps (3)		_____	_____	_____
AUTO	124 Auto Brake Systems (4)		_____	_____	_____	BSAD	150 Intro to Business (3)		_____	_____	_____
AUTO	125 Auto Electrical Systems (5)		_____	_____	_____	CLRP	102 AB Const & Sheet Met (3)		_____	_____	_____
AUTO	214 Auto Air Conditioning (4)		_____	_____	_____	CLRP	104 AB Plastics & Comps (3)		_____	_____	_____
AUTO	224 Computer Engine Cont (4)		_____	_____	_____	CLRP	202 AB Welding & Struct (3)		_____	_____	_____
AUTO	225 Auto Suspen and Steer (5)		_____	_____	_____	CLRP	204 AB Paint & Refin (3)		_____	_____	_____

# CERTIFICATE TO AAS

## Automotive Technology: Basic Engines Certificate

## Automotive Technology: Basic Auto Mechanic Certificate

## Automotive Technology AAS

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.

The Basic Engines certificate prepares students to enter a career in Automotive Technology with a basic skill set that will provide entry level knowledge of automotive engine systems. The students will be introduced to Engine air/fuel requirements, electronic engine management, and electronic fuel injection. This program will cover the accepted methods of service and repair of the engine and related systems, and the emission control systems. Automotive heating and air conditioning principles will be covered during this course of study.

The Basic Auto Mechanic certificate prepares students to enter a career in Automotive Technology with entry level skill set as a basic auto mechanic. The students will be introduced to the basic principles of automotive electrical systems, braking systems, power transmitting units, computerized engine control systems, and diagnostics and repairs of the automotive suspension and steering systems.

### Program of Study

<b>Basic Engines Certificate Courses</b>		<b>18 hours</b>
AUTO	114 Auto Fuel Systems (4)	
AUTO	115 Engine Repair (5)	
AUTO	214 Auto Air Conditioning (4)	
AUTO	215 Auto Emission Cont Sys (5)	
<b>Basic Auto Mechanic Certificate Courses</b>		<b>21 hours</b>
AUTO	124 Auto Brake Systems (4)	
AUTO	125 Auto Electrical Systems (5)	
AUTO	223 Auto Power Train Sys (3)	
AUTO	224 Computer Engine Control (4)	
AUTO	225 Auto Suspension and Steering (5)	
<b>Orientation</b>		<b>1 hour</b>
COLL	101 College Orientation (1)	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL	101*	
ENGL	102*	
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
BSAD	121*	
MATH	104*	
<b>Civics</b>		<b>3 hours</b>
HIST	106*, 107*	
PLSC	103*	
<b>AAS Technical Courses</b>		<b>6 hours</b>
BSAD	115 Computer Concepts (3) – OR – BSAD 125	
BSAD	150 Intro to Business (3)	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AUTO	114 Fuel Systems	4
AUTO	115 Engine Repair	5
AUTO	214 Air Conditioning	4
AUTO	215 Emission Control Systems	5
<b>TOTAL</b>		<b>18</b>

#### Graduate with Basic Engines Certificate

<b>Spring Semester</b>		<b>Hours</b>
AUTO	124 Brakes	4
AUTO	125 Electrical Systems	5
AUTO	223 Power Trains	3
AUTO	224 Computer Engine Control	4
AUTO	225 Suspension and Steering	5
<b>TOTAL</b>		<b>21</b>

#### Graduate with Basic Auto Mechanic Certificate

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
BSAD	115 Comp Concepts – OR – BSAD 125	3
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
Approved Mathematics Course		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>13</b>

<b>Spring Semester</b>		<b>Hours</b>
BSAD	150 Intro to Business	3
Approved Civics Course		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>9</b>

#### Graduate with Auto Technology AAS

<b>Total Engines CERTIFICATE Hours Required</b>	<b>18</b>
<b>Additional Hours Needed for Mechanic Cert</b>	<b>21</b>
<b>Additional Hrs Needed for Auto Tech AAS</b>	<b>22</b>
<b>Total Auto Tech AAS Hours Required</b>	<b>61</b>

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



## CERTIFICATE Automotive Technology: Basic Engines

Done Curr To do

Done Curr To do

Major Courses		18 hours							
AUTO	114 Auto Fuel Systems (4)								
AUTO	115 Engine Repair (5)								
AUTO	214 Auto Air Conditioning (4)								
AUTO	215 Auto Emission Cont Sys (5)								



## CERTIFICATE Automotive Technology: Basic Auto Mechanic

Done Curr To do

Done Curr To do

Major Courses		39 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)								



## ASSOCIATE OF APPLIED SCIENCE DEGREE Auto Technology

Done Curr To do

Done Curr To do

Orientation		1 hour							
COLL	101								
Communications		9 hours							
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>			
ENGL	101*					COMM	104*		
ENGL	102*, 104*								
ENGL	203*								
Mathematics		3 hours							
BSAD	121*					MATH	104*		
Civics		3 hours							
HIST	106*					PLSC	103*, 104*		
HIST	107*								
Technical Core		45 hours							
AUTO	114 Auto Fuel Systems (4)					AUTO	223 Auto Power Train Sys (3)		
AUTO	115 Engine Repair (5)					AUTO	224 Computer Engine Cont (4)		
AUTO	124 Auto Brake Systems (4)					AUTO	225 Auto Suspen and Steer (5)		
AUTO	125 Auto Electrical Systems (5)					BSAD	115 Computer Concepts (3)		
AUTO	214 Auto Air Conditioning (4)					<b>OR</b>	BSAD 125 Computer Apps (3)		
AUTO	215 Auto Emission Cont Sys (5)					BSAD	150 Intro to Business (3)		



# CERTIFICATE TO ASSOCIATE OF ARTS DEGREE

## Behavior Technician Certificate

### Psychology: Autism Option AA

Emphasis in this certificate program will be placed on Applied Behavior Analysis (ABA) theories and techniques to work with individuals diagnosed with Autism and/or developmental disabilities. Students may pursue an AA in Preschool/Paraprofessional, Psychology, General Studies or an AAT. Students are required to successfully complete a portfolio in PSYC 290 to complete this certificate program. 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 204.

#### Program of Study

<b>Certificate Courses</b>			<b>19 hours</b>
COLL	101	College Orientation	
EDUC	231*	Educational Psychology (3) ±	
PSYC	101	General Psychology (3)	
PSYC	203	Autism Spectrum Disorders (3)	
PSYC	204	Applied Behavior Analysis for Educators (3)	
PSYC	211*	Lifespan Development (3)	
PSYC	290*	Clinical I – Supervised Field Experience (3)	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>			<b>9 hours</b>
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>			<b>3 hours</b>
MATH	125*, 130*, 135*#		
<b>Science</b>			<b>7 hours</b>
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*#		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>			<b>9 hours</b>
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hrs)</b>		<b>Additional 6 Hours</b>	
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		SOC	101
<b>GE CORE Electives</b>			<b>5 hours</b>
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>			<b>3 hours</b>
EDUC	125		

# - Preferred class for this degree option

± - Not required for AA degree

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
EDUC	125	Introduction to Education	3
ENGL	101	English Composition I (for AA)	3
PSYC	101	General Psychology	3
PSYC	203	Autism Spec. Disorders	3
PSYC	204	Applied Behavior Analysis	3
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
EDUC	231	Educational Psychology	3
ENGL	102	English Composition II (for AA)	3
PSYC	211	Lifespan Development	3
PSYC	290	Clinical I	3
		Approved GE Core Elective	2
		Approved Humanities Course (for AA)	3
<b>TOTAL</b>			<b>17</b>

##### Graduate with Behavior Technician Certificate

##### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
MATH	135	Algebra for Calculus	3
		Approved Civics Course	3
		Approved GE Core Elective	3
		Approved Science Course	3-5
		Approved Social & Behavioral Science Course	3
<b>TOTAL</b>			<b>15-17</b>

<b>Spring Semester</b>			<b>Hours</b>
COMM	104	Fundamentals of Speech	3
		Approved Humanities Course	3
		Approved Humanities Course	3
		Approved Science Course	3-5
		Approved Social & Behavioral Science Course	3
<b>TOTAL</b>			<b>15-17</b>

##### TOTAL HOURS REQUIRED 63-67

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



# CERTIFICATE

## Behavior Technician Certificate

				Done	Curr	To do					Done	Curr	To do
<b>Orientation</b>				<b>1 hour</b>									
COLL	101	College Orientation											
<b>Major Courses</b>				<b>18 hours</b>									
EDUC	231	Educational Psychology* (3)											
PSYC	101	General Psychology (3)											
PSYC	203	Autism Spectrum Disorders (3)											
PSYC	204	ABA for Educators (3)											
PSYC	211	Lifespan Development* (3)											
PSYC	290	Clinical I - Supervised Field Exp* (3)											



## ASSOCIATE OF ARTS DEGREE

### Psychology: Autism Option

General Education Core				Done	Curr	To do			Done	Curr	To do
Orientation		1 hour									
	COLL	101									
Communications		9 hours									
	Written Communications (6 hours)					Oral Communications (3 hours)					
	ENGL	101*				COMM 104*					
	ENGL	102*, 104*									
Humanities		9 hours									
	ART	101, 106				HIST	101*, 102*				
	ASL	101, 102*				MJSC	101				
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*				
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*				
	FREN	101				TA	205				
Mathematics		3 hours									
	MATH	135* (Recommended)				MATH	125*, 130*				
Science		7 hours									
	Lab					Non-Lab					
	BIOL	101, 110, 120				PHYS	105				
	BIOL	152*, 252*									
	CHEM	101, 104, 111*									
	GEOL	115, 210*									
	PHYS	101, 190*									
Social and Behavioral Science		9 hours									
	Civics (3 hours)										
	HIST	106*				ECON	201*, 202*				
	HIST	107*				GEOG	111				
	PLSC	103*, 104*				PSYC	101, 211*				
						SOC	101				
GE Core Electives		5 hours									
Any additional 5 credit hours from courses listed above.											
Courses cannot be used as Core electives if counted											
under another section of this Program of Study.											
Major Courses		18 hours									
	EDUC	125 Introduction to Education (3)				PSYC	204 Applied Behavior Anal (3)				
	PSYC	101 General Psych (3)				PSYC	211 Lifespan Development* (3)				
	PSYC	203 Autism Spectrum Disorders (3)				PSYC	290 Clinical I* (3)				

# ASSOCIATE OF ARTS DEGREE

## Biology AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	135*#		
<b>Science</b>		<b>9 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>			
BIOL	101 or 110		
CHEM	111*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
<b>BIOL 110</b> should be used to satisfy the additional 5 credit hours elective requirement. Courses cannot be used as Core electives if counted under another section of this Program of Study.			
<b>Major Courses</b>		<b>10 hours</b>	
BIOL	120*	CHEM	112*
<b>Approved Electives</b>		<b>5 hours</b>	
BIOL	220*	MATH	150*
CHEM	201*	MATH	160*
CHEM	221*		

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
BIOL 101 Biology	4
COLL 101 College Orientation	1
ENGL 101 English Composition	3
MATH 135 Algebra for Calculus	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
BIOL 120 – OR – Approved Elective	5
ENGL 102 Advanced English Comp	3
Approved Civics Course	3
Approved Humanities Course	3
<b>TOTAL</b>	<b>14</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
BIOL 110 General Zoology	5
CHEM 111 General Chemistry I	5
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
BIOL 120 – OR – Approved Elective	5
CHEM 112 General Chemistry II	5
COMM 104 Fundamentals of Speech	3
Approved Humanities Course	3
<b>TOTAL</b>	<b>16</b>

**TOTAL HOURS REQUIRED 60**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Biology

General Education Core			Done	Curr	To do				Done	Curr	To do
<b>Orientation</b>											
	COLL	101									
<b>Communications</b>											
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>					
	ENGL	101*					COMM	104*			
	ENGL	102*, 104*									
<b>Humanities</b>											
	ART	101, 106					HIST	101*, 102*			
	ASL	101, 102*					MUSC	101			
	ENGL	109*, 222*, 225*					PHIL	101*, 121, 201*, 202*			
	ENGL	230*, 235*, 240*, 245*					SPAN	101, 102*			
	FREN	101					TA	205			
<b>Mathematics</b>						<b>Math Electives for GE Core</b>					
	MATH	135* (Recommended)					MATH	130*			
<b>Science</b>											
	<b>Lab</b>										
	BIOL	101 (Required) or 110*									
	CHEM	111* (Required)									
<b>Social and Behavioral Science</b>											
	<b>Civics (3 hours)</b>										
	HIST	106*					ECON	201*, 202*			
	HIST	107*					GEOG	111			
	PLSC	103*, 104*					PSYC	101, 211*			
							SOC	101			
<b>GE Core Electives</b>											
							BIOL	110 General Zoology (5)			
<b>Major Courses</b>						<b>Approved Electives 5 hours</b>					
	BIOL	120 Gen Botany* (5)					BIOL	220 Gen Microbiology* (5)			
	CHEM	112 General Chem II* (5)					CHEM	201 Quant. Analysis* (5)			
							CHEM	221 Organic & Biochemistry* (5)			
							MATH	150 Calculus 1 Part I* (2)			
							MATH	160 Calculus I Part II* (3)			

# ASSOCIATE OF ARTS DEGREE

## Business Administration AA

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. A fee will be charged.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201* (Required)
PLSC	103*	PSYC	101#
<b>GE CORE Electives</b>		<b>5 hours</b>	
ECON 202—Required			
Students should meet the five-hour requirement by selecting from ECON 202 and any other courses listed above or from GEOG 111, PSYC 211, or SOC 101; however courses can only be counted on one category and not be counted under two categories.			
<b>Major Courses</b>		<b>12 hours</b>	
ACCT	201	BSAD	125
ACCT	202*	BSAD	150
<b>Approved Electives</b>		<b>6 hours</b>	
Courses must be approved from the Business Department. Prefixes will be ACCT, BMGT, or BSAD.			

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
BSAD	150 Introduction to Business	3
BSAD	125 Computer Applications	3
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition I	3
	Approved Mathematics Course	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ENGL	102 English Composition II	3
PSYC	101 General Psychology	3
	Approved Business Elective	3
	Approved Civics Course	3
	Approved Science Course	3-5
<b>TOTAL</b>		<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
ACCT	201 Principles of Accounting I	3
ECON	201 Principles of Macroeconomics*	3
	Approved GE Core Elective	2-3
	Approved Humanities Course	3
	Approved Science Course	3-5
<b>TOTAL</b>		<b>14-15</b>

<b>Spring Semester</b>		<b>Hours</b>
ACCT	202 Principles of Accounting II	3
ECON	202 Principles of Microeconomics*	3
	Approved Business Elective	3
	Approved Humanities Course	3
	Approved Humanities Course	3
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 62-63**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Business Administration

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>								
	COLL	101						
<b>Communications</b>								
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>								
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>								
	MATH	125* or 135* (Recommended)				MATH	130*	
<b>Science</b>								
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>								
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201* (Required)	
	HIST	107*				PSYC	101 (Recommended)	
	PLSC	103*, 104*						
<b>GE Core Electives</b>								
<b>5 hours</b>						ECON	202* (Required)	
Students should meet the 5 hour requirement by selecting from ECON 202 and any other courses listed above or from GEOG 111, PSYC 211, or SOC 101; however, courses cannot be used as Core electives if counted under another section of this Program of Study.								
<b>Major Courses</b>								
	ACCT	201 Prin of Account I (3)				<b>Approved Electives 6 hours</b>		
	ACCT	202 Prin of Account II* (3)				Courses must be approved and from the		
	BSAD	125 Computer Apps (3)				Business Department. Prefixes will be		
	BSAD	150 Intro to Business (3)				ACCT, BMGT, or BSAD.		



# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Business: Accounting Option AAS

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. A fee will be charged.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL	101*	
ENGL	102*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	125*	MATH 135*
<b>Civics</b>		<b>3 hours</b>
HIST	106*, 107*	
PLSC	103*	
<b>Business Core</b>		<b>23 hours</b>
ACCT	201 (3)	BSAD 130* (3)
ACCT	202* (3)	BSAD 218* (3)
BSAD	103 (2)	BSAD 230 (3)
BSAD	125 (3)	ECON 201* (3)
<b>Accounting Core</b>		<b>20 hours</b>
ACCT	160 (3)	ACCT 290 (2)
ACCT	165* (3)	BSAD 150 (3) <b>OR</b>
ACCT	245 (3)	BMGT 175 (3)
ACCT	250* (3)	ECON 202* (3)
<b>Electives</b>		<b>3 hours</b>
Electives can be taken from ACCT, BSAD, or BMGT		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
ACCT	201 Principles of Accounting I	3
BSAD	125 Computer Applications	3
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition I	3
Approved Mathematics Course		3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ACCT	202 Principles of Accounting II	3
BSAD	130 Business Communications	3
BSAD	150 – OR – BMGT 175	3
BSAD	218 Advanced Excel (Spring only)	3
ENGL	102 English Composition II	3
<b>TOTAL</b>		<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
ACCT	165 QuickBooks (Fall only)	3
ACCT	245 Tax Accounting (Fall only)	3
ECON	201 Principles of Macroeconomics	3
Approved Business Elective		3
Approved Civics Course		3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
ACCT	160 Payroll Accounting (Spring only)	3
ACCT	250 Certified Bookkeeper Rev	3
ACCT	290 Accounting Internship	2
BSAD	103 Professional Development	2
BSAD	230 Business Law	3
ECON	202 Principles of Microeconomics	3
<b>TOTAL</b>		<b>16</b>

**TOTAL HOURS REQUIRED 62**

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



### ***Programs of Study***

# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Business: Management Option AAS

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 and 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. A fee will be charged.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101* or 102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
BSAD	121*		
<b>Civics</b>		<b>3 hours</b>	
HIST	106*, 107*		
PLSC	103*		
<b>Business Core</b>		<b>23 hours</b>	
ACCT	201 (3)		
ACCT	202* (3)		
BSAD	103 (2)		
BSAD	125 (3)		
BSAD	130* (3)		
BSAD	218* (3)		
BSAD	230 (3)		
ECON	201* (3)		
<b>Management Core</b>		<b>23 hours</b>	
BMGT	115 (3)	BSAD	108 (3)
BMGT	175 (3)	BSAD	150 (3)
BMGT	200 (3)		
BMGT	223 (3)		
BMGT	285* (3)		
BMGT	290 (2)		

### Suggested Plan of Study

FIRST YEAR			
<b>Fall Semester</b>			<b>Hours</b>
BMGT	115 Customer Service		3
BSAD	121 Business Math		3
BSAD	125 Computer Applications		3
BSAD	150 Introduction to Business		3
COLL	101 College Orientation		1
ENGL	101 English Composition I		3
<b>TOTAL</b>			<b>16</b>
<b>Spring Semester</b>			<b>Hours</b>
BMGT	175 Management		3
BSAD	218 Advanced Excel (Spring only)		3
BSAD	230 Business Law		3
COMM	104 Fundamentals of Speech		3
ENGL	203 Technical Report Writing OR ENGL 102		3
<b>TOTAL</b>			<b>15</b>
SECOND YEAR			
<b>Fall Semester</b>			<b>Hours</b>
ACCT	201 Principles of Accounting I		3
BMGT	200 Marketing		3
BMGT	223 Business Ethics (Fall Only)		3
BSAD	108 Personal Finance		3
Approved Civics Course			3
<b>TOTAL</b>			<b>15</b>
<b>Spring Semester</b>			<b>Hours</b>
ACCT	202 Principles of Accounting II		3
BMGT	285 Human Res Mgmt (Spring only)		3
BMGT	290 Management Internship		2
BSAD	103 Professional Development		2
BSAD	130 Business Communications		3
ECON	201 Principles of Macroeconomics		3
<b>TOTAL</b>			<b>16</b>
<b>TOTAL HOURS REQUIRED</b>			<b>62</b>

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

\*Prerequisite requirement



# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Business: Management Option

			Done	Curr	To Do				Done	Curr	To Do
<b>Orientation</b>			<b>1 hour</b>								
	COLL	101									
<b>Communications</b>			<b>9 hours</b>								
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>					
	ENGL	101*				COMM	104*				
	ENGL	203*									
<b>Mathematics</b>			<b>3 hours</b>								
	BSAD	121*									
<b>Civics</b>			<b>3 hours</b>								
	HIST	106*				PLSC	103*, 104*				
	HIST	107*									
<b>Business Core</b>			<b>23 Hours</b>			<b>Management Core</b>			<b>23 Hours</b>		
	ACCT	201 Principles of Accounting I (3)									
	ACCT	202 Principles of Acctg II* (3)				BMGT	115 Customer Service (3)				
	BSAD	103 Professional Dev (2)				BMGT	175 Management (3)				
	BSAD	125 Computer Apps (3)				BMGT	200 Marketing (3)				
	BSAD	130 Bus Communications* (3)				BMGT	223 Business Ethics (3)				
	BSAD	218 Spreadsheets* (3)				BMGT	285 Human Resource Mgmt* (3)				
	BSAD	230 Business Law (3)				BMGT	290 Internship (2)				
	ECON	201 Prin of Microeconomics (3)				BSAD	108 Personal Finance (3)				
						BSAD	150 Intro to Business (3)				

# CERTIFICATE TO AAS

## Certified Medical Assistant Certificate

### Certified Medical Assistant AAS

The Certified Medical Assisting 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 in a wide range of medical facilities such as in hospitals, doctor offices, and clinics. At the completion of the program, the student will sit for the Certified Medical Assistant National Exam. Students must pass a drug test and background check. Must be 18 years old to complete this program.

This certification program prepares students for employment as a Certified Medical Assistant with the skills needed for placement in health care setting such as a hospital, clinic, or doctor office; and the students have a career path into the Certified Medical Assistant AAS.

#### Program of Study

<b>Certificate Courses</b>			<b>33 hours</b>
CNA	106	Phlebotomy (3)	
COLL	101	College Orientation (1)	
MEDA	101	Introduction to Medical Assisting (3)	
MEDA	102*	Mathematical App & Med Administration (2)	
MEDA	103*	Medical Assisting Science I (4)	
MEDA	104*	Clinical Medical Assisting I (2)	
MEDA	105*	Administrative Medical Assisting I (2)	
MEDA	203*	Medical Assisting Science II (4)	
MEDA	204*	Clinical Medical Assisting II (3)	
MEDA	205*	Administrative Medical Assisting II (3)	
MEDA	206*	Medical Assisting Internship (5)	
MEDA	207*	Medical Assisting Critique (1)	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>			<b>3 hours</b>
MATH	125*, 130*, 135*#		
<b>Science</b>			<b>4 hours</b>
CHEM	104		
<b>Social and Behavioral Science</b>			<b>6 hours</b>
<b>Civics (3 hours)</b>			<b>Additional 3 hours</b>
HIST	106*, 107*	PSYC 101	
PLSC	103*		
<b>Certified Nurse Assistant</b>			<b>3 hours</b>
CNA	107	EKG (3)	
<b>Certified Medical Assistant</b>			<b>9 hours</b>
MEDA	208*	Advanced Clinical Medical Assisting (2)	
MEDA	209*	Coding for the Physician's Office (5)	
MEDA	210*	Medical Office Management (2)	

#### Suggested Plan of Study

<b>FIRST YEAR</b>			
<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
CNA	106	Phlebotomy	3
MEDA	101	Intro to Medical Assisting	3
MEDA	102	Math Application & Med Administration	2
MEDA	103	Medical Assisting Science I	4
MEDA	104	Clinical Medical Assisting I	2
MEDA	105	Administrative Medical Assisting I	2
<b>TOTAL</b>			<b>17</b>
<b>Spring Semester</b>			<b>Hours</b>
MEDA	203	Medical Assisting Science II	4
MEDA	204	Clinical Medical Assisting II	3
MEDA	205	Administrative Medical Assisting II	3
MEDA	206	Medical Assisting Internship	5
MEDA	207	Medical Assisting Critique	1
<b>TOTAL</b>			<b>16</b>
<b>Graduate with Certified Medical Assistant Certificate</b>			
<b>SECOND YEAR</b>			
<b>Fall Semester</b>			<b>Hours</b>
CHEM	104	Chemistry for Health Sciences	4
COMM	104	Fundamentals of Speech	3
PSYC	101	General Psychology	3
Approved Mathematics Course			3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>16</b>
<b>Spring Semester</b>			<b>Hours</b>
CNA	107	EKG	3
HIST	106	US History	3
MEDA	208	Adv Clinical Medical Assisting	2
MEDA	209	Coding for the Physician's Office	5
MEDA	210	Medical Office Management	2
Approved Written Communications Course			3
<b>TOTAL</b>			<b>18</b>
<b>Graduate with Certified Medical Assistant AAS</b>			
<b>Total CERTIFICATE Hours Required</b>			<b>33</b>
<b>Additional Hours Needed for AAS</b>			<b>34</b>
<b>Total AAS Hours Required</b>			<b>67</b>

\*Prerequisite requirement

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



## CERTIFICATE Certified Medical Assistant

Students must earn 33 hours for this certificate.

			Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>		
COLL	101	College Orientation			
<b>Certified Nurse Assistant</b>			<b>3 hours</b>		
CNA	106	Phlebotomy (3)			
<b>Approved Electives</b>			<b>29 hours</b>		
MEDA	101	Introduction to Medical Assisting (3)			
MEDA	102	Math Application & Med Administration* (2)			
MEDA	103	Medical Assisting Science I* (4)			
MEDA	104	Clinical Medical Assisting I* (2)			
MEDA	105	Administrative Medical Assisting I* (2)			
MEDA	203	Medical Assisting Science II* (4)			
MEDA	204	Clinical Medical Assisting II* (3)			
MEDA	205	Administrative Medical Assisting II* (3)			
MEDA	206	Medical Assisting Internship* (5)			
MEDA	207	Medical Assisting Critique* (1)			



## ASSOCIATE OF APPLIED SCIENCE DEGREE Certified Medical Assistant

			Done	Curr	To do				Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>								
COLL	101										
<b>Communications</b>			<b>6 hours</b>								
<b>Written Communications (3 hours)</b>						<b>Oral Communications (3 hours)</b>					
ENGL	101*					COMM	104*				
ENGL	102*, 104*										
ENGL	203*										
<b>Mathematics</b>			<b>3 hours</b>								
MATH	125*					OR	MATH	130*			
MATH	135* (Recommended)										
<b>Civics</b>			<b>3 hours</b>								
HIST	106*					PLSC	103*, 104*				
HIST	107*										
<b>Social &amp; Behavioral Sciences</b>			<b>3 hours</b>								
PSYC	101										
<b>Science</b>			<b>4 hours</b>								
CHEM	104	Chemistry for Health Sciences (4)									
<b>Certified Nurse Assistant</b>			<b>6 hours</b>								
CNA	106	Phlebotomy (3)									
CNA	107	EKG (3)									
<b>Certified Medical Assistant</b>			<b>38 hours</b>								
MEDA	101	Intro to Medical Assisting* (3)				MEDA	208	Adv Clinical Med Asst* (2)			
MEDA	102	Math App & Med Admin* (2)				MEDA	209	Coding for Phys Office* (5)			
MEDA	103	Medical Assisting Science I* (4)				MEDA	210	Med Office Mgmt* (2)			
MEDA	104	Clinical Medical Assisting* (2)									
MEDA	105	Admin Medical Assisting I* (2)									
MEDA	203	Medical Assisting Science II* (4)									
MEDA	204	Clinical Medical Assisting II* (3)									
MEDA	205	Admin Medical Assisting II* (3)									
MEDA	206	Medical Assisting Internship* (5)									
MEDA	207	Medical Assisting Critique* (1)									

# CERTIFICATE

## Certified Nurse Assistant 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.

### Program of Study

<b>CNA Major Courses</b>		<b>8 hours</b>
CNA	101 CNA Techniques (5)	
CNA	102 CNA Clinical Experience (2)	
COLL	101 College Orientation (1)	
<b>CNA Approved Electives</b>		<b>9 or 10 hours</b>
CNA	103 Home Health Aide <b>AND</b> CNA 104 Home Health Aide Clinical (4)	
CNA	106 Phlebotomy (3)	
CNA	107 EKG (3)	
CNA	110 Restorative Nurse Assistant <b>AND</b> CNA 111 Restorative Nurse Assistant Clinical (3)	
EMR	101 Emergency Medical Responder (3)	
OA	215 Medical Terminology (3)	

### Suggested Plan of Study

<b>FIRST YEAR</b>		
<b>Fall Semester</b>		<b>Hours</b>
CNA 101 CNA Techniques		5
CNA 102 CNA Clinical Experience		2
COLL 101 College Orientation		1
Approved CNA Electives		9-10
	<b>TOTAL</b>	<b>17-18</b>
<b>Total Hours Required</b>		<b>17-18</b>

\*Prerequisite requirement





# **CERTIFICATE** **Certified Nurse Assistant**

Done   Curr   To do

<b>Orientation</b>		<b>1 hour</b>				
COLL	101 College Orientation					
<b>Major Courses</b>		<b>7 hours</b>				
CNA	101 CNA Techniques (5)					
CNA	102 CNA Clinical Experiences (2)					
<b>Approved Electives</b>		<b>9 or 10 hours</b>				
CNA	103 Home Health Aide					
<b>AND</b>	CNA 104 Home Health Aide Clinical (4)					
CNA	106 Phlebotomy (3)					
CNA	107 EKG (3)					
CNA	110 Restorative Nurse Asst					
<b>AND</b>	CNA 111 Restorative Nurse Clinical (3)					
EMR	101 Emergency Medical Responder (3)					
OA	215 Medical Terminology (3)					

# ASSOCIATE OF ARTS DEGREE

## Chemistry AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	150* & 160*		
<b>Science</b>		<b>10 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101#, 110, 120	PHYS	105
CHEM	111* (Required)		
PHYS	190* (Required)		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
<b>PHYS 190 or BIOL 101</b> should be used to satisfy the 5 credit hours elective requirement. Courses cannot be used as Core electives if counted under another section of this Program of Study.			
<b>Major Courses</b>		<b>15 hours</b>	
CHEM	112*	PHYS	210*
MATH	201*		
<b>Other Recommended Courses</b>			
CHEM	201*	COMP	111*
CHEM	221*	MATH	202*

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
CHEM 111	General Chemistry I	5
COLL 101	College Orientation	1
COMM 104	Fundamentals of Speech	3
ENGL 101	English Composition I	3
MATH 150	Calculus I, Part 1	2
	Approved Civics Course	3
<b>TOTAL</b>		<b>17</b>

<b>Spring Semester</b>		<b>Hours</b>
CHEM 112	General Chemistry II	5
ENGL 102	English Composition II	3
MATH 160	Calculus I, Part 2	3
PHYS 190	General Physics I	5
<b>TOTAL</b>		<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
MATH 201	Calculus II	5
PHYS 210	General Physics II	5
	Approved Humanities Course	3
	Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
BIOL 101	General Biology	5
	Approved Humanities Course	3
	Approved Humanities Course	3
	Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>		<b>14</b>

**TOTAL HOURS REQUIRED 63**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option



# ASSOCIATE OF ARTS DEGREE

## Chemistry

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
	<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>5 hours</b>					
	MATH	150* & 160*					130*	
<b>Science</b>			<b>10 hours</b>					
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101#, 110, 120				PHYS	105	
	CHEM	101, 104						
	CHEM	111* (Required)						
	PHYS	190* (Required)						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>					
						PHYS	190 Gen Physics I* (5)	
						BIOL	101 General Biology (5)	
<b>Major Courses</b>			<b>15 hours</b>			<b>Other Recommended Courses</b>		
	CHEM	112 General Chem II* (5)				CHEM	201 Quant Analysis* (5)	
	MATH	201 Calculus II* (5)				CHEM	221 Organic Chem (5)	
	PHYS	210 Gen Physics II* (5)				COMP	111 Intro to Comp Science* (4)	
						MATH	202 Calculus III* (5)	

# CERTIFICATE TO AAS

## CNS: PC Repair Certificate

## CNS: Cisco Networking Certificate

## CNS: Information Technology Certificate

## CNS: Computer and Network Support Technology AAS

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.

**The PC Repair 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.

**The IT Certificate** prepares students to enter a career in Information Technology with a basic skill set that will provide entry level knowledge of basic network administration using the Microsoft Windows family of server operating systems. The Computer Network classes will provide general and advanced training in Microsoft servers, security and administration as they are used in the current industry.

**The Cisco 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.

### Program of Study

<b>PC Repair Technical Courses</b>			<b>16 hours</b>
CNS	101	Introduction to Electronics (3)	
CNS	111	PC Basics I (3)	
CNS	112*	PC Basics II (3)	
CNS	115	Cisco Networking (3)	
COLL	101	College Orientation	
CNS	149	Cybersecurity I (3)	
<b>Information Technology Courses</b>			<b>12 hours</b>
CNS	122	VMWare: Install, Configure, Man (3)	
CNS	275	Advanced MS Server* (3) [Elective for AAS]	
CNS		Approved Electives (6)	
<b>Cisco Networking Certificate</b>			<b>9 hours</b>
CNS	116	Cisco Networking II (3)	
CNS	217	Cisco Networking III (3)	
CNS	218	Cisco Networking IV (3)	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>			<b>3 hours</b>
MATH	104*	MATH 135*	
<b>Civics</b>			<b>3 hours</b>
HIST	106*, 107*	PLSC 103*	
<b>Required Courses</b>			<b>9 hours</b>
BSAD	103 – OR –	CNS 105/105	
BSAD	125		
CNS	285*	CNS Internship (4)	
<b>CNS Electives</b>			<b>6 hours</b>
CNS	149	Cybersecurity I (3)	
CNS	222	VMWare: Optimize & Scale (3)	
CNS	249*	Cybersecurity II (3)	
CNS	250*	Linux Network Admin (3)	
CNS	275*	Advanced MS Server (3)	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
CNS	101 Introduction to Electronics	3
CNS	111 PC Basics I	3
CNS	112 PC Basics II	3
CNS	115 Cisco Networking I	3
CNS	149 Cybersecurity I	3
COLL	101 College Orientation	1
<b>TOTAL</b>		<b>16</b>

#### Graduate with PC Repair Certificate

<b>Spring Semester</b>		<b>Hours</b>
CNS	116 Cisco Networking II	3
CNS	122 VmWare VSphere: Install, Config, Man	3
CNS	249 Cybersecurity II	3
CNS	275 Advanced Microsoft Server	3
<b>TOTAL</b>		<b>12</b>

#### Graduate with Information Technology Certificate

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
BSAD	125 Computer Applications	3
COMM	104 Fundamentals of Speech	3
CNS	217 Cisco Networking III	3
CNS	222 VmWare VSphere: Optimize and Scale	3
	Approved Mathematics Course	3
	Approved Written Communications Course	3
<b>TOTAL</b>		<b>18</b>

<b>Spring Semester</b>		<b>Hours</b>
CNS	105 Technical Career Development I	1
CNS	106 Technical Career Development II	1
CNS	218 Cisco Networking IV	3
CNS	285 CNS Internship	4
	Approved Civics Course	3
	Approved Written Communications Course	3
<b>TOTAL</b>		<b>15</b>

#### Graduate with Cisco Certificate

#### Graduate with CNS Technology AAS

<b>Total PC Repair Certificate Hours Required</b>	<b>16</b>
<b>Additional Hours Needed for IT Certificate</b>	<b>12</b>
<b>Additional Hours Needed for Cisco Certificate</b>	<b>9</b>
<b>Additional Hours Needed for AAS</b>	<b>24</b>
<b>Total AAS Hours Required</b>	<b>61</b>



## CERTIFICATE PC Repair

		Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>		<b>1 hour</b>					
COLL	101 College Orientation						
<b>Major Courses</b>		<b>15 hours</b>					
<i>Required Course</i> (12 hours)							
CNS	101 Introduction to Electronics (3)						
CNS	111 PC Basics I (3)						
CNS	112 PC Basics II* (3)						
CNS	115 Cisco Networking (3)						
<i>Approved Electives</i> (3 hours)							
CNS	149 Cybersecurity						
Other CNS courses as approved by division chair							



## CERTIFICATE Cisco Networking

		Done	Curr	To do
<b>Orientation</b>		<b>1 hour</b>		
COLL	101 College Orientation			
<b>Major Courses</b>		<b>18 hours</b>		
CNS	101 Intro 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)			



## CERTIFICATE Information Technology

		Done	Curr	To do
<b>Major Courses</b>		<b>18 hours</b>		
<i>Required</i> (12 hours)				
CNS	111 PC Basics (3)			
CNS	112 PC Basics II* (3)			
CNS	122 VMware: Install, Config, Manage (3)			
CNS	275 Advanced MS Server* (3)			
<i>Approved Electives</i> (6 hours)				
CNS	149 Cybersecurity I* (3)			
CNS	222 VMware: Optimize & Scale (3)			



## ASSOCIATE OF APPLIED SCIENCE DEGREE Computer & Network Support Technology

		Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>		<b>1 hour</b>					
COLL	101						
<b>Communication</b>		<b>9 hours</b>					
<i>Written Communications</i> (6 hours)					<i>Oral Communications</i> (3 hours)		
ENGL	101*				COMM	104*	
ENGL	102*, 104*						
ENGL	203*						
<b>Mathematics</b>		<b>3 hours</b>					
MATH	104*				MATH	135*	
<b>Civics</b>		<b>3 hours</b>					
HIST	106*				PLSC	103*, 104*	
HIST	107*						
<b>Required Technical Courses</b>		<b>25 hours</b>			<b>Required Support Courses</b>		<b>5 hours</b>
CNS	101 Intro to Electronics (3)				BSAD	103 Pro Development (2)	
CNS	111 PC Basics I* (3)				<b>OR</b>	CNS 105 & 106 (2)	
CNS	112 PC Basics II* (3)				BSAD	115 Computer Concepts (3)	
CNS	115 Cisco Netw ork I* (3)				<b>OR</b>	BSAD 125 (3)	
CNS	116 Cisco Netw orking II* (3)						
CNS	217 Cisco Netw orking III* (3)				<b>Approved Electives</b>		<b>15 hours</b>
CNS	218 Cisco Netw orking IV* (3)				CNS	122 VmWare: Install (3)	
CNS	285 CNS Internship* (4)				CNS	149 Cybersecurity I (3)	
					CNS	222 VmWare: Optimize (3)	
					CNS	249 Cybersecurity II (3)	
					CNS	250 Linux Netw ork Admin* (3)	
					CNS	275 Advanced MS Server* (3)	

(\*) - These courses have pre-requisite requirements. See catalog description for details.

# CERTIFICATE TO AAS

## Construction Technology Certificate

### Construction: Alternative Technologies AAS

The Construction – Alternative Technologies 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.

The Construction Technology certificate prepare students for entry-level employment in the construction industry with a skill set that includes construction safety, common hand/power tools, basic carpentry fundamentals, framing and finishing, masonry, plumbing, and residential wiring. All courses are based on the NCCER (National Council for Construction Education and Research) curriculum.

#### Program of Study

Construction Tech Certificate Courses			10 hours
COLL	101	College Orientation (1)	
CONS	105	Introduction to Construction Technology (3)	
CONS	112	Carpentry Fundamentals (3)	
CONS	116*	Framing & Finishing (3)	
Electives (All Required for Advanced Cert)			6 hours
CONS	121±	Masonry (3)	
CONS	131	Plumbing (3) (AAS Elective)	
CONS	141	Electrical (3) (AAS Elective)	
CONS	174*	Carpentry Forms (3) (AAS Elective)	
Communications			9 hours
Written Communications (6 hours)			
ENGL	101*		
ENGL	102*		
ENGL	203*		
Oral Communications (3 hours)			
COMM	104*		
Mathematics			3 hours
MATH	135*		
Civics			3 hours
HIST	106*, 107*	PLSC	103*
Common Support Courses			8 hours
BSAD	103		
BSAD	115	– OR – BSAD 125	
DRFT	105*		
Common Construction Courses			6 hours
CONS	103*	Sustainable Building Fundamentals (3)	
CONS	290*	Construction Internship (3)	
Alternative Technology Courses			18 hours
AMT	102	Introduction to Industrial Electricity (3)	
CONS	155*	Basic HVAC (3)	
CONS	232	Site Layout (3)	
CONS	264*	Geothermal Heat Pump Systems (3)	
CONS	265*	Alt Energy Techniques (3)	
CONS	268*	Energy Usage Auditing (3)	

#### Suggested Plan of Study FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
AMT	102	Introduction to Industrial Electricity	3
COLL	101	College Orientation	1
CONS	103	Sustainable Bldg Fundamentals	3
CONS	105	Intro to Construction Technology	3
CONS	131	Plumbing (Elective for Cert)	3
CONS	141	Electrical (Elective for Cert)	3
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
BSAD	115	Computer Concepts – OR – BSAD 125	3
CONS	112	Carpentry Fundamentals	3
CONS	116	Framing and Finishing	3
CONS	155	Basic HVAC	3
DRFT	105	Architectural Drafting	3
<b>TOTAL</b>			<b>15</b>

#### Graduate with Construction Technology Certificate

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
COMM	104	Fundamentals of Speech	3
CONS	232	Site Layout	3
CONS	265	Alt Energy Technology	3
MATH	135	Algebra for Calculus	3
Approved Civics Course			3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>18</b>

<b>Spring Semester</b>			<b>Hours</b>
CNS	105 /106 – OR – BSAD 103		2
CONS	264	Geothermal Heat Pump Systems	3
CONS	268	Energy Usage Auditing	3
CONS	290	Construction Internship	3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>14</b>

#### Graduate with Construction: Alt Technologies AAS

<b>Total Basic CERTIFICATE Hours Required</b>	<b>16</b>
<b>Additional Hours Needed for AAS</b>	<b>47</b>
<b>Total AAS Hours Required</b>	<b>63</b>

\*Prerequisite requirement

±NOT required for AAS

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



## CERTIFICATE Construction Technology

Students must earn 16 hours for this certificate.

			Done	Curr	To do	
<b>Orientation</b>			<b>1 hour</b>			
COLL	101	College Orientation				
<b>Construction Courses</b>			<b>9 hours</b>			
CONS	105	Intro to Construction Technology (3)				
CONS	112	Carpentry Fundamentals (3)				
CONS	116	Framing and Finishing* (3)				
<b>Approved Electives</b>			<b>6 hours</b>			
CONS	121	Masonry (3)				
CONS	131	Plumbing (3)				
CONS	141	Electrical* (3)				



## ASSOCIATE OF APPLIED SCIENCE DEGREE Construction: Alternative Technologies Option

						Done	Curr	To do
<b>Orientation</b>						<b>1 hour</b>		
COLL	101							
<b>Communications</b>						<b>9 hours</b>		
<b>Written Communications (6 hours)</b>				<b>Oral Communications (3 hours)</b>				
ENGL	101*			COMM	104*			
ENGL	102*, 104*							
ENGL	203*							
<b>Mathematics</b>						<b>3 hours</b>		
MATH	135*							
<b>Civics</b>						<b>3 hours</b>		
HIST	106*			PLSC	103*, 104*			
HIST	107*							
<b>Common Support Courses</b>						<b>8 hours</b>		
BSAD	103	Professional Development (2)						
BSAD	115	Computer Concepts (3)						
DRFT	105	Architectural Drafting (3)						
<b>Common Construction Courses</b>						<b>15 hours</b>		
CONS	103	Sustainable Bldg Fund* (3)			CONS	116	Framing and Finishing* (3)	
CONS	105	Intro to Const Tech (3)			CONS	290	Construction Intern* (3)	
CONS	112	Carptry Fundamentals* (3)						
<b>Specialty Courses: Alt Tech</b>						<b>24 hours</b>		
<b>Required Courses: 21 hours</b>				<b>Specialty Electives: Choose 3 hours</b>				
AMT	102*	Intro to Ind Elect (3)			CONS	131	Plumbing (3)	
CONS	155	Basic HVAC* (3)			CONS	141	Electrical Wiring* (3)	
CONS	232	Site Layout (3)			CONS	174	Carpentry Forms* (3)	
CONS	264	Geothermal Heat Pump* (3)						
CONS	265	Alt Energy Tech* (3)						
CONS	268	Energy Usage Audit* (3)						



# CERTIFICATE TO AAS

## Construction Technology Certificate Advanced Construction Technology Certificate Construction AAS

The General Construction 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.

The Construction Technology and Advanced Construction Technology certificates prepare students for entry-level employment in the construction industry with a skill set that includes construction safety, common hand/power tools, basic carpentry fundamentals, framing and finishing, masonry, plumbing, and residential wiring. In the Advanced certificate, students will be introduced to site layout and project management and supervision. All courses are based on the NCCER (National Council for Construction Education and Research) curriculum.

### Program of Study

<b>Construction Tech Certificate Courses</b>			<b>10 hours</b>
COLL	101	College Orientation (1)	
CONS	105	Introduction to Construction Technology (3)	
CONS	112	Carpentry Fundamentals (3)	
CONS	116*	Framing & Finishing (3)	
<b>Electives (All Required for Adv Cert &amp; AAS)</b>			<b>6 hours</b>
CONS	121	Masonry (3)	
CONS	131	Plumbing (3)	
CONS	141*	Electrical (3)	
<b>Advanced Construction Tech Certificate Courses</b>			<b>12 hours</b>
CONS	174*	Carpentry Forms (3)	
CONS	232	Site Layout (3)	
CONS	245±	Project Management (3)	
CONS	265*	Alt Energy Techniques (3)	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>			<b>3 hours</b>
MATH	104*		
MATH	135*		
<b>Civics</b>			<b>3 hours</b>
HIST	106*, 107*		
PLSC	103*		
<b>Common Support Courses</b>			<b>8 hours</b>
BSAD	103		
BSAD	115	– OR – BSAD 125	
DRFT	105*		
<b>Common Construction Courses</b>			<b>6 hours</b>
CONS	103*	Sustainable Building Fundamentals (3)	
CONS	290*	Construction Internship (3)	
<b>Major Courses</b>			<b>6 hours</b>
AMT	102	Introduction to Industrial Electricity (3)	
CONS	155*	Basic HVAC (3)	

\*Prerequisite requirement  
±NOT required for AAS

### Suggested Plan of Study FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
CONS	103	Sustainable Bldg Fundamentals	3
CONS	105	Intro to Construction Technology	3
CONS	131	Plumbing (Elective for Cert)	3
CONS	141	Electrical (Elective for Cert)	3
CONS	232	Site Layout (Adv Construction Cert)	3
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
CONS	112	Carpentry Fundamentals	3
CONS	116	Framing and Finishing	3
CONS	121	Masonry (Elective for Cert)	3
CONS	174	Carpentry Forms (Adv Construction Cert)	3
CONS	245	Project Mgmt (Adv Construction Cert)	3
<b>TOTAL</b>			<b>15</b>

### Graduate with Construction Technology Certificate

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
AMT	102	Introduction to Industrial Electricity	3
BSAD	115	Computer Concepts – OR – BSAD 125	3
COMM	104	Fundamentals of Speech	3
CONS	265	Alt Energy Technology (Adv Const Cert)	3
Approved Mathematics Course			3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>18</b>

### Graduate with Advanced Construction Tech Certificate

<b>Spring Semester</b>			<b>Hours</b>
BSAD	103	Pro Dev – OR – CNS 105/106	2
CONS	155	Basic HVAC	3
CONS	290	Construction Internship	3
DRFT	105	Architectural Drafting	3
Approved Civics Course			3
Approved Written Communication			3
<b>TOTAL</b>			<b>17</b>

### Graduate with General Construction AAS

<b>Total Basic CERTIFICATE Hours Required</b>	<b>16</b>
<b>Additional Hours for Advanced Certificate</b>	<b>15</b>
<b>Additional Hours Needed for AAS</b>	<b>35</b>
<b>Total AAS Hours Required</b>	<b>66</b>

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



## CERTIFICATE Construction Technology

Students must earn 16 hours for this certificate.

		Done	Curr	To do	
<b>Orientation</b>		<b>1 hour</b>			
COLL	101 College Orientation				
<b>Construction Courses</b>		<b>9 hours</b>			
CONS	105 Intro to Construction Technology (3)				
CONS	112 Carpentry Fundamentals (3)				
CONS	116 Framing and Finishing* (3)				
<b>Approved Electives</b>		<b>6 hours</b>			
CONS	121 Masonry (3)				
CONS	131 Plumbing (3)				
CONS	141 Electrical* (3)				



## CERTIFICATE Advanced Construction Technology

		Done	Curr	To do		Done	Curr	To do
<b>Construction Courses</b>		<b>30 hours</b>						
CONS	105 Intro to Construction Technology (3)				CONS	141 Electrical* (3)		
CONS	112 Carpentry Fundamentals (3)				CONS	174 Carpentry Forms* (3)		
CONS	116 Framing and Finishing* (3)				CONS	232 Site Layout (3)		
CONS	121 Masonry (3)				CONS	245 Project Management (3)		
CONS	131 Plumbing (3)				CONS	265* Alt Energy Techniques (3)		



## ASSOCIATE OF APPLIED SCIENCE DEGREE Construction

		Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>		<b>1 hour</b>						
COLL	101							
<b>Communications</b>		<b>9 hours</b>						
<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>			
ENGL	101*				COMM	104*		
ENGL	102*, 104*							
ENGL	203*							
<b>Mathematics</b>		<b>3 hours</b>						
MATH	104*				MATH	135*		
<b>Civics</b>		<b>3 hours</b>						
HIST	106*				PLSC	103*, 104*		
HIST	107*							
<b>Common Support Courses</b>		<b>8 hours</b>						
BSAD	103 Pro Development (2)				BSAD	125 Computer Applications (3)		
BSAD	115 Computer Concepts - OR -							
DRFT	105 Architectural Drafting* (3)							
<b>Common Construction Courses</b>		<b>15 hours</b>						
CONS	103 Sustainable Bldg Funds* (3)				CONS	116 Framing and Finishing* (3)		
CONS	105 Intro to Const Tech (3)				CONS	290 Construction Internship* (3)		
CONS	112 Carprty Fundamentals* (3)							
<b>Major Courses</b>		<b>24 hours</b>						
AMT	102 Intro to Indust Electricity (3)				CONS	155 Basic HVAC* (3)		
CONS	121 Masonry (3)				CONS	174 Carpentry Forms* (3)		
CONS	131 Plumbing (3)				CONS	232 Site Layout (3)		
CONS	141 Electrical *(3)				CONS	265 Alternative Energy Tech* (3)		

# CERTIFICATE TO AAS

## Construction Technology Certificate Advanced Construction Technology Certificate Construction Management AAS

The Construction Management 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 construction management.

The Construction Technology and Advanced Construction Technology certificates prepare students for entry-level employment in the construction industry with a skill set that includes construction safety, common hand/power tools, basic carpentry fundamentals, framing and finishing, masonry, plumbing, and residential wiring. In the Advanced certificate, students will be introduced to site layout and project management and supervision. All courses are based on the NCCER (National Council for Construction Education and Research) curriculum.

### Program of Study

<b>Construction Technology Certificate Courses</b>			<b>10 hours</b>
COLL	101	College Orientation (1)	
CONS	105	Introduction to Construction Technology (3)	
CONS	112	Carpentry Fundamentals (3)	
CONS	116*	Framing & Finishing (3)	
<b>Electives (All Required for Adv Cert &amp; AAS)</b>			<b>9 hours</b>
CONS	121	Masonry (3)	
CONS	131	Plumbing (3)	
CONS	141*	Electrical (3)	
<b>Advanced Certificate Courses</b>			<b>12 hours</b>
CONS	174*	Carpentry Forms (3)	
CONS	232	Site Layout (3)	
CONS	245*	Project Management (3)	
CONS	265*	Alternative Energy Techniques (3)	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>			<b>3 hours</b>
MATH	104*		
MATH	135*		
<b>Civics</b>			<b>3 hours</b>
HIST	106*, 107*		
PLSC	103*		
<b>Common Support Courses</b>			<b>8 hours</b>
BSAD	103		
BSAD	115	– OR – BSAD 125	
DRFT	105*		
<b>Common Construction Courses</b>			<b>6 hours</b>
CONS	103*	Sustainable Building Fundamentals (3)	
CONS	290*	Construction Internship (3)	

### Suggested Plan of Study FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
CONS	103	Sustainable Bldg Fundamentals	3
CONS	105	Intro to Construction Technology	3
CONS	131	Plumbing (Elective for Cert)	3
CONS	141	Electrical (Elective for Cert)	3
CONS	232	Site Layout	3
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
CONS	112	Carpentry Fundamentals	3
CONS	116	Framing and Finishing	3
CONS	121	Masonry (Elective for Cert)	3
CONS	174	Carpentry Forms	3
CONS	245	Project Management	3
CONS	290	Construction Internship	3
<b>TOTAL</b>			<b>18</b>

### Graduate with Construction Technology Certificate

### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
BSAD	103	Pro Dev – OR – CNS 105/106	2
COMM	104	Fundamentals of Speech	3
CONS	265	Alt Energy Technology	3
Approved Mathematics Course			3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>14</b>

### Graduate with Advanced Construction Tech Certificate

<b>Spring Semester</b>			<b>Hours</b>
BSAD	115	Computer Concepts – OR – BSAD 125	3
DRFT	105	Architectural Drafting	3
Approved Civics Course			3
Approved Written Communication			3
<b>TOTAL</b>			<b>12</b>

### Graduate with Construction Management AAS

Total Basic CERTIFICATE Hours Required	15
Additional Hours for Advanced Certificate	13
Additional Hours Needed for AAS	32
Total AAS Hours Required	60

\* Prerequisite requirement

Courses for Certificate	
Additional Courses for AAS Degree	



## CERTIFICATE Construction Technology

Students must earn 16 hours for this certificate.

		Done	Curr	To do	
<b>Orientation</b>		<b>1 hour</b>			
COLL	101 College Orientation				
<b>Construction Courses</b>		<b>9 hours</b>			
CONS	105 Intro to Construction Technology (3)				
CONS	112 Carpentry Fundamentals (3)				
CONS	116 Framing and Finishing* (3)				
<b>Approved Electives</b>		<b>6 hours</b>			
CONS	121 Masonry (3)				
CONS	131 Plumbing (3)				
CONS	141 Electrical* (3)				



## CERTIFICATE Advanced Construction Technology

		Done	Curr	To do		Done	Curr	To do
<b>Construction Courses</b>		<b>30 hours</b>						
CONS	105 Intro to Construction Technology (3)				CONS	141 Electrical* (3)		
CONS	112 Carpentry Fundamentals (3)				CONS	174 Carpentry Forms* (3)		
CONS	116 Framing and Finishing* (3)				CONS	232 Site Layout (3)		
CONS	121 Masonry (3)				CONS	245 Project Management (3)		
CONS	131 Plumbing (3)				CONS	265* Alt Energy Techniques (3)		



## ASSOCIATE OF APPLIED SCIENCE DEGREE Construction Management

		Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>		<b>1 hour</b>						
COLL	101							
<b>Communications</b>		<b>9 hours</b>						
<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>			
ENGL	101*				COMM	104*		
ENGL	102*, 104*							
ENGL	203*							
<b>Mathematics</b>		<b>3 hours</b>						
MATH	104							
MATH	135*							
<b>Civics</b>		<b>3 hours</b>						
HIST	106*				PLSC	103*, 104*		
HIST	107*							
<b>Common Support Courses</b>		<b>8 hours</b>						
BSAD	103 Professional Development (2)				OR	BSAD 125		
BSAD	115 Computer Concepts (3)							
DRFT	105 Architectural Drafting (3)							
<b>Common Construction Courses</b>		<b>15 hours</b>						
CONS	103 Sustainable Bldg Fund* (3)				CONS	116 Framing and Finishing* (3)		
CONS	105 Intro to Const Tech (3)				CONS	290 Construction Intern* (3)		
CONS	112 Carpentry Fundamentals* (3)							
<b>Major Courses</b>		<b>21 hours</b>						
CONS	121 Masonry (3)				CONS	232 Site Layout (3)		
CONS	131 Plumbing (3)				CONS	245 Project Management* (3)		
CONS	141 Electrical* (3)				CONS	265 Alternative Energy Tech* (3)		
CONS	174 Carpentry Forms* (3)							

## CERTIFICATE

### Construction: Electrical Certificate

This certificate prepares students to enter a career in construction or industrial with a skill set that will provide entry level knowledge of basic Electricity including industrial and residential electrical wiring. This program will cover an introduction to the National Electrical Code (NEC), fundamental electrical theory, and on-hands skills. Students will gain knowledge that can provide a platform into the world of employment opportunities in Electricity.

#### Program of Study

<b>Certificate Courses</b>	<b>16 hours</b>
CNS 101 Introduction to Electronics (3)	
AMT 111 Introduction to Ind Safety (1)	
AMT 102 Introduction to Ind Electricity ( 3)	
CONS 141 Electrical (3)	
CONS 151 Introduction to NEC (3)	
CONS 251 NEC Wiring Methods (3)	

#### Suggested Plan of Study

<b>FIRST YEAR</b>		
<b>Fall Semester</b>		<b>Hours</b>
AMT 102	Introduction to Industrial Electricity	3
AMT 111	Introduction to Industrial Safety	1
CNS 101	Introduction to Electronics	3
CONS 141	Electrical	3
CONS 151	Introduction to NEC	3
CONS 251	NEC Wiring Methods	3
<b>TOTAL</b>		<b>16</b>
<b>Total Hours Required</b>		<b>16</b>



# **CERTIFICATE** **Construction: Electrical**

General Education Core			Done	Curr	To do		Done	Curr	To do
<b>Required Courses</b>		<b>16 hours</b>							
	CNS	101 Introduction to Electronics (3)	_____	_____	_____				
	ATM	111 Introduction to Ind Safety (1)	_____	_____	_____				
	AMT	102 Introduction to Ind Electricity (3)	_____	_____	_____				
	CONS	141 Electrical (3)	_____	_____	_____				
	CONS	151 Introduction to NEC (3)	_____	_____	_____				
	CONS	251 NEC Wiring Methods (3)	_____	_____	_____				

# ASSOCIATE OF ARTS DEGREE

## Criminal Justice AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (15 hours)</b>		<b>Electives (3 hours)</b>	
CJ	101	CJ	102
CJ	210	CJ	190
CJ	250	CJ	270 **
CJ	265	CJ	275
CJ	280	CJ	290 **

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
CJ	101 Intro to Criminal Justice Sys	3
COLL	101 College Orientation	1
ENGL	101 English Composition I	3
MATH	135 Algebra for Calculus	3
	Approved GE Core Elective	2
	Approved Humanities Course	3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
CJ	280 Report Writing	3
ENGL	102 – OR – ENGL 104	3
	Approved Civics Course	3
	Approved Science Course	3-5
<b>TOTAL</b>		<b>12-14</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
CJ	210 Criminal Procedures	3
CJ	250 Criminal Law	3
COMM	104 Fundamentals of Speech	3
	Approved Science Course	3-5
	Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>		<b>15-17</b>

<b>Spring Semester</b>		<b>Hours</b>
CJ	265 Ethics in Criminal Justice	3
	Approved Criminal Justice Course	3
	Approved GE Core Elective	3
	Approved Humanities Course	3
	Approved Humanities Course	3
	Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>		<b>18</b>

**TOTAL HOURS REQUIRED 60-64**

\*Prerequisite required

\*\*Highly recommended for Police Academy at MSSU

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.





# ASSOCIATE OF ARTS DEGREE

## Criminal Justice

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	125*						
	MATH	130*						
	MATH	135* (Recommended)						
<b>Science</b>			<b>7 hours</b>					
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above.								
Courses cannot be used as Core electives if counted under another section of this Program of Study.								
<b>Criminal Justice Courses</b>			<b>18 hours</b>					
	<b>Required Courses (15 hours)</b>					<b>Electives (3 hours)</b>		
	CJ	101 Intro to the Criminal Justice Sys (3)				CJ	102 Crime Scene Processing (3)	
	CJ	210 Criminal Procedures (3)				CJ	190 Patrol Operations (3)	
	CJ	250 Criminal Law (3)				CJ	270 Drug Investigation** (3)	
	CJ	265 Ethics in Criminal Justice (3)				CJ	275 The Juvenile Justice System (3)	
	CJ	280 Report Writing (3)				CJ	290 Police Super & Mgmt** (3)	

# CERTIFICATE TO AAS

## Criminal Justice Certificate

### Criminal Justice AAS

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.

Criminal Justice is increasingly becoming a multi-disciplinary vocation involving law enforcement, the courts, corrections, security professionals, victim advocates and juvenile services. The certificate is designed for professionals who want to increase their knowledge to meet their career objectives in these growing fields.

#### Program of Study

<b>Certificate Courses</b>		<b>16 hours</b>
CJ	101 Introduction to Criminal Justice (3)	
CJ	210 Criminal Procedures (3)	
CJ	250 Criminal Law (3)	
CJ	265 Ethics in Criminal Justice (3)	
CJ	280 Report Writing (3)	
COLL	101 College Orientation (1)	
<b>Certificate Electives</b>		<b>9 hours</b>
<b>All required for AAS unless otherwise noted</b>		
CJ	102 Crime Scene Processing (3)	
CJ	103 Telecommunications (3)	
CJ	190 Patrol Operations (3)	
CJ	200 Criminal Investigations± (3)	
CJ	230 Criminal Justice Internship* (3)	
CJ	270 Drug Investigation (3)	
CJ	275 The Juvenile Justice System (3)	
CJ	290 Police Supervision and Management (3)	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL	101*	
ENGL	102*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	104*, 125*	
MATH	135*	
<b>Civics</b>		<b>3 hours</b>
HIST	106*, 107*	
PLSC	103*	
<b>Required Support Courses</b>		<b>5 hours</b>
BSAD	103 – OR – CNS 105/106	
BSAD	115 – OR – BSAD 125	
<b>Required CJ Courses</b>		<b>15 hours</b>
CJ	285 Family Violence (3)	
Plus 12 hours of required courses from Certificate Electives section		

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
CJ	101 Introduction to Criminal Justice	3
CJ	210 Criminal Procedures	3
CJ	250 Criminal Law	3
COLL	101 College Orientation	1
Approved Certificate Elective		3
<b>TOTAL</b>		<b>13</b>

<b>Spring Semester</b>		<b>Hours</b>
CJ	265 Ethics in Criminal Justice	3
CJ	280 Report Writing	3
CJ	270 —OR—CJ 275—OR—CJ 290	3
Approved Certificate Elective		3
Approved Certificate Elective		3
<b>TOTAL</b>		<b>15</b>

##### Graduate with Criminal Justice Certificate

##### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
CJ	285 Family Violence	3
CJ	275 The Juvenile Justice System	3
COMM	104 Fundamentals of Speech	3
Approved Mathematics Course		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
BSAD	103 Pro Dev – OR – CNS 105/106	2
BSAD	115 – OR – BSAD 125	3
CJ	230 Internship	3
CJ	290 Police Supervision & Management	3
Approved Civics Course		3
Approved Written Communication		3
<b>TOTAL</b>		<b>17</b>

##### Graduate with Criminal Justice AAS

<b>Total CERTIFICATE Hours Required</b>	<b>25</b>
<b>Additional Hours Needed for AAS</b>	<b>35</b>
<b>Total AAS Hours Required</b>	<b>60</b>

\*Prerequisite requirement  
±NOT required for AAS

Courses for Certificate	
Additional Courses for AAS Degree	



## CERTIFICATE Criminal Justice

Done Curr To do

<b>Orientation</b>		<b>1 hour</b>							
COLL	101 College Orientation								
<b>Major Courses</b>		<b>15 hours</b>							
CJ	101 Intro to Criminal Justice (3)								
CJ	210 Criminal Procedures (3)								
CJ	250 Criminal Law (3)								
CJ	265 Ethics in Criminal Justice (3)								
CJ	280 Report Writing (3)								
<b>Specialty Electives</b>		<b>9 hours</b>							
CJ	102 Crime Scene Processing (3)								
CJ	103 Telecommunications (3)								
CJ	190 Patrol Operations (3)								
CJ	200 Criminal Investigations (3)								
CJ	230 Criminal Justice Internship* (3)								
CJ	270 Drug Investigation (3)								
CJ	275 The Juvenile Justice System (3)								
CJ	290 Police Supervision & Mgmt (3)								



## ASSOCIATE OF APPLIED SCIENCE DEGREE Criminal Justice

Done Curr To do

Done Curr To do

<b>Orientation</b>		<b>1 hour</b>							
COLL	101								
<b>Communications</b>		<b>9 hours</b>							
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>			
ENGL	101*					COMM	104*		
ENGL	102*, 104*								
<b>Mathematics</b>		<b>3 hours</b>							
MATH	125*, 135*					MATH	104*		
<b>Civics</b>		<b>3 hours</b>							
HIST	106*					PLSC	103*, 104*		
HIST	107*								
<b>Required Support Courses</b>		<b>5 hours</b>							
BSAD	103					OR	CNS 105/106		
BSAD	115					OR	BSAD 125		
<b>Required CJ Courses</b>		<b>39 hours</b>							
CJ	101 Intro to Criminal Justice (3)					CJ	265 Ethics in Criminal Justice (3)		
CJ	102 Crime Scene Processing (3)					CJ	270 Drug Investigation (3)		
CJ	103 Telecommunications (3)					CJ	275 Juvenile Justice Sys (3)		
CJ	190 Patrol Operations (3)					CJ	280 Report Writing (3)		
CJ	210 Criminal Procedures (3)					CJ	285 Family Violence (3)		
CJ	230 Criminal Justice Intern (3)					CJ	290 Police Supervision/Mgmt (3)		
CJ	250 Criminal Law (3)								

## CERTIFICATE TO AAS

### Diesel Technology Electrical/Electronic I & II Certificates

### Diesel Technology Engines I & II Certificates

### Diesel Technology AAS

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. This program prepares students for ASE certification testing.

The Diesel Technology Electrical/Electronic I & II certificates prepare students to enter careers in Diesel Technology with a basic skill set that will provide entry level knowledge of diesel electrical systems. The students will be introduced to basic theory, operation and testing of various electrical systems found on industrial and trucking equipment. The Electrical/Electronic I certificate will introduce the students to basic diesel powertrains, and air conditioning. The students will be instructed on advanced electronics including lighting systems, instrumentation, warning systems, ignition systems, computer controlled systems, and brake systems for the Electrical/Electronic II certificate.

The Diesel Engines I & II certificates prepare students to enter careers in Diesel Engine Technology with a basic skill set that will provide entry level knowledge of diesel engines including parts identification, measurements of parts, parts reusability, and preventive maintenance. This course will take the student into the operation and diagnostics on the Diesel Engine, including disassembling, repairs and reassemble. Students will have an introduction to Hydraulics, and Steering & Suspension.

Students will be required to complete an internship with this program.

#### Program of Study

#### Suggested Plan of Study

<b>Electrical/Electronic I Certificate Courses</b>			<b>16 hours</b>
DIES	184	Electricity/Electronics (4)	
DIES	204	Diesel Powertrains (4)	
DIES	234	Air Conditioning (4)	
DIES	244*	Internship (4)	
<b>Electrical/Electronic II Certificate Courses</b>			<b>12 hours</b>
All courses in Electrical/Electronic I plus:			
DIES	134	Diesel Hydraulics (4)	
DIES	164	Diesel Brake Systems (4)	
DIES	284	Diesel Electrical/Electronics (4)	
<b>Diesel Engines I Certificate Courses</b>			<b>8 hours</b>
DIES	124	Prevent Maintenance (4)	
DIES	144	Diesel Engines I (4)	
Also requires DIES 234 & 244			
<b>Diesel Engines II Certificate Courses</b>			<b>8 hours</b>
DIES	224	Diesel Steering & Suspension (4)	
DIES	294*	Diesel Engines II (4)	
Also requires DIES 124, 134, 144, 234, & 244			
<b>Orientation</b>			<b>1 hour</b>
COLL	101	College Orientation (1)	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>			<b>3 hours</b>
MATH	104*		
<b>Civics</b>			<b>3 hours</b>
HIST	106* 107*		
PLSC	103*		
<b>Required Support Courses</b>			<b>4 hours</b>
BSAD	115 (3)		
CNS	106		

Students interested in enrolling in diesel technology classes should be advised through the Crowder Technical Education Center (CTEC). After advisement, the student should be enrolled through CTEC personnel. For additional information, please contact 417-455-5596.

\*Prerequisite requirement

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



## CERTIFICATE

### Diesel Technology: Electrical/Electronic I

Students must complete 16 hours for the Electrical/Electronic I certificate.

		Done	Curr	To do
<b>Major Courses</b>				
DIES	184 Electricity/Electronics (4)	_____	_____	_____
DIES	204 Diesel Powertrains (4)	_____	_____	_____
DIES	234 Air Conditioning (4)	_____	_____	_____
DIES	244 Internship* (4)	_____	_____	_____



## CERTIFICATE

### Diesel Technology: Electrical/Electronic II

Students must complete 28 hours for the Diesel Technology certificate.

		Done	Curr	To do
<b>Major Courses</b>				
DIES	134 Diesel Hydraulics (4)	_____	_____	_____
DIES	164 Diesel Brake Systems (4)	_____	_____	_____
DIES	184 Electricity/Electronics (4)	_____	_____	_____
DIES	204 Diesel Powertrains (4)	_____	_____	_____
DIES	234 Air Conditioning (4)	_____	_____	_____
DIES	244 Internship* (4)	_____	_____	_____
DIES	284 Diesel Electrical/Electronics (4)	_____	_____	_____



## CERTIFICATE

### Diesel Technology: Engines I

Students must complete 16 hours for the Engines I certificate.

		Done	Curr	To do
<b>Major Courses</b>				
DIES	124 Prevent Maintenance (4)	_____	_____	_____
DIES	144 Diesel Engines I (4)	_____	_____	_____
DIES	234 Air Conditioning (4)	_____	_____	_____
DIES	244 Internship* (4)	_____	_____	_____



## CERTIFICATE

### Diesel Technology: Engines II

Students must complete 28 hours for the Engines II certificate.

		Done	Curr	To do
<b>Major Courses</b>				
DIES	124 Prevent Maintenance (4)	_____	_____	_____
DIES	134 Diesel Hydraulics (4)	_____	_____	_____
DIES	144 Diesel Engines I (4)	_____	_____	_____
DIES	224 Diesel Steering & Suspension (4)	_____	_____	_____
DIES	234 Air Conditioning (4)	_____	_____	_____
DIES	244 Internship* (4)	_____	_____	_____
DIES	294 Diesel Engines I* I (4)	_____	_____	_____



## ASSOCIATE OF APPLIED SCIENCE DEGREE

### Diesel Technology

		Done	Curr	To do			Done	Curr	To do
<b>Orientation</b>									
	COLL 101	_____	_____	_____					
<b>Communications</b>									
<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>				
ENGL	101*	_____	_____	_____	COMM	104*	_____	_____	_____
ENGL	102*, 104*	_____	_____	_____					
ENGL	203*	_____	_____	_____					
<b>Mathematics</b>									
MATH	104*	_____	_____	_____					
<b>Civics</b>									
HIST	106*	_____	_____	_____	PLSC	103*, 104*	_____	_____	_____
HIST	107*	_____	_____	_____					
<b>Major Courses</b>									
DIES	124 Preventive Maintenance (4)	_____	_____	_____	DIES	224 Diesel Steering & Susp (4)	_____	_____	_____
DIES	134 Diesel Hydraulics (4)	_____	_____	_____	DIES	234 Air Conditioning (4)	_____	_____	_____
DIES	144 Diesel Engines I (4)	_____	_____	_____	DIES	244 Diesel Internship* (4)	_____	_____	_____
DIES	164 Diesel Brakes (4)	_____	_____	_____	DIES	284 Diesel Electrical/Elect II (4)	_____	_____	_____
DIES	184 Electricity/Electronics (4)	_____	_____	_____	DIES	294 Diesel Engines II* (4)	_____	_____	_____
DIES	204 Diesel Powertrain (4)	_____	_____	_____					
<b>Required Support Courses</b>									
BSAD	115 Computer Concepts (3)	_____	_____	_____					
CNS	106 Tech Career Development (1)	_____	_____	_____					

# CERTIFICATE TO AAS

## Drafting: Computer Aided Drafting (CAD) Technician Certificate

### Drafting & Design Technology AAS

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.

This certificate prepares students to enter a career in drafting technology with a basic skill set that will provide entry level knowledge of basic Engineering, Assembly and Technical drawings, Print Reading. The CAD classes will provide general and advanced training in computer aided drafting as they are used in industry.

#### Program of Study

<b>Certificate Courses</b>		<b>18 hours</b>	
DRFT	101	Intro to Engineering Drawing & Print Reading (3)	
DRFT	103	Technical Drawing (3)	
DRFT	115	Basic Computer Aided Drafting (3)	
DRFT	141	Assembly Drawings* (3)	
DRFT	205	Intermediate Computer Aided Drafting* (3)	
DRFT	215	Adv Computer Aided Drafting* (3) (Elective for AAS)	
<b>Orientation</b>		<b>1 hour</b>	
COLL	101	College Orientation (1)	
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
MATH	104*		
<b>Science</b>		<b>5 hours</b>	
PHYS	101		
<b>Civics</b>		<b>3 hours</b>	
HIST	106*, 107*	PLSC	103*
<b>Required Technical Courses</b>		<b>15 hours</b>	
BSAD	115	Computer Concepts (3) – <b>OR</b> – BSAD 125	
DRFT	105	Architectural Drawing (3)	
DRFT	202*	Machine Design (3)	
DRFT	203*	Tool & Die Design (3)	
DRFT	280	Drafting and Design Internship (3)	
<b>Approved Electives</b>		<b>6 hours</b>	
CNS	101	Intro to Electronics (3)	
DRFT	102	Descrip Geometry (3)	
DRFT	120*	Basic Civil Drafting (3)	
DRFT	217	Advanced CAD/Solid Works (3)	
DRFT	220*	Geometric Dimen Toler (3)	
WELD	113	Intro to Welding (3) – <b>OR</b> – WELD 151	
Other Electives Approved by Program Director			

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
DRFT 101	Intro to Eng Drawing & Print Reading	3
DRFT 103	Technical Drawing	3
DRFT 115	Basic Computer Aided Drafting	3
MATH 104	Technical Math	3
<b>TOTAL</b>		<b>12</b>

<b>Spring Semester</b>		<b>Hours</b>
BSAD 115	Computer Concepts	3
DRFT 105	Architectural Drawing	3
DRFT 141	Assembly Drawings	3
DRFT 205	Intermediate CAD (2nd 8 weeks)	3
DRFT 215	Advanced CAD (Inventor) (2 <sup>nd</sup> 8 weeks)	3
<b>TOTAL</b>		<b>15</b>

##### Graduate with Computer Aided Drafting Certificate

##### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL 101	College Orientation	1
COMM 104	Fundamentals of Speech	3
PHYS 101	Survey of Physical Science	5
Approved Elective		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
DRFT 202	Machine Design	3
DRFT 203	Tool and Die Design	3
Approved Civics Course		3
Approved Elective		3
Approved Written Communication		3
<b>TOTAL</b>		<b>15</b>

<b>Summer Semester</b>		<b>Hours</b>
DRFT 280	DRFT Internship	3
<b>TOTAL</b>		<b>3</b>

##### Graduate with Drafting & Design Technology AAS

<b>Total CERTIFICATE Hours Required</b>	<b>18</b>
<b>Additional Hours Needed for AAS</b>	<b>42</b>
<b>Total AAS Hours Required</b>	<b>60</b>

\*Prerequisite requirement

Courses for Certificate	
Additional Courses for AAS Degree	



## CERTIFICATE Computer Aided Drafting (CAD) Technician

			Done	Curr	To do	Done	Curr	To do
<b>Major Courses</b>			<b>18 hours</b>					
DRFT	101	Intro to Eng Drwg & Print Reading (3)						
DRFT	103	Technical Drawing (3)						
DRFT	115	Basic Computer Aided Drafting (3)						
DRFT	141	Assembly Drawings* (3)						
DRFT	205	Intermediate Computer Aided Drafting* (3)						
DRFT	215	Advanced Computer Aided Drafting* (3)						
						OR DRFT 217 Solidworks		



## ASSOCIATE OF APPLIED SCIENCE DEGREE Drafting & Design Technology

			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
ENGL	101*					COMM	104*	
ENGL	102*, 104*							
ENGL	203*							
<b>Mathematics</b>			<b>3 hours</b>					
MATH	104*	Technical Mathematics						
<b>Science</b>			<b>5 hours</b>					
PHYS	101	Survey of Physical Science						
<b>Civics</b>			<b>3 hours</b>					
HIST	106*					PLSC	103*, 104*	
HIST	107*							
<b>Required Technical Courses</b>			<b>30 hours</b>			<b>Approved Electives</b>		
	BSAD	115 Computer Concepts (3)				CNS	101 Intro to Electronics (3)	
OR	BSAD	125 Business Computer Apps (3)				DRFT	102 Descrip Geometry (3)	
	DRFT	101 Engineering Draw ing (3)				DRFT	120 Basic Civil Drafting* (3)	
	DRFT	103 Technical Draw ing* (3)				DRFT	215 Advanced CAD* (3)	
	DRFT	105 Architectural Draw ing* (3)				DRFT	217 Solidw orks* (3)	
	DRFT	115 BASIC CAD (3)				DRFT	220 Geometric Dimen Toler* (3)	
	DRFT	141 Assembly Draw ings* (3)				WELD	113 Intro to Welding (3)	
	DRFT	202 Machine Design* (3)				OR	WELD 151	
	DRFT	203 Tool & Die Design* (3)				Other Electives Approved by Program		
	DRFT	205 Intermediate CAD* (3)					Director	
	DRFT	280 Drafting & Design Internship (3)						



## ASSOCIATE OF ARTS DEGREE

### Fire Science Certificate

The Fire Science program at Crowder College Cassville prepares the student to enter an exciting career as a fire fighter. Courses will prepare students to complete State of Missouri Certification examinations. Upon successful passing of those examinations, students can be hired as an entry-level fire fighter at a Fire Department that recognizes State of Missouri qualifications.

#### Program of Study

<b>Fire Science Major Courses</b>			<b>16 hours</b>
COLL	101	College Orientation (1)	
FSCI	111	Firefighter I & II (6)	
EMT	101*	Emergency Med Tech (9)	

#### Suggested Plan of Study

##### FIRST YEAR

##### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
FSCI	111	Firefighter I & II	6
EMT	101	Emergency Med Tech	9
<b>TOTAL</b>			<b>16</b>
<b>Total Hours Required</b>			<b>16</b>



# CERTIFICATE

## Fire Science

Students must earn 16 hours for this certificate.			Done	Curr	To do			Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>							
	COLL	101 College Orientation (1)								
<b>Major Courses</b>			<b>15 hours</b>							
	FSCI	111 Firefighter I & II (6)								
	EMT	101 Emergency Med Tech* (9)								

# ASSOCIATE OF ARTS DEGREE

## General Studies AA

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.

Program of Study		Suggested Plan of Study	
<b>Orientation</b> <b>1 hour</b>		<b>FIRST YEAR</b>	
COLL	101	<b>Fall Semester</b>	<b>Hours</b>
<b>Communications</b> <b>9 hours</b>		COLL 101 College Orientation	1
<b>Written Communications (6 hours)</b>		COMM 104 Fundamentals of Speech	3
ENGL	101*	ENGL 101 English Composition I	3
ENGL	102*	Approved Civics Course	3
<b>Oral Communications (3 hours)</b>		Approved General Studies Elective	3
COMM	104*	Approved Mathematics Course	3
		<b>TOTAL</b>	<b>15</b>
<b>Humanities</b> <b>9 hours</b>		<b>Spring Semester</b>	<b>Hours</b>
Students should select classes from two different disciplines (prefixes)		ENGL 102 English Composition II	3
ART	101, 106	Approved GE Core Elective	2-3
ASL	101, 102*	Approved General Studies Elective	3
ENGL	109*, 222*, 225*	Approved Humanities Course	3
ENGL	230*, 235*, 240*, 245*	Approved Science Course	3-5
FREN	101	<b>TOTAL</b>	<b>14-17</b>
<b>Mathematics</b> <b>3 hours</b>		<b>SECOND YEAR</b>	
MATH	125*, 130*, 135*	<b>Fall Semester</b>	<b>Hours</b>
<b>Science</b> <b>7 hours</b>		Approved GE Core Elective	2-3
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab		Approved General Studies Elective	3
<b>Lab</b>	<b>Non -Lab</b>	Approved General Studies Elective	3
BIOL	101, 110, 120	Approved Humanities Course	3
BIOL	152*, 252*	Approved Science Course	3-5
CHEM	101, 104, 111*	<b>TOTAL</b>	<b>14-17</b>
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b> <b>9 hours</b>		<b>Spring Semester</b>	<b>Hours</b>
Students should select classes from two different disciplines (prefixes)		Approved General Studies Elective	3
<b>Civics - 3 hours</b>		Approved General Studies Elective	3
HIST	106*, 107*	Approved Humanities Course	3
PLSC	103*	Approved Soc & Behavioral Sci Course	3
		Approved Soc & Behavioral Sci Course	3
		<b>TOTAL</b>	<b>15</b>
<b>GE CORE Electives</b> <b>5 hours</b>		<b>TOTAL HOURS REQUIRED</b> <b>61</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.			
<b>Approved Electives</b> <b>18 hours</b>			
Courses cannot be used as electives if counted under another section and must be numbered 100 or higher.			

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Graphic Design AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL	101*	
ENGL	102*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
Students should select classes from two different disciplines (prefixes)		
ART	101, 106	HIST 101*, 102*
ASL	101, 102*	MUSC 101
ENGL	109*, 222*, 225*	PHIL 101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN 101, 102*
FREN	101	TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH	125*#, 130*, 135*	
<b>Science</b>		<b>7 hours</b>
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab		
<b>Lab</b>		<b>Non-Lab</b>
BIOL	101, 110, 120	PHYS 105
BIOL	152*, 252*	
CHEM	101, 104, 111*	
GEOL	115, 210*	
PHYS	101, 190*	
<b>Social and Behavioral Science</b>		<b>9 hours</b>
Students should select classes from two different disciplines (prefixes)		
<b>Civics (3 hours)</b>		
HIST	106*, 107*	ECON 201*, 202*
PLSC	103*	GEOG 111
		PSYC 101, 211*
		SOC 101
<b>GE CORE Electives</b>		<b>5 hours</b>
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study		
<b>Major Courses</b>		<b>18 hours</b>
ART	189 Photography –or–	ART 191 Photoshop
ART	190 Illustrator	
ART	192* InDesign & Web	
ART	193* Typography –or–	ART 195* GD Animation
ART	194* Portfolio	
<b>Select one (1) of the following:</b>		
ART	103, 104, 105, 106	ART 205, 206*, 207*, 210*,
ART	107, 110, 111, 119*	ART 211, 219*

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
ART	190 Graphic Design I	3
COLL	101 College Orientation	1
ENGL	101 English Composition I	3
MATH	125 Quantitative Reasoning	3
MUSC	101 – OR – TA 205	3
	Approved GE Core Elective	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ART	191 Graphic Design II	3
COMM	104 Fundamentals of Speech	3
ENGL	102 English Composition II	3
	Approved ART Elective	3
	Approved Science Course	5
<b>TOTAL</b>		<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
ART	192 Graphic Design III	3
ART	195* - OR - ART 193*	3
	Approved GE Core Elective	2
	Approved Science Course	3-5
	Approved Social & Behavioral Sci Course	3
<b>TOTAL</b>		<b>14-16</b>

<b>Spring Semester</b>		<b>Hours</b>
ART	194 Graphic Design IV	3
HIST	106 – OR – PLSC 103, 104	3
	Approved Humanities Course	3
	Approved Humanities Course	3
	Approved Social & Behavioral Sci Course	3
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 62-64**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Graphic Design

General Education Core				Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>				<b>1 hour</b>						
	COLL	101								
<b>Communications</b>				<b>9 hours</b>						
	<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>		
	ENGL	101*						COMM	104*	
	ENGL	102*, 104*								
<b>Humanities</b>				<b>9 hours</b>						
	ART	101, 106						HIST	101*, 102*	
	ASL	101, 102*						MUSC	101	
	ENGL	109*, 222*, 225*						PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*						SPAN	101, 102*	
	FREN	101						TA	205	
<b>Mathematics</b>				<b>3 hours</b>						
	MATH	125* (Recommended)						MATH	130*, 135*	
<b>Science</b>				<b>7 hours</b>						
	<b>Lab</b>							<b>Non-Lab</b>		
	BIOL	101, 110, 120						PHYS	105	
	BIOL	152*, 252*								
	CHEM	101, 104, 111*								
	GEOL	115, 210*								
	PHYS	101, 190*								
<b>Social and Behavioral Science</b>				<b>9 hours</b>						
	<b>Civics (3 hours)</b>									
	HIST	106*						ECON	201*, 202*	
	HIST	107*						GEOG	111	
	PLSC	103*, 104*						PSYC	101, 211*	
								SOC	101	
<b>GE Core Electives</b>				<b>5 hours</b>						
Any additional 5 credit hours from courses listed above.										
Courses cannot be used as Core electives if counted										
under another section of this Program of Study.										
<b>Major Courses</b>				<b>18 hours</b>						
	<b>Required Courses (15 hours)</b>							<b>Approved Electives (3 hours)</b>		
	ART	189 Photography (3)						Select One of the following:		
	OR	ART 191 Photoshop (3)						ART	103, 104, 105, 106, 107	
	ART	190 Illustrator (3)						ART	110, 111, 119*	
	ART	192 InDesign & Web* (3)						ART	205, 206*, 207*, 210*, 211*, 219*	
	ART	193 Typography* (3)								
	OR	ART 195 GD Animation (3)								
	ART	194 Portfolio* (3)								

# ASSOCIATE OF ARTS DEGREE

## History AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics - 3 hours</b>			
PLSC	103*#	ECON	201*#
<b>Additional 3 Hours</b>			
ECON	202	GEOG	111#
SOC	101	PSYC	101#, 211*
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (12 hours)</b>			
HIST	101*	HIST	106*
HIST	102*	HIST	107*
<b>Approved Electives (6 hours)</b>			
ECON	201*, 202*	PSYC	101
GEOG	111	SOC	101
PHIL	121		

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition I	3
HIST	106 U.S. History I	3
MATH	125 Quantitative Reasoning	3
	Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ENGL	102 English Composition II	3
HIST	107 U.S. History II	3
PLSC	103 Nat, State, & Local Gov't	3
	Approved Humanities Course	3
	Approved Science Course	3-5
<b>TOTAL</b>		<b>15-17</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
HIST	101 Western Civilization I	3
	Approved Elective	3
	Approved Humanities Course	3
	Approved Science Course	3-5
<b>TOTAL</b>		<b>12-14</b>

<b>Spring Semester</b>		<b>Hours</b>
HIST	102 Western Civilization II	3
	Approved Elective	3
	Approved GE Core Elective	5
	Approved Humanities Course	3
	Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>		<b>17</b>

**TOTAL HOURS REQUIRED 60-64**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.





# ASSOCIATE OF ARTS DEGREE

## History

General Education Core				Done	Curr	To do					Done	Curr	To do
<b>Orientation</b>		<b>1 hour</b>											
	COLL	101											
<b>Communications</b>		<b>9 hours</b>											
		<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>						
	ENGL	101*					COMM	104*					
	ENGL	102*, 104*											
<b>Humanities</b>		<b>9 hours</b>											
	ART	101, 106					HIST	101*, 102*					
	ASL	101, 102*					MUSC	101					
	ENGL	109*, 222*, 225*					PHIL	101*, 121, 201*, 202*					
	ENGL	230*, 235*, 240*, 245*					SPAN	101, 102*					
	FREN	101					TA	205					
<b>Mathematics</b>		<b>3 hours</b>											
	MATH	125* (Recommended)					MATH	130*, 135*					
<b>Science</b>		<b>7 hours</b>											
		<b>Lab</b>					<b>Non-Lab</b>						
	BIOL	101, 110, 120					PHYS	105					
	BIOL	152*, 252*											
	CHEM	101, 104, 111*											
	GEOL	115, 210*											
	PHYS	101, 190*											
<b>Social and Behavioral Science</b>		<b>9 hours</b>											
		<b>Missouri Constitution (3 hours)</b>											
	PLSC	103*, 104*					ECON	201*					
		<b>3 hours of the following:</b>					GEOG	111					
	ECON	202*					PSYC	101, 211*					
	SOC	101											
<b>GE Core Electives</b>		<b>5 hours</b>											
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.													
<b>Major Courses</b>		<b>18 hours</b>											
		<b>Required (12 hours)</b>					<b>Approved Electives (6 hours)</b>						
	HIST	101 Western Civ I* (3)					ECON	201 Prin of Econ I* (3)					
	HIST	102 Western Civ II* (3)					ECON	202 Prin of Econ II* (3)					
	HIST	106 U.S. History I* (3)					GEOG	111 World Regional Geography* (3)					
	HIST	107 U.S. History II* (3)					PHIL	121 World Religions (3)					
							PSYC	101 Gen Psychology (3)					
							SOC	101 Gen Sociology (3)					

# ASSOCIATE OF ARTS DEGREE

## Journalism and Public Relations AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>15 hours</b>	
COMM	101	COMM	150*
COMM	102	COMM	151*
COMM	111*		
<b>Approved Electives</b>		<b>3 hours</b>	
COMM	160	COMM	250*
COMM	220	COMM	251*
COMM	225*		

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
COMM 102 Intro to Public Relations	3
COMM 104 Fundamentals of Speech	3
COMM 150 Intro to Journalism	3
ENGL 101 English Composition	3
MATH 125 Quantitative Reasoning	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
COMM 101 Intro to Mass Communication	3
COMM 111 Magazine Production	3
COMM 151 News/Feature Writing	3
ENGL 102 Advanced English Comp	3
Approved Soc & Behavioral Science Elective	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
Approved Civics Course	3
Approved GE Core Elective	2-3
Approved Humanities Course	3
Approved Humanities Course	3
Approved Science Course	3-5
<b>TOTAL</b>	<b>14-17</b>

<b>Spring Semester</b>	<b>Hours</b>
Approved GE Core Elective	2-3
Approved Humanities Course	3
Approved Journalism Elective	3
Approved Science Course	3-5
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>14-17</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Journalism and Public Relations

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	125* (Recommended)				MATH	130*, 135*	
<b>Science</b>			<b>7 hours</b>					
<b>Lab</b>						<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
<b>Civics (3 hours)</b>								
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.								
<b>Major Courses</b>			<b>15 hours</b>			<b>Approved Electives</b>		
	COMM	101 Intro to Mass Comm (3)				COMM	160 Intro to Broadcast (3)	
	COMM	102 Intro to Pub Rel (3)				COMM	220 Photocomm I (3)	
	COMM	111 Magazine Prod I* (3)				COMM	225 Internship* (3)	
	COMM	150 Intro to Journalism* (3)				COMM	250 Comp Jour & Prod* (3)	
	COMM	151 New s and Feature* (3)				COMM	251 Journalistic Edit* (3)	
<b>Highly recommend that Spanish be taken to fulfill a humanities requirement</b>								

# ASSOCIATE OF ARTS DEGREE

## Mathematics AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	150*#, 160*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101		
PHYS	190* (Required)		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>17-19 hours</b>	
<b>Required Courses (14 hours)</b>			
COMP	111*	MATH	202*
MATH	201*		
<b>Approved Electives (3-5 hours)</b>			
MATH	210*	PHYS	210*

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
COMM 104 Fundamentals of Speech	3
COMP 111 Intro to Programming	4
ENGL 101 English Composition I	3
MATH 150 Calculus I, Part 1	2
Approved Civics Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
ENGL 102 English Composition II	3
MATH 160 Calculus I, Part 2	3
PHYS 190 General Physics I	5
Approved GE Core Elective	3
Approved Humanities Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
MATH 201 Calculus II	5
Approved GE Core Elective	2
Approved Humanities Course	3
Approved Science Course	3-5
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>16-18</b>

<b>Spring Semester</b>	<b>Hours</b>
MATH 202 Calculus III	5
Approved Elective	3-5
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>14-16</b>

**TOTAL HOURS REQUIRED 63-65**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Mathematics

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
	<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>5 hours</b>					
	MATH	150* & 160* (Required)						
<b>Science</b>			<b>7 hours</b>					
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101 (under review )						
	PHYS	190* (Required)						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above.								
Courses cannot be used as Core electives if counted								
under another section of this Program of Study.								
<b>Major Courses</b>			<b>17-19 hours</b>					
	<b>Required Courses (14 hours)</b>					<b>Approved Electives (3-5 hours)</b>		
	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)						

# CERTIFICATE

## Nursing (Practical) Certificate

Crowder College offers a 56 credit hour (1360 clock hours) Practical Nursing (PN) program at the Nevada instructional site. The Practical Nursing program is fully approved by the Missouri State Board of Nursing (MSBN). This is a selective admission program. Candidates applying to the PN program must have a valid high school diploma or equivalent (such as GED or HiSet), complete the TEAS pre-entrance examination, have good moral character as evidenced by references, verify a criminal background check free of Class A or B felony, enroll in Family Care Safety Registry and not be on Employee Disqualification List, have adequate finances to complete the program and reliable transportation plus the ability to perform required functional abilities. Applications are open by February 15 each year and the application cycle is open until seats are filled. First cut-off for selection of students is April 15 with additional applications accepted on a space available basis only until July 15. This two-semester program follows the Fall/Spring schedule of the college. Students can obtain an application from [www.crowder.edu/ Nursing/PracticalNursing](http://www.crowder.edu/Nursing/PracticalNursing) or by contacting the Nursing Department at: [NevadaNursing@crowder.edu](mailto:NevadaNursing@crowder.edu).

### Program of Study

<b>Certificate Courses</b>		<b>56 hours</b>
PN	150 Personal & Vocational Concepts I	
PN	151 PN Anatomy & Physiology	
PN	152 Fundamentals in Nursing I	
PN	153 Fundamentals in Nursing II	
PN	154 Medical Surgical Nursing I	
PN	155 Introduction to Pharmacology & Math for Meds	
PN	156 Gerontology	
PN	250 Fundamentals in Nursing III	
PN	251 Medical Surgical Nursing II	
PN	252 Maternity Nursing	
PN	253 Pediatric Nursing	
PN	254 Personal & Vocational Concepts II	
PN	255 Mental Health	

### Suggested Plan of Study

#### FIRST SEMESTER

<b>Fall Semester</b>		<b>Hours</b>
PN	150 Personal & Voc Concepts I (1st 8 wk)	3
PN	151 PN Anatomy & Phys (1st 8 wk)	4
PN	152 Fundamentals in Nursing I (1st 8 wk)	4
PN	153 Fundamentals in Nursing II (2nd 8 wk)	5
PN	154 Med Surg Nursing I (2nd 8 wk)	4
PN	155 Intro to Pharm & Math/Meds (2nd 8 wk)	5
PN	156 Gerontology (2nd 8 wk)	3
<b>TOTAL</b>		<b>28</b>

#### SECOND SEMESTER

<b>Spring Semester</b>		<b>Hours</b>
PN	250 Fundamentals in Nursing III (1st 8 wk)	8
PN	251 Med Surg Nursing II (1st 8 wk)	10
PN	252 Maternity Nursing (1st 8 wk)	3
PN	253 Pediatric Nursing (2nd 8 wk)	2
PN	254 Personal & Voc Conc II (2nd 8 wk)	2
PN	255 Mental Health (2nd 8 wk)	3
<b>TOTAL</b>		<b>28</b>

**Total Hours Required 56**



# **CERTIFICATE** **Nursing (Practical)**

		Done	Curr	To do				Done	Curr	To do
<b>Major Courses</b>		<b>56 hours</b>								
PN	150 Personal & Vocational Concepts I (3)									
PN	151 PN Anatomy & Physiology (4)									
PN	152 Fundamentals in Nursing I (4)									
PN	153 Fundamentals in Nursing II (5)									
PN	154 Medical Surgical Nursing I (4)									
PN	155 Introduction to Pharm & Math for Meds (5)									
PN	156 Gerontology (3)									
PN	250 Fundamentals in Nursing III (8)									
PN	251 Medical Surgical Nursing II (10)									
PN	252 Maternity Nursing (3)									
PN	253 Pediatric Nursing (2)									
PN	254 Personal & Vocational Concepts II (2)									
PN	255 Mental Health (3)									
Comments: _____										
Signature: _____ Date: _____										

# ASSOCIATE OF SCIENCE DEGREE

## Nursing (Registered) AS

The purpose of the Crowder College Nursing program is to prepare graduates who can demonstrate entry-level competencies as generalist professional nurses and to provide a foundation for continued learning. The format provides 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 and nationally accredited by the Accreditation Commission for Education in Nursing (ACEN). 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 or as recognized by the state in which the graduate desires to license.

The nursing faculty ascribe to adult learning theory in a conceptual learning environment where the adult learner must be an active participant in the educational process. Registered nurses function as an integral part of the health care team to deliver quality, safe, and patient-centered care using clinical judgment that is built on evidence-based practice. The nursing program is a multiple entry, limited admission program. All classes applied toward the Associate of Science in Nursing degree (both general education and core nursing courses) must be passed with a C or better. A grade point average of 2.75 on courses required for the degree and a minimum ACT composite score of 19 are required for both levels of students to be eligible for admission. Students without previous nursing education (those who are NOT licensed practical nurses) enter the program at Level I. These students complete Anatomy & Physiology I (BIOL 152) prior to beginning the nursing program. All accepted nursing students will be required to have an active CNA, RMA, CMA or EMT certification or Paramedic license prior to beginning the nursing courses (Missouri or equivalent). Applications for Level I are accepted from May 1 to September 1 for the Neosho and Cassville program that begins in January. Applications are accepted from October 15 to February 15 for the Nevada and McDonald County 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 (and be eligible for Missouri licensure), be IV certified, and must have completed at least Anatomy and Physiology I (BIOL 152) and II (BIOL 252) and Microbiology (BIOL 220) before beginning the second level nursing sequence. Applications for Level II are accepted from May 1 to September 1 for the Neosho and Cassville program and October 15 to February 15 for the Nevada and McDonald County program.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL 101		
<b>Communications</b>		<b>6 hours</b>
<b>Written Communications (3 hrs)</b>		
ENGL 101*		
<b>Oral Communications (3 hrs)</b>		
COMM 104*		
<b>Mathematics</b>		<b>3 hours</b>
MATH 125*, 130*, 135*		
<b>Science</b>		<b>15 hours</b>
BIOL 152*	BIOL 252*	
BIOL 220*		
<b>Social and Behavioral Science</b>		<b>6 hours</b>
<b>Civics (3 hours)</b>		<b>Additional 3 hours:</b>
HIST 106*, 107*	PSYC 101	
PLSC 103*, 104*	SOC 101	
<b>Nursing Courses</b>		<b>36 hours</b>
<b>Level I courses (19 hours)</b>		
NURS 111*	NURS 141*	
NURS 112*	NURS 142*	
NURS 121*	NURS 171*	
NURS 122*	NURS 172*	
<b>-OR- NURS 201* LPNs Only</b>		
<b>Level II courses (17 hours)</b>		
NURS 211*	NURS 242*	
NURS 212*	NURS 271*	
NURS 221*	NURS 290*	
NURS 241*		

\*Prerequisite requirement

### Suggested Plan of Study

#### Based On Acceptance to the Program

**Program Prerequisites:** Anatomy & Physiology I (BIOL 152) – 5 credit hours  
Active CNA , RMA or EMT certification or Paramedic license (Missouri or equivalent)  
All general education courses must be completed by both Level I & Level II students.

<b>Pre-Requisite Semester</b>		<b>Hours</b>
BIOL 152	Human Anatomy & Physiology I	5
COLL 101	College Orientation	1
	Approved Mathematics Course	3
PSYC 101—OR—SOC 101		3
<b>TOTAL</b>		<b>12</b>

<b>First Semester</b>		<b>Hours</b>
NURS 111	Health Concepts IA (1st 8 wks)	3
NURS 112	Health Concepts IB (2nd 8 wks)	3
NURS 141	Pharmacology I (2nd 8 wks)	2
NURS 171	Professional Concepts I (1st 8 wks)	1
BIOL 252	Human Anatomy & Physiology II	5
<b>TOTAL</b>		<b>14</b>

<b>Second Semester</b>		<b>Hours</b>
BIOL 220	General Microbiology	5
NURS 121	Health Concepts IIA (1st 8 wks)	4
NURS 122	Health Concepts IIB (2nd 8 wks)	4
NURS 142	Pharmacology I (1st 8 wks)	1
NURS 172	Professional Concepts II (2nd 8 wks)	1
<b>TOTAL</b>		<b>15</b>

<b>Third Semester</b>		<b>Hours</b>
COMM 104	Fundamentals of Speech	3
NURS 211	Health Concepts IIIA (1st 8 wks)	4
NURS 212	Health Concepts IIIB (2nd 8 wks)	4
NURS 241	Pharmacology III (1st 8 wks)	1
NURS 271	Professional Concepts III (2nd 8 wks)	2
<b>TOTAL</b>		<b>14</b>

<b>Fourth Semester</b>		<b>Hours</b>
ENGL 101	English Composition	3
HIST 106, 107 - OR - PLSC 103		3
NURS 221	Health Concepts IV (1st 8 wks)	3
NURS 242	Pharmacology IV (1st 8 wks)	1
NURS 290	Nursing Capstone (2nd 8 wks)	2
<b>TOTAL</b>		<b>12</b>

**TOTAL HOURS REQUIRED 67**





# ASSOCIATE OF SCIENCE DEGREE

## Nursing (Registered)

General Education Core			Done	Curr	To do				Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>								
	COLL	101									
<b>Communications</b>			<b>6 hours</b>								
	<b>Written Communications (3 hours)</b>					<b>Oral Communications (3 hours)</b>					
	ENGL	101*				COMM	104*				
<b>Mathematics</b>			<b>3 hours</b>								
	MATH	125*, 130*, 135*									
<b>Science</b>			<b>15 hours</b>								
	BIOL	152*				BIOL	252*				
	BIOL	220*									
<b>Social and Behavioral Science</b>			<b>6 hours</b>								
	<b>Civics (3 hours)</b>					<b>And 3 hours of the following:</b>					
	HIST	106*									
	HIST	107*				PSYC	101 (Recommended)				
	PLSC	103*, 104*				SOC	101 (Recommended)				
<b>Nursing Courses</b>			<b>36 hours</b>								
	<b>Level I courses (19 hours)</b>					<b>Level II courses (17 hours)</b>					
	NURS	111 Health Concepts IA* (3)				NURS	211 Health Concepts IIIA* (4)				
	NURS	112 Health Concepts IB* (3)				NURS	212 Health Concepts IIIB* (4)				
	NURS	121 Health Concepts IIA* (4)				NURS	221 Health Concepts IV* (3)				
	NURS	122 Health Concepts IIB* (4)				NURS	241 Pharmacology III* (1)				
	NURS	141 Pharmacology I* (2)				NURS	242 Pharmacology IV* (1)				
	NURS	142 Pharmacology II* (1)				NURS	271 Professional Concepts III* (2)				
	NURS	171 Professional Concepts I* (1)				NURS	290 Nursing Capstone* (2)				
	NURS	172 Professional Concepts II* (1)									
<b>OR</b>	NURS	201 Transition *(2) LPNs Only									

## ASSOCIATE OF SCIENCE DEGREE

### Occupational Therapy Assistant AS

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, Suite 200, Bethesda, MD 20814-3449. 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 2.75 grade point average. No courses below a grade of C will be accepted. Applications for the OTA program are accepted April 15<sup>th</sup> – August 1<sup>st</sup> of each year.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>6 hours</b>	
<b>Written Communications (3 hours)</b>			
ENGL	101*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>3 hours</b>	
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 111
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*		
<b>Science</b>		<b>10 hours</b>	
BIOL	152*		
BIOL	252*		
<b>Social and Behavioral Science</b>		<b>6 hours</b>	
PSYC	101		
<b>Civics (3 hours)</b>			
HIST	106*, 107*		
PLSC	103		
<b>OTA Courses</b>		<b>44 hours</b>	
OTA	101	OTA	221*
OTA	116	OTA	228*
OTA	125	OTA	236*
OTA	131*	OTA	240*
OTA	201*	OTA	245*
OTA	211*	OTA	250*
OTA	218*		

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Webb City Instructional Site. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic

#### Suggested Plan of Study

##### FIRST YEAR

**Pre-Admission Requirements:** Must be completed prior to the spring semester –

<b>Fall Semester</b>		<b>Hours</b>
BIOL	152 Human Anatomy and Physiology I	5
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition	3
PSYC	101 General Psychology	3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
BIOL	252 Human Anatomy and Physiology II	5
OTA	101 Prins of Occupational Therapy	2
OTA	116 Prins of Therapeutic Intervention	3
OTA	125 Occupational Therapy Documentation	2
Approved Humanities Course		3
<b>TOTAL</b>		<b>15</b>

<b>Summer Semester</b>		<b>Hours</b>
Approved Civics Course		3
Approved Mathematics Course		3
<b>TOTAL</b>		<b>6</b>

##### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
OTA	131 Functional Mvmt: Occ & Adaptation	3
OTA	201 Practice: Children & Adolescents	5
OTA	211 Practice: Mental Health	4
<b>TOTAL</b>		<b>12</b>

<b>Spring Semester</b>		<b>Hours</b>
OTA	218 Occupational Therapy Test & FW Prep	1
OTA	221 Practice: Physical Rehabilitation	5
OTA	228 Occ Performance Across Lifespan	3
OTA	236 Occ Perf Issues in Later Adulthood	4
<b>TOTAL</b>		<b>13</b>

##### THIRD YEAR

<b>Fall Semester</b>		<b>Hours</b>
OTA	240 Fieldwork level II A	5
OTA	245 Occupational Therapy Management	2
OTA	250 Fieldwork level II B	5
<b>TOTAL</b>		<b>12</b>

**TOTAL HOURS REQUIRED 73**



# ASSOCIATE OF SCIENCE DEGREE

## Occupational Therapy Assistant

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>6 hours</b>					
	<b>Written Communications (3 hours)</b>							
	ENGL	101						
	<b>Oral Communications (3 hours)</b>							
	COMM	104*						
<b>Humanities</b>			<b>3 hours</b>					
	ART	101, 106						
	ASL	101, 102*						
	ENGL	109*, 222*, 225*						
	ENGL	230*, 235*, 240*, 245*						
	FREN	101						
	HIST	101*, 102*						
	MUSC	101						
	PHIL	101*, 121, 201*, 202*						
	SPAN	101, 111						
	TA	205						
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	125*, 130*, 135*						
<b>Science</b>			<b>10 hours</b>					
	BIOL	152*						
	BIOL	252*						
<b>Social and Behavioral Science</b>			<b>6 hours</b>					
	<b>Civics (3 hours)</b>							
	HIST	106*						
	HIST	107*						
	PLSC	103*, 104*						
	<b>Additional 3 hours</b>							
	PSYC	101						
<b>OTA Courses</b>			<b>44 hours</b>					
OTA 101	Principles of Occ Therapy (2)					OTA 221	Prin of OT Practice: Phys Rehab* (5)	
OTA 116	Principles of Therapeutic Interventions (3)					OTA 228	Occ Perf Across the Lifespan*(3)	
OTA 125	OT Documentation (2)					OTA 236	Occ Perf Issues in Later Adulthood*(4)	
OTA 131	Functional Movement: Occ and Adapt* (3)					OTA 240	240 Fieldwork Level II - A* (5)	
OTA 201	Prin of OT Practice: Child and Adol* (5)					OTA 245	OT Management* (2)	
OTA 211	Prin of OT Practice: Mental Health* (4)					OTA 250	250 Fieldwork Level II - B* (5)	
OTA 218	OT Test & Fieldwork Prep* (1)							

# CERTIFICATE TO AAS

## Paramedic Certificate Paramedical Science AAS

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.

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.

### Program of Study

<b>Paramedic Certificate Courses</b>		<b>42 hours</b>
EMTP	225 (9)	
EMTP	230* (9)	
EMTP	235* (9)	
EMTP	240* (9)	
EMTP	250* (6)	
<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL	101*	
ENGL	102*, 203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	125*, 130*, 135*	
<b>Civics</b>		<b>3 hours</b>
HIST	106*, 107*	
PLSC	103*	
<b>Science</b>		<b>9 hours</b>
BIOL	101, 152*	
CHEM	101	
CHEM	104 (Recommended)	
<b>Office Administration Courses</b>		<b>3 hours</b>
OA	215 (3)	

\*Prerequisite requirement

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
EMTP	225 EMT – Paramedic (1 <sup>st</sup> 8 weeks)	9
EMTP	230 EMT – Paramedic (2 <sup>nd</sup> 8 weeks)	9
<b>TOTAL</b>		<b>18</b>

<b>Spring Semester</b>		<b>Hours</b>
EMTP	235 EMT – Paramedic (1 <sup>st</sup> 8 weeks)	9
EMTP	240 EMT – Paramedic (2 <sup>nd</sup> 8 weeks)	9
<b>TOTAL</b>		<b>18</b>

<b>Summer Semester (Optional)</b>		<b>Hours</b>
EMTP	250 EMT – Paramedic Capstone	6
<b>TOTAL</b>		<b>6</b>

**Graduate with Paramedic Certificate**

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
BIOL	101 – OR – BIOL 152	5
COLL	101 College Orientation	1
EMTP	250 EMT – Paramedic Capstone (Optional)	6
ENGL	101 English Composition I	3
OA	215 Medical Terminology	3
Approved Mathematics Course		3
<b>TOTAL</b>		<b>15-21</b>

<b>Spring Semester</b>		<b>Hours</b>
CHEM	104 Chemistry for Health Sciences	4
COMM	104 Fundamentals of Speech	3
EMTP	250 EMT – Paramedic Capstone (Optional)	6
ENGL	102 – OR – ENGL 203	3
Approved Civics Course		3
<b>TOTAL</b>		<b>13-19</b>

**Graduate with Paramedical Science AAS**

<b>Total Paramedic Certificate Hours Required</b>	<b>42</b>
<b>Additional Hours Needed for AAS</b>	<b>28</b>
<b>Total AAS Hours Required</b>	<b>70</b>

EMTP 250 can be taken any semester after completion of the paramedic courses, but only needs to be taken one time.

<b>Courses for Certificate</b>	
<b>Additional Courses for AAS Degree</b>	



## CERTIFICATE Paramedic

Done   Curr   To do

<b>Major Courses</b>	<b>42 Hours</b>				
EMTP 225 Paramedic (9)		—	—	—	
EMTP 230* Paramedic (9)		—	—	—	
EMTP 235* Paramedic (9)		—	—	—	
EMTP 240* Paramedic (9)		—	—	—	
EMTP 250* Paramedic Capstone (6)		—	—	—	
Prerequisites: EMT licensure and admission to the Paramedic program are prerequisites for this program.					
Comments: _____					
Signature: _____ Date: _____					



## ASSOCIATE OF APPLIED SCIENCE DEGREE Paramedical Science

				Done	Curr	To do					Done	Curr	To do
<b>Orientation</b>				<b>1 hour</b>									
	COLL	101											
<b>Communications</b>				<b>9 hours</b>									
<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>						
	ENGL	101*					COMM	104*					
	ENGL	102*, 104*											
	ENGL	203*											
<b>Mathematics</b>				<b>3 hours</b>									
	MATH	125*											
	MATH	130*											
	MATH	135*											
<b>Science</b>				<b>9 hours</b>									
	BIOL	101, 152*					CHEM	104 (Recommended)					
	CHEM	101											
<b>Civics</b>				<b>3 hours</b>									
	HIST	106*					PLSC	103*, 104*					
	HIST	107*											
<b>Paramedic Courses</b>				<b>42 hours</b>									
	EMTP	225 (9)											
	EMTP	230* (9)											
	EMTP	235* (9)											
	EMTP	240* (9)											
	EMTP	250* (6)											
<b>Support Courses</b>				<b>3 hours</b>									
	OA	215 Medical Terminology (3)											

# 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.

### Program of Study

<b>Pharmacy Tech Major Courses</b>			<b>16 hours</b>
BSAD	125	Bus Computer Apps (3) – OR – BSAD 115	
COLL	101	College Orientation (1)	
PHAR	101*	Pharmacy Techniques I (3)	
PHAR	102*	Pharmacy Techniques II (3)	
PHAR	110	Pharmacology Concepts (3)	
PHAR	150	Pharmacy Tech Internship* (3)	

\*Prerequisite requirement

### Suggested Plan of Study

<b>FIRST YEAR</b>			
<b>Spring Semester</b>			<b>Hours</b>
BSAD	125 – OR – BSAD 115 (Pharmacy)		3
COLL	101 College Orientation		1
PHAR	101 Pharmacy Techniques I (Pharmacy)		3
PHAR	102 Pharmacy Techniques II (Pharmacy)		3
PHAR	110 Pharmacology Concepts (Pharmacy)		3
PHAR	150 Pharmacy Tech Internship (Pharmacy)		3
<b>TOTAL</b>			<b>16</b>
<b>Total Hours Required</b>			<b>16</b>



# **CERTIFICATE** **Pharmacy Technician**

Students must earn 16 hours for this certificate.

				Done	Curr	To do					Done	Curr	To do
<b>Orientation</b>		<b>1 hour</b>											
COLL	101	College Orientation (1)		___	___	___					___	___	___
<b>Major Courses</b>		<b>15 hours</b>					<b>OR</b> BSAD 115 (3)						
BSAD	125	Computer Applications (3)		___	___	___					___	___	___
PHAR	101	Pharmacy Techniques I* (3)		___	___	___					___	___	___
PHAR	102	Pharmacy Techniques II* (3)		___	___	___					___	___	___
PHAR	110	Pharmacology Concepts (3)		___	___	___					___	___	___
PHAR	150	Pharmacy Tech Internship* (3)		___	___	___					___	___	___
<p>Certification Component</p> <p>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.</p>													

# ASSOCIATE OF ARTS DEGREE

## Photography AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101#, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (9 hours)</b>			
ART	191 GD II	COMM	231* Photocomm II
COMM	220 Photocomm I		
<b>Approved Electives (9 hours)</b>			
ART	103	COMM	150*
BSAD	150	COMM	171-173
BMGT	200	COMM	225*
COMM	111*		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
ART 191 Graphic Design II	3
COLL 101 College Orientation	1
COMM 104 Fundamentals of Speech	3
COMM 220 Photocommunication I	3
ENGL 101 English Composition	3
MATH 125 Quantitative Reasoning	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
ART 101 Art Appreciation	3
COMM 231 Photocommunication II	3
ENGL 102 Advanced English Comp	3
Approved Photography Elective	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
Approved Civics Course	3
Approved GE Core Elective	3
Approved Humanities Course	3
Approved Photography Elective	3
Approved Science Course	3-5
<b>TOTAL</b>	<b>15-17</b>

<b>Spring Semester</b>	<b>Hours</b>
Approved GE Core Elective	2
Approved Humanities Course	3
Approved Photography Elective	3
Approved Science Course	3-5
Approved Social Science Course	3
<b>TOTAL</b>	<b>14-16</b>

**TOTAL HOURS REQUIRED 60-64**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option





# ASSOCIATE OF ARTS DEGREE

## Photography

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>								
	COLL	101						
<b>Communications</b>								
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>								
	ART	101 (Recommended)				HIST	101*, 102*	
	ART	106				MUSC	101	
	ASL	101, 102*				PHIL	101*, 121, 201*, 202*	
	ENGL	109*, 222*, 225*				SPAN	101, 102*	
	ENGL	230*, 235*, 240*, 245*				TA	205	
	FREN	101						
<b>Mathematics</b>								
	MATH	125* (Recommended)				MATH	130*, 135*	
<b>Science</b>								
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>								
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>								
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.								
<b>Major Courses</b>								
	<b>Required Courses (9 hours)</b>					<b>Approved Electives (9 hours)</b>		
	ART	191 Graphic Design II (3)				ART	103 Intro to 2-D Design (3)	
	COMM	220 Photocommunication I (3)				BSAD	150 Intro to Business (3)	
	COMM	231 Photocommunication II* (3)				BMGT	200 Marketing (3)	
						COMM	111 Magazine Prod I* (3)	
						COMM	150 Intro to Journalism* (3)	
						COMM	171-173 Topics in Communication (1-3)	
						COMM	225 Internship* (3)	

# ASSOCIATE OF ARTS DEGREE

## Physical Education AA

Most successful Physical Education majors have a strong interest in general health, physical fitness, and sports. A desire to work with young people in their overall development is essential for success in this field. Students who transfer and complete a Bachelor of Science in Physical Education can find job opportunities in teaching, coaching, recreation, athletic training, and health promotion and wellness. Students seeking teaching/coaching careers in public schools must meet state certification requirements. The following program is suggested for students who intend to transfer following graduation. For best transfer, students should contact the four-year institution to which they plan to transfer as early in the program as possible.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101#, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101#, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (6 hours)</b>			
HIST	106*#, 107*	ECON	201*, 202*
PLSC	103*#	GEOG	111
		PSYC	101#, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>13 hours</b>	
PE	113	PE	142
PE	115	PE	150
PE	120	PE	160, 260
PE	125		
<b>PE Activities Classes (2 one hour classes maximum)</b>			
<b>Approved Electives (6-8 hours)</b>			
BIOL	152*#	PSYC	211*
EDUC	231*#		

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
ENGL	101 English Composition	3
MATH	125 Quantitative Reasoning	3
PE	115 First Aid (Fall Only)	2
PSYC	101 General Psychology	3
Approved Humanities Course		3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
BIOL	101 General Biology	5
ENGL	102 Advanced English Comp	3
HIST	106 U.S. History I	3
PE	125 Athletic Training (Spring Only)	2
PE	142 Personal & Community Health	3
<b>TOTAL</b>		<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
EDUC	231 Educational Psychology	3
ENGL	109 Intro to Literature	3
PE	120 Intro to PE (Fall Only)	2
PHYS	101 Survey of Phys. Science	5
Approved GE Core Elective		2-3
Approved PE Elective		3
<b>TOTAL</b>		<b>18-19</b>

<b>Spring Semester</b>		<b>Hours</b>
COMM	104 Fundamentals of Speech	3
PE	113 Lifetime Fitness & Wellness	2
PE	260 Coaching Methods II (Spring Only)	2
PLSC	103 Nat, State, Local Gov't	3
Approved GE Core Elective		2-3
Approved Humanities Course		3
<b>TOTAL</b>		<b>15-16</b>

**TOTAL HOURS REQUIRED 64-66**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Physical Education

General Education Core				Done	Curr	To do					Done	Curr	To do
<b>Orientation</b>													
	COLL	101	1 hour										
<b>Communications</b>													
<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>						
	ENGL	101*					COMM	104*					
	ENGL	102*, 104*											
<b>Humanities</b>													
	ART	101, 106					HIST	101*, 102*					
	ASL	101, 102*					MUSC	101					
	ENGL	109*, 222*, 225*					PHIL	101*, 121, 201*, 202*					
	ENGL	230*, 235*, 240*, 245*					SPAN	101, 102*					
	FREN	101					TA	205					
<b>Mathematics</b>													
	MATH	125* (Recommended)					MATH	130*, 135*					
<b>Science</b>													
	<b>Lab</b>						<b>Non-Lab</b>						
	BIOL	101 (Recommended)					PHYS	105					
	BIOL	110, 120, 152*, 252*											
	CHEM	101, 104, 111*											
	GEOL	115, 210*											
	PHYS	101 (Recommended), 190*											
<b>Social and Behavioral Science</b>													
<b>Civics (6 hours)</b>													
	HIST	106* (Recommended), 107*					ECON	201*, 202*					
	PLSC	103* (Recommended), 104*#					GEOG	111					
							PSYC	101 (Recommended), 211*					
							SOC	101					
<b>GE Core Electives</b>													
Any additional 5 credit hours from courses listed above.													
Courses cannot be used as Core electives if counted under another section of this Program of Study.													
<b>Major Courses</b>							<b>Approved Electives</b>						
	PE	113 Lifetime Wellness (2)					BIOL	152 Anat & Phys I (5)(recommended)					
	PE	115 First Aid (2)					EDUC	231 Educ Psych* (3) (recommended)					
	PE	120 Intro to Phys Educ (2)					PSYC	211 Lifespan Development* (3)					
	PE	125 Athletic Training (2)											
	PE	142 Personal & Comm Health (3)											
	PE	150 Sport Psych (2)											
	PE	160 or 260 Coaching Methods (2)											
	PE	Activities classes (2 one-hour classes maximum)											
		List below :											

# ASSOCIATE OF ARTS DEGREE

## Physics AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	150*#, 160*#		
<b>Science</b>		<b>10 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*# (Required)		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>22 hours</b>	
COMP	111*	MATH	210*
MATH	201*	PHYS	210*
MATH	202*		
<b>Other Recommended Courses</b>			
CHEM	111*	CHEM	112*
Any classes in Alternative Energy			

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
COMP	111 Intro to Programming	4
ENGL	101 English Composition I	3
MATH	150 Calculus I, Part 1	2
Approved Civics Course		3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ENGL	102 English Composition II	3
MATH	160 Calculus I, Part 2	3
PHYS	190 General Physics I	5
Approved GE Core Elective		5
Approved Humanities Course		3
<b>TOTAL</b>		<b>19</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
MATH	201 Calculus II	5
PHYS	210 General Physics II	5
Approved Humanities Course		3
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
BIOL	101 General Biology	3-4
MATH	202 Calculus III	5
MATH	210 Differential Equations	3
Approved Humanities Course		3
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>17-18</b>

**TOTAL HOURS REQUIRED 68-69**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Physics

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
	<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>5 hours</b>					
	MATH	150* & 160* (Required)				MATH	125*, 130*, 135*	
<b>Science</b>			<b>10 hours</b>					
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101						
	PHYS	190* (Required)						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above.								
Courses cannot be used as Core electives if counted								
under another section of this Program of Study.								
<b>Major Courses</b>			<b>22 hours</b>					
	COMP	111 Intro to Computer Sci* (4)				<b>Additional Recommended Classes</b>		
	MATH	201 Calculus II* (5)				CHEM	111 Gen Chemistry I* (5)	
	MATH	202 Calculus III* (5)				CHEM	112 Gen Chemistry II* (5)	
	MATH	210 Diff Equations* (3)				Any classes in Alternative Energy		
	PHYS	210 Gen Physics II* (5)						

# ASSOCIATE OF SCIENCE DEGREE

## Pre-Engineering AS

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. Although not specifically designed for transfer to other engineering schools, 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 adviser 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 an advisement and counseling program for pre-engineering majors. Students enrolling at Crowder can be simultaneously enrolled at Missouri S&T's Transfer Assistance Program. This allows for a smoother transition between the two institutions. Students are also allowed to participate in special pre-registration programs on the Missouri S&T campus.

Crowder College offers two degree programs in pre-engineering. The A.S. Pre-Engineering degree is designed for those students who plan to enter into traditional engineering fields such as Mechanical, Electrical, Civil, etc. Grades below a "C" are not allowed.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications †</b>		<b>6 hours</b>	
ENGL	101*		
ENGL	102*		
COMM	104*		
<b>Humanities †</b>		<b>3 hours</b>	
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>18 hours</b>	
MATH	150*	MATH	202*
MATH	160*	MATH	210*
MATH	201*		
<b>Science</b>		<b>18 hours</b>	
PHYS	190*	PHYS	250*
PHYS	210*	CHEM	111*
<b>Social and Behavioral Science †</b>		<b>9 hours</b>	
<b>Civics (3 hours)</b>		<b>Additional 3 hours</b>	
HIST	106*, 107*	ECON	201*, 202*
PLSC	103	GEOG	111
<b>Economics (3 hours)</b>		PSYS	101, 211*
ECON	201*, 202*	SOC	101
<b>Computer Science</b>		<b>4 hours</b>	
COMP	111		
<b>Technical Electives</b>		<b>5 hours</b>	
CHEM	112*	DRFT	115
CHEM	201*	DRFT	217
DRFT	101		

# - Preferred class for this degree option

### Suggested Plan of Study

FIRST YEAR		Hours
<b>Fall Semester</b>		
CHEM	111 General Chemistry I	5
COLL	101 College Orientation	1
COMP	111 Introduction to Programming	4
ENGL	101 English Composition I	3
MATH	150 Calculus I, Part 1	2
<b>TOTAL</b>		<b>15</b>
<b>Spring Semester</b>		
ECON	201 – OR – ECON 202	3
MATH	160 Calculus I, Part 2	3
PHYS	190 General Physics I	5
Approved Communications Course		3
Approved Humanities Course		3
<b>TOTAL</b>		<b>17</b>
SECOND YEAR		Hours
<b>Fall Semester</b>		
MATH	201 Calculus II	5
PHYS	210 General Physics II	5
Approved Civics Course		3
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>16</b>
<b>Spring Semester</b>		
MATH	202 Calculus III	5
MATH	210 Differential Equations	3
PHYS	250 Statics	3
Approved Technical Electives		5
<b>TOTAL</b>		<b>16</b>
<b>TOTAL HOURS REQUIRED</b>		<b>64</b>

\*Prerequisite requirement

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF SCIENCE DEGREE

## Pre-Engineering

			Done	Curr	To do			Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>							
	COLL	101								
<b>Communications</b>			<b>6 hours</b>							
	ENGL	101* (3)								
	ENGL	102*, 104* (3)								
	COMM	104* (3)								
<b>Humanities</b>			<b>3 hours</b>							
	ART	101, 106				HIST	101*, 102*			
	ASL	101, 102*				MUSC	101			
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*			
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*			
	FREN	101				TA	205			
<b>Mathematics</b>			<b>18 hours</b>							
	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)								
<b>Science</b>			<b>18 hours</b>							
	PHYS	190 General Physics I* (5)				PHYS	250 Statics* (3)			
	PHYS	210 General Physics II* (5)				CHEM	111 General Chemistry I* (5)			
<b>Social &amp; Behavioral Science</b>			<b>9 hours</b>							
	<b>Civics (3 hours)</b>					<b>Additional (3 hours)</b>				
	HIST	106*				ECON	201*, 202*			
	HIST	107*				GEOG	111			
	PLSC	103*, 104*				PSYC	101, 211			
	<b>Economics (3 hours)</b>					SOC	101			
	ECON	201*, 202*								
<b>Computer Science</b>			<b>4 hours</b>							
	COMP	111 Intro to Computer Sci* (4)								
<b>Technical Electives</b>			<b>5 hours</b>							
	CHEM	112 General Chemistry II* (5)				DRFT	101 Engineering Draw (3)			
	CHEM	201 Quant Analysis* (5)				DRFT	115 Basic CAD (3)			
						DRFT	217 Advanced CAD (Solid Works)			
CHEM 112 required for Chem Engineering majors										

# ASSOCIATE OF ARTS DEGREE

## Pre-Medicine AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	150*, 160*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101, 110#, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*#		
GEOL	115, 210*		
PHYS	101		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>20 hours</b>	
<b>Required Courses (10 hours)</b>			
PHYS	190*	BIOL	220*
<b>Approved Electives (10 hours)</b>			
CHEM	112*	CHEM	221*
CHEM	201*	PHYS	210*

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
BIOL 101 Biology	5
CHEM 111 General Chemistry I	5
COLL 101 College Orientation	1
ENGL 101 English Composition I	3
MATH 150 Calculus 1, Part I	2
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
CHEM 112 General Chemistry II	5
MATH 160 Calculus 1, Part II	3
Approved Civics Course	3
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
BIOL 110 – OR – Approved elective	5
BIOL 220 General Microbiology	5
ENGL 102 English Composition II	3
Approved Humanities Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
COMM 104 Fundamentals of Speech	3
PHYS 190 General Physics I	5
Approved GE Core Elective	2
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>16</b>

**TOTAL HOURS REQUIRED 65**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.





# ASSOCIATE OF ARTS DEGREE

## Pre-Medicine

General Education Core			Done	Curr	To do			Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>							
	COLL	101								
<b>Communications</b>			<b>9 hours</b>							
	<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>		
	ENGL	101*						COMM	104*	
	ENGL	102*, 104*								
<b>Humanities</b>			<b>9 hours</b>							
	ART	101, 106						HIST	101*, 102*	
	ASL	101, 102*						MUSC	101	
	ENGL	109*, 222*, 225*						PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*						SPAN	101, 102*	
	FREN	101						TA	205	
<b>Mathematics</b>			<b>5 hours</b>							
	MATH	150* & 160* (Required)								
<b>Science</b>			<b>7 hours</b>							
	<b>Lab</b>							<b>Non-Lab</b>		
	BIOL	101, 120						PHYS	105	
	BIOL	110 (Recommended)								
	BIOL	152*, 252*								
	CHEM	101, 104								
	CHEM	111* (Recommended)								
	GEOL	115, 210*								
	PHYS	101								
<b>Social and Behavioral Science</b>			<b>9 hours</b>							
	<b>Civics (3 hours)</b>									
	HIST	106*						ECON	201*, 202*	
	HIST	107*						GEOG	111	
	PLSC	103*, 104*						PSYC	101, 211*	
								SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>							
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.										
<b>Major Courses</b>			<b>20 hours</b>							
	<b>Required Courses (10 hours)</b>							<b>Approved Electives (10 hours)</b>		
	BIOL	220 Gen Microbiology* (5)						CHEM	112 General Chem II* (5)	
	PHYS	190 General Physics I* (5)						CHEM	201 Quant Analysis* (5)	
								CHEM	221 Organic & Biochemistry* (5)	
								PHYS	210 General Physics II* (5)	

# ASSOCIATE OF ARTS DEGREE

## Preschool Teacher/Paraprofessional AA

The Preschool Teacher/Paraprofessional 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, as a paraprofessional in a P-12 setting, an Autism assistant, or in a private institution. If the student prefers to pursue a BA, the student will have completed the general education requirements and the 18 hours in the major include courses that are transferable to several four-year institutions in our area. Students must register with FCSR and have a clearance letter before completing any observation in schools.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125* #, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101#, 211*
		SOC	101#
<b>GE CORE Electives</b>		<b>5 hours</b>	
<i>Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study</i>			
<b>Major Courses</b>		<b>18 hours</b>	
ECD	101 OR EDUC 125	PSYC	203
ECD	103	PSYC	204
ECD	201*	PSYC	211*
ECD	203* OR EDUC 251	PSYC	290
EDUC	206*		
Students with the Child Development Associate (CDA) national credential will be credited with completed ECD 101 and ECD 103.			

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
ENGL	101 English Composition I	3
PSYC	101 General Psychology	3
	Approved Science Course	3-5
	Major Course	3
<b>TOTAL</b>		<b>13-15</b>

<b>Spring Semester</b>		<b>Hours</b>
ENGL	102 English Composition II	3
MATH	125 Quantitative Reasoning	3
SOC	101 General Sociology	3
	Approved Civics Course	3
	Major Course	3
<b>TOTAL</b>		<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
COMM	104 Fundamentals of Speech	3
PHYS	101 Survey of Physical Science	3-5
	Approved GE Core Elective	3
	Approved Humanities Course	3
	Major Course	3
<b>TOTAL</b>		<b>15-17</b>

<b>Spring Semester</b>		<b>Hours</b>
	Approved GE Core Elective	2
	Approved Humanities Course	3
	Approved Humanities Course	3
	Major Course	3
	Major Course	3
	Major Course	3
<b>TOTAL</b>		<b>17</b>

**TOTAL HOURS REQUIRED 60-64**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option



# ASSOCIATE OF ARTS DEGREE

## Preschool Teacher/Paraprofessional

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
	<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	125* (Recommended)				MATH	130*, 135*	
<b>Science</b>			<b>7 hours</b>					
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101 (Recommended)	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.								
<b>Students with the Child Development Associate (CDA) national credential will be credited with completing</b>								
<b>ECD 101 and ECD 103. Students will take the Pre-Professional Assessment and Certification in Early Childhood Ed through the</b>								
<b>American Association of Family and Consumer Sciences. (ECE)</b>								
<b>Major Courses</b>			<b>18 hours</b>					
	ECD	101 Foundations (3)				OR	EDUC 125 Introduction to Education (3)	
	ECD	103 Health and Safety (3)						
	ECD	201 Curriculum* (3)						
	ECD	203 Practicum* (2)				OR	EDUC 251 Teaching Profession* (3)	
	EDUC	206 Literature for Children* (3)						
	PSYC	203 Autism Disorders (3)						
	PSYC	204 Applied Behavior (3)						
	PSYC	211 Lifespan Development (3)						
	PSYC	290 Clinical I (3)						

# ASSOCIATE OF ARTS DEGREE

## Pre-Veterinary Medicine AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101 OR AGRI 111		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*, 130*, 135*#		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110#, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>23 hours</b>	
<b>Required Courses (17 hours)</b>			
ANSC	114	CHEM	112*
BIOL	220*	MATH	112*
<b>Approved Electives (6 hours)</b>			
ANSC	101*	BIOL	120*
ANSC	180*	CHEM	221*
ANSC	213	MATH	150*
ANSC	223	MATH	160*
ANSC	232*	PHYS	190*
ANSC	233	PHYS	210*

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
AGRI 111 – OR – COLL 101	1
ANSC 114 Animal Science (elective)	4
BIOL 110 General Zoology	5
ENGL 101 English Composition I	3
MATH 135 Algebra for Calculus	3
Approved GE Core Elective	2
<b>TOTAL</b>	<b>18</b>

<b>Spring Semester</b>	<b>Hours</b>
BIOL 220 General Microbiology	5
COMM 104 Fundamentals of Speech	3
ENGL 102 English Composition II	3
MATH 112 Trigonometry	3
Approved Elective(s)	3-5
<b>TOTAL</b>	<b>17-19</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
Approved Elective(s)	3-5
Approved GE Core Elective	3
Approved Humanities Course	3
Approved Science Course	3-5
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15-19</b>

<b>Spring Semester</b>	<b>Hours</b>
CHEM 112 General Chemistry II	5
Approved Civics Course	3
Approved Humanities Course	3
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>17</b>

**TOTAL HOURS REQUIRED 67-73**

\*Prerequisite required

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# - Preferred class for this degree option



# ASSOCIATE OF ARTS DEGREE

## Pre-Veterinary Medicine

General Education Core				Done	Curr	To do		Done	Curr	To do
<b>Orientation</b>							<b>OR</b>			
	COLL	101	1 hour				AGRI 111 Ag Career Development			
<b>Communications</b>										
<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>			
	ENGL	101*					COMM 104*			
	ENGL	102*, 104*								
<b>Humanities</b>										
	ART	101, 106					HIST 101*, 102*			
	ASL	101, 102*					MUSC 101			
	ENGL	109*, 222*, 225*					PHIL 101*, 121, 201*, 202*			
	ENGL	230*, 235*, 240*, 245*					SPAN 101, 102*			
	FREN	101					TA 205			
<b>Mathematics</b>										
	MATH	135* (Recommended)					MATH 125*, 130*			
<b>Science</b>										
	<b>Lab</b>						<b>Non-Lab</b>			
	BIOL	101, 120					PHYS 105			
	BIOL	110 (Recommended)								
	BIOL	152*, 252*								
	CHEM	101, 104, 111*								
	GEOL	115, 210*								
	PHYS	101, 190*								
<b>Social and Behavioral Science</b>										
	<b>Civics (3 hours)</b>									
	HIST	106*					ECON 201*, 202*			
	HIST	107*					GEOG 111			
	PLSC	103*, 104*					PSYC 101, 211*			
							SOC 101			
<b>GE Core Electives</b>										
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.										
<b>Major Courses</b>							<b>Approved Electives (6 hours)</b>			
	<b>Required Courses (17 hours)</b>						ANSC 101 Livestock Selection* (1)			
	ANSC	114 Animal Science (4)					ANSC 180 Intro to Vet Science* (2)			
	BIOL	220 Gen Microbiology* (5)					ANSC 213 Feeds & Nutrition (3)			
	CHEM	112 Gen Chemistry II* (5)					ANSC 223 Farm Animal Health (3)			
	MATH	112 Trigonometry* (3)					ANSC 232 AI/Animal Reproduct* (3)			
							ANSC 233 Horse Science (3)			
							BIOL 120 General Botany* (5)			
							CHEM 221 Organic & Biochemistry* (5)			
							MATH 150 Calculus I, Part 1* (2)			
							MATH 160 Calculus 1, Part II* (3)			
							PHYS 190 Physics I* (5)			
							PHYS 210 General Physics II* (5)			

# ASSOCIATE OF ARTS DEGREE

## Psychology: General AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	135*	MATH	125*, 130*
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non -Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
<b>GE CORE Electives</b>		<b>5 hours</b>	
<i>Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study</i>			
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (9 hours)</b>			
PSYC	101	SOC	101
PSYC	211		
<b>Approved Electives (9 hours)</b>			
EDUC	231*	PSYC	110*
HIST	106*, 107*	PSYC	203
PLSC	103*	PSYC	204
		PSYC	290*

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition I	3
MATH	135 Algebra for Calculus	3
PSYC	101 General Psychology	3
	Approved Civics Course	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ENGL	102 English Composition II	3
SOC	101 General Sociology	3
	Approved Humanities Course	3
	Approved Science Course	3-5
	Approved Social & Behavioral Science Course	3
<b>TOTAL</b>		<b>15-17</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
PSYC	211 Lifespan Development	3
	Approved GE Core Elective	3
	Approved Humanities Course	3
	Approved Science Course	3-5
	Approved Psychology Elective	3
<b>TOTAL</b>		<b>15-17</b>

<b>Spring Semester</b>		<b>Hours</b>
	Approved GE Core Elective	3
	Approved Humanity Course	3
	Approved Psychology Elective	3
	Approved Psychology Elective	3
	Approved Social and Behavioral Course	3
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 61-65**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Psychology

General Education Core				Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>									
	COLL	101	1 hour						
<b>Communications</b>									
<b>Written Communications (6 hours)</b>							<b>Oral Communications (3 hours)</b>		
	ENGL	101*					COMM	104*	
	ENGL	102*, 104*							
<b>Humanities</b>									
	ART	101, 106					HIST	101*, 102*	
	ASL	101, 102*					MUSC	101	
	ENGL	109*, 222*, 225*					PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*					SPAN	101, 102*	
	FREN	101					TA	205	
<b>Mathematics</b>									
	MATH	135* (Recommended)	3 hours				MATH	125*, 130*	
<b>Science</b>									
	<b>Lab</b>		7 hours				<b>Non-Lab</b>		
	BIOL	101, 110, 120					PHYS	105	
	BIOL	152*, 252*							
	CHEM	101, 104, 111*							
	GEOL	115, 210*							
	PHYS	101, 190*							
<b>Social and Behavioral Science</b>									
	<b>Civics (3 hours)</b>								
	HIST	106*					ECON	201*, 202*	
	HIST	107*					GEOG	111	
	PLSC	103*, 104*							
<b>GE Core Electives</b>									
Any additional 5 credit hours from courses listed above.									
Courses cannot be used as Core electives if counted under another section of this Program of Study.									
<b>Major Courses</b>									
<b>Required Courses (9 hours)</b>									
	PSYC	101 General Psych (3)					SOC	101 General Sociology (3)	
	PSYC	211 Lifespan Development* (3)							
<b>Approved Electives (9 hours)</b>									
	EDUC	231 Educational Psych* (3)					PSYC	110 Psych of Pers Adj* (3)	
	HIST	106 U.S. History I* (3)					PSYC	203 Autism Spectrum Disorders (3)	
	HIST	107 U.S. History II* (3)					PSYC	204 Applied Behavior Analysis (3)	
	PLSC	103, 104 Nat, State, & Loc Gov* (3)					PSYC	290 Clinical I* (3)	

# ASSOCIATE OF ARTS DEGREE

## Social Work AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201* (Required)
<b>Plus 3 Hours</b>			
PLSC	103*	GEOG	111
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>18 hours</b>	
PSYC	101	SWK	200*
PSYC	211*	SWK	221
SOC	101	SWK	230

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition I	3
MATH	125 Quantitative Reasoning	3
SOC	101 General Sociology	3
SWK	200 Intro to Social Work	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ENGL	102 English Composition II	3
HIST	106 US History I	3
SWK	221 Basic Helping Skills	3
Approved Science Course		3-5
<b>TOTAL</b>		<b>12-14</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
ECON	201 Principles of Economics I	3
PSYC	101 General Psychology	3
SWK	230 Substance Abuse Interventions	3
Approved Humanities Course		3
Approved Science Course		3-5
<b>TOTAL</b>		<b>15-17</b>

<b>Spring Semester</b>		<b>Hours</b>
PLSC	103 Nat'l, State, Local Gov't	3
Approved GE Core Elective		5
Approved Humanities Course		3
Approved Humanities Course		3
<b>TOTAL</b>		<b>14</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.





# ASSOCIATE OF ARTS DEGREE

## Social Work

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	125* (Recommended)				MATH	130*, 135	
<b>Science</b>			<b>7 hours</b>					
<b>Lab</b>						<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
<b>Civics (6 hours - one from each line)</b>								
	HIST	106*, 107*				ECON	201* (Recommended)	
	PLSC	103*, 104*				ECON	202*	
						GEOG	111	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study.								
<b>Major Courses</b>			<b>18 hours</b>					
	PSYC	101 Gen Psyc (3)				SWK	200 Intro to Social Work* (3)	
	PSYC	211 Lifespan Development (3)				SWK	221 Basic Helping Skills (3)	
	SOC	101 Gen Sociology (3)				SWK	230 Substance Abuse Intervntns (3)	

# ASSOCIATE OF ARTS DEGREE

## Spanish AA

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 21<sup>st</sup> 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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*#, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101#, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
<b>Lab</b>		<b>Non-Lab</b>	
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (12 hours)</b>			
SPAN	102*	SPAN	201*
SPAN	105*	SPAN	202*
<b>Approved Electives (6 hours)</b>			
SPAN	106*#	SPAN	112*
SPAN	107*	SPAN	207*
SPAN	108*	SPAN	208*
SPAN	109*	SPAN	209*
SPAN	111*#		

# - Preferred class for this degree option

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition	3
MATH	125 Quantitative Reasoning	3
SPAN	101 Beginning Spanish I (1st 8 wk)	3
SPAN	102 Beginning Spanish II (2nd 8 wk)	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
ENGL	102 Advanced English Comp	3
SPAN	201 Intermediate Spanish II (1st 8 wk)	3
SPAN	202 Intermediate Spanish II (2nd 9 wk)	3
	Approved Civics Course	3
	Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>		<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
HIST	101 Western Civilization	3
SPAN	105 Conversational Spanish I	3
	Approved GE Core Elective	2-3
	Approved Science Course	3-5
	Approved Spanish Elective	3
<b>TOTAL</b>		<b>14-17</b>

<b>Spring Semester</b>		<b>Hours</b>
	Approved GE Core Elective	2-3
	Approved Humanities Course	3
	Approved Science Elective	3-5
	Approved Social and Behavioral Course	3
	Approved Spanish Elective	3
<b>TOTAL</b>		<b>14-17</b>

**TOTAL HOURS REQUIRED 61-65**

\*Prerequisite required

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# ASSOCIATE OF ARTS DEGREE

## Spanish

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
	<b>Written Communications (6 hours)</b>					<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101*, 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101 (Required for this AA), 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	125* (Recommended)				MATH	130*, 135*	
<b>Science</b>			<b>7 hours</b>					
	<b>Lab</b>					<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
	<b>Civics (3 hours)</b>							
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above.								
Courses cannot be used as Core electives if counted								
under another section of this Program of Study.								
<b>Major Courses</b>			<b>18 hours</b>					
	<b>Required Courses (12 hours)</b>							
	SPAN	102 Begin Spanish II* (3)				SPAN	201 Intermed Spanish I* (3)	
	SPAN	105 Conv Spanish I* (3)				SPAN	202 Intermed Spanish II* (3)	
	<b>Approved Electives (6 hours)</b>							
	SPAN	106 Conv Spanish II* (3)				SPAN	112 Intro to Spanish Health Care II* (3)	
	SPAN	107 Topics in Spanish				SPAN	207 Topics in Spanish	
	SPAN	108 Topics in Spanish				SPAN	208 Topics in Spanish	
	SPAN	109 Topics in Spanish				SPAN	209 Topics in Spanish	
	SPAN	111 Intro to Span Health Care* (3)						

# CERTIFICATE

## Spanish Certificate

Those pursuing this certificate should complete it as a supplement to another career path. Those wishing to pursue a Spanish specific career (translating, interpreting, teaching Spanish, etc.) should pursue the complete Associate of Arts Degree in Spanish. This certificate will provide an opportunity for current students, and those already in the workforce, to demonstrate a level of Spanish proficiency that could appeal to potential employers in any field. Students who successfully complete the program will be prepared to take the globally recognized Oral Proficiency Interview (OPI). While there is no minimum required OPI score for obtaining this certificate, the exam will provide students with documentation providing the official oral proficiency level achieved by the end of this program. Students must earn a minimum of 18 hours for this certificate.

### Program of Study

<b>Spanish Major Courses</b>	<b>15 hours</b>
SPAN 101 Beginning Spanish (3)	
SPAN 102* Beginning Spanish II (3)	
SPAN 105* Conversational Spanish I ( 3)	
SPAN 201* Intermediate Spanish I (3)	
SPAN 202* Intermediate Spanish II (3)	
<b>Electives</b>	<b>3 hours</b>
SPAN 106*, 107*, 108*, 109*, 111*, 112*, 207*, 208*, 209*	

\*Prerequisite requirement

### Suggested Plan of Study

FIRST YEAR			
<b>Fall Semester</b>			<b>Hours</b>
SPAN 101 Beginning Spanish I			3
	<b>TOTAL</b>		<b>3</b>
<b>Spring Semester</b>			<b>Hours</b>
SPAN 102 Beginning Spanish II			3
	<b>TOTAL</b>		<b>3</b>
SECOND YEAR			
<b>Fall Semester</b>			<b>Hours</b>
SPAN 201 Intermediate Spanish I			3
SPAN 105 Conversational Spanish			3
	<b>TOTAL</b>		<b>6</b>
<b>Spring Semester</b>			<b>Hours</b>
SPAN 202 Intermediate Spanish II			3
SPAN elective			3
	<b>TOTAL</b>		<b>6</b>
<b>Total Hours Required</b>			<b>18</b>



# 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 MoGEA/ACT/MOCA, 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 and a passing score approved by DESE on each section of the MoGEA or National ACT composite score of 20 (superscore is allowed). Because GPA and test 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 or field experience in schools.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting at least one lab course and one non-lab course			
	<b>Lab</b>		<b>Non -Lab</b>
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101 (Elementary majors)		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
PSYC	101#	PSYC	211*
<b>Preferred GE CORE Electives</b>		<b>5 hours</b>	
<i>Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study</i>			
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (12 hours)</b>			
EDUC	125	EDUC	231*
EDUC	240*	EDUC	251*
<b>Approved Electives (6 hours)</b> (Check with advisor)			
ECON	201*, 202*	GEOG	111
EDUC	205	GEOL	210*
EDUC	206	PSYC	204
EDUC	212*	PSYC	211*
Any content specific courses for Middle School or HS certification			
<b>Students must pass the MoGEA with a DESE approved score in each section of have National ACT composite score of 20 or better (superscore is allowed).</b>			
<b>Overall GPA of 2.75 is required</b>			

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
BIOL	101	General Biology	4
COLL	101	College Orientation	1
EDUC	125	Introduction to Education	3
ENGL	101	English Composition I	3
PSYC	101	General Psychology	3
<b>TOTAL</b>			<b>14</b>

<b>Spring Semester</b>			<b>Hours</b>
COMM	104	Fundamentals of Speech	3
EDUC	240	Education of Exceptional Learners	3
ENGL	102	English Composition II	3
HIST	107 – OR – HIST 106		3
MATH	125	Quantitative Reasoning	3
Approved GE Core Elective			2
<b>TOTAL</b>			<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
EDUC	231	Educational Psychology	3
PLSC	103	Nat'l, State, Local Gov't	3
Approved GE Core Elective			3
Approved Humanities Course			3
Approved Science Course			3-5
<b>TOTAL</b>			<b>15-17</b>

<b>Spring Semester</b>			<b>Hours</b>
EDUC	251	Teaching Prof w/Field Exp	3
Approved Education Elective			3
Approved Education Elective			3
Approved Humanities Course			3
Approved Humanities Course			3
<b>TOTAL</b>			<b>15</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite required

# - Preferred class for this degree option

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.



# ASSOCIATE OF ARTS DEGREE

## Teaching (AAT)

General Education Core			Done	Curr	To do				Done	Curr	To do
<b>Orientation</b> 1 hour											
	COLL	101									
<b>Communications</b> 9 hours											
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>					
	ENGL	101*				COMM	104*				
	ENGL	102*, 104*									
<b>Humanities</b> 9 hours											
<b>DESE Requirement (3 hours)</b>						<b>Additional 6 hours</b>					
	ART	101				ART	106				
	MUSC	101				ASL	101, 102*				
						ENGL	109*, 222*, 225*				
						ENGL	230*, 235*, 240*, 245*				
						FREN	101				
						HIST	101*, 102*				
						PHIL	101*, 121, 201*, 202*				
						SPAN	101, 102*				
						TA	205				
<b>Mathematics</b> 3 hours											
	MATH	125* (Recommended)				MATH	130*, 135*				
<b>Science</b> 7 hours											
	<b>Lab</b>					<b>Non-Lab</b>					
	BIOL	101, 110, 120				PHYS	105				
	BIOL	152*, 252*									
	CHEM	101, 104, 111*									
	GEOL	115, 210*									
	PHYS	101 (Elementary majors)									
<b>Social and Behavioral Science</b> 9 hours											
<b>Choose one from each line</b>											
	HIST	106*, 107*				ECON	201*, 202*				
	PLSC	103*, 104*				GEOG	111				
	PSYC	101				PSYC	101#, 211*				
<b>Preferred GE Core Electives</b> 5 hours											
Any additional 5 credit hours from courses listed above.											
Courses cannot be used as Core electives if counted under another section of this Program of Study.											
<b>Major Courses</b> 18 hours											
<b>Required Courses (12 hours)</b>						<b>Electives (6 hours)</b> (Check w/ advisor)					
	EDUC	125 Introduction to Education (3)				ECON	201 Prin of Economics* (3)				
	EDUC	231 Educational Psychology* (3)				EDUC	205 Music for Elem Teachers* (3)				
	EDUC	240 Education of Exceptional Learners* (3)				EDUC	206 Lit for Children* (3)				
	EDUC	251 Teaching Prof w /FE* (3)				EDUC	212* Educational Technology* (3)				
						GEOG	111 World Regional Geography (3)				
						GEOL	210 Earth & Space Science* (4)				
						PSYC	204 Applied Behavior Analysis (3)				
						PSYC	211 Lifespan Development* (3)				
<b>Students must pass the MOGEA or ACT with a DESE approved score in each section.</b>											
<b>Overall GPA of 2.75 is required</b>											

# ASSOCIATE OF ARTS DEGREE

## Theatre AA

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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL	101		
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
<b>Oral Communications (3 hours)</b>			
COM	104*		
M			
<b>Humanities</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
ART	101, 106	HIST	101*#, 102*
ASL	101, 102*	MUSC	101
ENGL	109*, 222*, 225*	PHIL	101*, 121, 201*, 202*
ENGL	230*, 235*, 240*, 245*	SPAN	101, 102*
FREN	101	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	125*#, 130*, 135*		
<b>Science</b>		<b>7 hours</b>	
Students must meet the seven hour requirement by selecting two courses from different disciplines (prefixes) and at least one course with a lab			
	<b>Lab</b>		<b>Non-Lab</b>
BIOL	101, 110, 120	PHYS	105
BIOL	152*, 252*		
CHEM	101, 104, 111*		
GEOL	115, 210*		
PHYS	101, 190*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
Students should select classes from two different disciplines (prefixes)			
<b>Civics (3 hours)</b>			
HIST	106*, 107*	ECON	201*, 202*
PLSC	103*	GEOG	111
		PSYC	101, 211*
		SOC	101
<b>GE CORE Electives</b>		<b>5 hours</b>	
Any additional 5 credit hours from courses listed above. Courses cannot be used as Core electives if counted under another section of this Program of Study			
<b>Major Courses</b>		<b>12 hours</b>	
TA	105	TA	208
TA	115	TA	Theatre Practicum
<b>Approved Electives</b>		<b>6 hours</b>	
TA	108	TA	180
TA	112	TA	Theatre Practicum
TA	125, 225	TA	Topics in Theatre

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
COMM	104	Fundamentals of Speech	3
ENGL	101	English Composition I	3
MATH	125	Quantitative Reasoning	3
TA	105	Acting I	3
TA	106/116	Theatre Practicum	
		(Performance or Technical)	1
TA	205	Introduction to Theatre	3
<b>TOTAL</b>			<b>17</b>

<b>Spring Semester</b>			<b>Hours</b>
ENGL	102	English Composition II	3
TA	107/117	Theatre Practicum	
		(Performance or Technical)	1
TA	115	Stagecraft (Spring only)	3
		Approved Civics Course	3
		Approved Science Course	3-5
<b>TOTAL</b>			<b>13-15</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
TA	206/216	Theatre Practicum	
		(Performance or Technical)	1
		Approved GE Core Elective	3
		Approved Science Course	3-5
		Approved Soc & Behavioral Science Course	3
		Approved Theatre Elective	3
<b>TOTAL</b>			<b>13-15</b>

<b>Spring Semester</b>			<b>Hours</b>
TA	208	Scene Work	3
		Approved GE Core Elective	2
		Approved Humanities Course	3
		Approved Humanities Course	3
		Approved Soc & Behavioral Science Course	3
		Approved Theatre Elective	2
<b>TOTAL</b>			<b>16</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite required

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

# - Preferred class for this degree option





# ASSOCIATE OF ARTS DEGREE

## Theatre

General Education Core			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>			<b>1 hour</b>					
	COLL	101						
<b>Communications</b>			<b>9 hours</b>					
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
	ENGL	101*				COMM	104*	
	ENGL	102*, 104*						
<b>Humanities</b>			<b>9 hours</b>					
	ART	101, 106				HIST	101* (Recommended), 102*	
	ASL	101, 102*				MUSC	101	
	ENGL	109*, 222*, 225*				PHIL	101*, 121, 201*, 202*	
	ENGL	230*, 235*, 240*, 245*				SPAN	101, 102*	
	FREN	101				TA	205	
<b>Mathematics</b>			<b>3 hours</b>					
	MATH	125* (Recommended)				MATH	130*, 135*	
<b>Science</b>			<b>7 hours</b>					
<b>Lab</b>						<b>Non-Lab</b>		
	BIOL	101, 110, 120				PHYS	105	
	BIOL	152*, 252*						
	CHEM	101, 104, 111*						
	GEOL	115, 210*						
	PHYS	101, 190*						
<b>Social and Behavioral Science</b>			<b>9 hours</b>					
<b>Civics (3 hours)</b>								
	HIST	106*				ECON	201*, 202*	
	HIST	107*				GEOG	111	
	PLSC	103*, 104*				PSYC	101, 211*	
						SOC	101	
<b>GE Core Electives</b>			<b>5 hours</b>					
Any additional 5 credit hours from courses listed above.								
Courses cannot be used as Core electives if counted								
under another section of this Program of Study.								
<b>Major Courses</b>			<b>12 hours</b>			<b>Approved Electives 8 hours</b>		
	TA	105 Acting I (3)				TA	108 Playwriting (3)	
	TA	115 Stagecraft (3)				TA	112 Directing (3)	
	TA	208 Scenework (3)				TA	125, 225 Summer Theatre (3)	
		Theatre Practicum (3)				TA	180 Stage Makeup (3)	
						TA	Theatre Practicum (1-3)	
						TA	Topics in Theatre (1-4)	

# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Veterinary Technology AAS

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 until March 30 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, be eligible to take MATH 100 or higher, be eligible for ENGL 101 or higher, be college-level in reading, and must 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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
AGRI 111	OR	COLL 101	
<b>Communications</b>		<b>6 hours</b>	
<b>Written Communications (3 hours)</b>			
ENGL 101*			
<b>Oral Communications (3 hours)</b>			
COMM 104*			
<b>Mathematics</b>		<b>3 hours</b>	
MATH 135*			
<b>Civics</b>		<b>3 hours</b>	
PLSC 103*		HIST 106*, 107*	
<b>Science</b>		<b>14 hours</b>	
BIOL 101 (4)	OR	BIOL 110* (5)	
BIOL 220* (5)			
CHEM 104 (4)	OR	CHEM 111* (5)	
<b>General Agriculture</b>		<b>15 hours</b>	
AGEC 223 (3)			
ANSC 114 (4)			
ANSC 180* (2)	OR	VETC 101 Intro to Vet Tech (2)	
ANSC 223* (3)			
ANSC 233 (3)			
<b>Program Core</b>		<b>35 hours</b>	
VETC 110* (2)		VETC 250* (3)	
VETC 120* (3)		VETC 263* (3)	
VETC 130* (3)		VETC 270* (1)	
VETC 140* (3)		VETC 280* (2)	
VETC 180* (4)		VETC 284* (4)	
VETC 220* (3)		VETC 285* (1)	
VETC 230* (2)		VETC 286* (1)	

\*Prerequisite requirement

# - Preferred class for this degree option

Suggested courses for students with a desire to take additional credits not required for the Veterinary Technology AAS degree: Medical Terminology, Artificial Insemination and Reproduction, Feeds and Nutrition, Meat Science, Public Relations in Agri-Business, Business Math, Spanish, or general education courses toward an Associate of Arts degree. Students interested in Biomedical Sciences at the University of Missouri, Columbia must take ENGL 102 and MATH 135.

This Suggested Plan of Study is based on course offerings at the Neosho Campus and online. Adjustments in scheduling may need to be made based on other campus course offerings. This is just one possible plan. The length of time to complete the program may vary for each student. In addition, based on placement results, individuals may need to take additional courses for academic remediation.

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGRI 111 – OR – COLL 101		1
ANSC 114 Animal Science		4
BIOL 101 General Biology		5
MATH 135 Algebra for Calculus		3
<b>TOTAL</b>		<b>13</b>

<b>Spring Semester</b>		<b>Hours</b>
AGEC 223 Ag Computer Applications		3
ANSC 180 Intro to Veterinary Science		2
CHEM 104 Chemistry for Health Sciences		4
ENGL 101 English Composition I		3
<b>TOTAL</b>		<b>12</b>

#### APPLY FOR THE VETERINARY TECHNOLOGY PROGRAM IN APRIL OF THIS SPRING SEMESTER

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
COMM 104 Fundamentals of Speech		3
VETC 110 Sanitation and Animal Care		2
VETC 140 Companion Animal Technology		3
VETC 180 Vet Anatomy and Physiology		4
<b>TOTAL</b>		<b>12</b>

<b>Spring Semester</b>		<b>Hours</b>
ANSC 233 Horse Science		3
VETC 120 Veterinary Hospital Technology I		3
VETC 130 Clinical Pathology I		3
VETC 285 Vet Tech Clinical Experience I		1
Approved Civics Course		3
<b>TOTAL</b>		<b>13</b>

<b>Summer Semester</b>		<b>Hours</b>
VETC 284 Vet Tech Internship		4
<b>TOTAL</b>		<b>4</b>

#### THIRD YEAR

<b>Fall Semester</b>		<b>Hours</b>
ANSC 223 Farm Animal Health		3
BIOL 220 General Microbiology		5
VETC 220 Vet Hospital Technology II		3
VETC 280 Radiology and Elect Procedures		2
<b>TOTAL</b>		<b>13</b>

<b>Spring Semester</b>		<b>Hours</b>
VETC 230 Lab Animal/Avian Technology		2
VETC 250 Clinical Pathology II		3
VETC 263 Large Animal Med/Surg		3
VETC 270 Board Review		1
VETC 286 Vet Tech Clinical Experience II		1
<b>TOTAL</b>		<b>10</b>

**TOTAL HOURS REQUIRED 77**



# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Veterinary Technology

			Done	Curr	To do				Done	Curr	To do	
<b>Orientation</b>		<b>1 hour</b>										
	AGRI	111				<b>OR</b>	COLL 101					
<b>Communications</b>		<b>6 hours</b>										
	<b>Written Communications (3 hours)</b>											
	ENGL	101*										
	<b>Oral Communications (3 hours)</b>											
	COMM	104*										
<b>Mathematics</b>		<b>3 hours</b>										
	MATH	135*										
<b>Civics</b>		<b>3 hours</b>										
	HIST	106*				PLSC	103*, 104*					
	HIST	107*										
<b>Science</b>		<b>14 hours</b>										
	BIOL	101				CHEM	104					
	<b>OR</b>	BIOL 110*				<b>OR</b>	CHEM 101, 111*					
	BIOL	220*										
<b>General Agriculture</b>		<b>15 hours</b>										
	AGEC	223 Ag Comp Apps (3)				<b>OR</b>	VETC 101 Intro to Vet Tech (2)					
	ANSC	114 Animal Sci (4)										
	ANSC	180 Intro to Vet Science* (2)										
	ANSC	223 Farm Animal Health* (3)										
	ANSC	233 Horse Science (3)										
<b>Program Core</b>		<b>35 hours</b>										
	VETC	110 Sanitat & Animal Care* (2)				VETC	250 Clinical Path II* (3)					
	VETC	120 Vet Hospital Tech I* (3)				VETC	263 Large Animal Med/Surg* (3)					
	VETC	130 Clinical Path I* (3)				VETC	270 Board Review * (1)					
	VETC	140 Companion Animal Tech* (3)				VETC	280 Radiology & Elect Procs* (2)					
	VETC	180 Vet Anatomy and Phys* (4)				VETC	284 Vet Tech Internship* (4)					
	VETC	220 Vet Hospital Tech II* (3)				VETC	285 Vet Tech Clinical Exp I* (1)					
	VETC	230 Lab Animal/Avian Tech* (2)				VETC	286 Vet Tech Clinical Exp II* (1)					

# CERTIFICATE TO AAS

## Welding: Welding Certificate (Plate)

## Welding: Welding Certificate (Pipe & Plate)

## Welding: Welding Certificate (Pipe & Plate & Fabrication)

## Welding: Welding Option AAS

The Advanced Manufacturing Technology program prepares students for employment in industries with automated manufacturing processes. The program is built around a set of core classes 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 Welding Option.

The Plate, Pipe & Plate, and Pipe & Plate & Fabrication Certificates prepare students for employment as entry level welders using Electric Arc and Pipe & Plate (& Fabrication) welding technology. Students will be introduced to Oxy-fuel cutting (OFC), Flux Core welding, and Carbon Arc Air-Cutting. The program will instruct the students in advanced welding applications for pipe welding which will include the Electrical Arc Welding Technology. This course will also provide the student with a technical understanding of tacking and welding techniques for completing projects to reflect industry standards. Additionally, the Pipe & Plate & Fabrication Certificate students will learn a technical understanding of advanced cutting operations including Numerical Control (NC) programming, and robotic controls.

### Program of Study

<b>Plate Certificate Courses</b>			<b>16 hours</b>
WELD	117	Blue Print Reading (2)	
WELD	151	Welding Theory I (2)	
WELD	152*	Welding Theory II (2)	
WELD	153*	Fillet Plate Lab (5)	
WELD	154*	Groove Plate Lab (5)	
<b>Pipe &amp; Plate Certificate Courses</b>			<b>15 hours</b>
WELD	201*	Welding Theory III (2)	
WELD	202*	Welding Theory IV (2)	
WELD	211*	Pipe Groove Lab (7)	
WELD	216*	Pipe and Plate Fabrication Lab (4)	
<b>Pipe &amp; Plate &amp; Fab Certificate Courses</b>			<b>15 hours</b>
CNS	105 & 106	Technical Career Development (2)	
DRFT	101	Intro to Eng Drwg and Print Reading (3)	
WELD	124	Fabrication Methods I (2)	
WELD	135	Basic Metallurgy (2)	
WELD	140*	Fabrication Methods II (2)	
WELD	213*	Advanced Pipe Groove Lab (4)	
<b>Orientation</b>			<b>1 hour</b>
COLL	101	College Orientation	
<b>Communications</b>			<b>9 hours</b>
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*		
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>			<b>3 hours</b>
MATH	104*		
MATH	135*		
<b>Civics</b>			<b>3 hours</b>
HIST	106*, 107*		
PLSC	103*		
<b>Required Courses</b>			<b>3 hours</b>
AMT	182	Introduction to Automated Robotics (3)	

\*Prerequisite requirement

# - Preferred class for this degree option

### Suggested Plan of Study

<b>Fall Semester</b>		<b>Hours</b>
WELD	117 Blue Print Reading	2
WELD	135 Basic Metallurgy (PPF)	2
WELD	151 Welding Theory I	2
WELD	152 Welding Theory II	2
WELD	153 Fillet Plate Lab	5
WELD	154 Groove Plate Lab	5
<b>TOTAL</b>		<b>18</b>

Graduate with AMT: Welding Plate Certificate

<b>Spring Semester</b>		<b>Hours</b>
DRFT	101 Intro to Engineering Drawing (PPF)	3
WELD	201 Welding Theory III	2
WELD	202 Welding Theory IV	2
WELD	211 Pipe Groove Lab	7
WELD	216 Pipe and Plate Fabrication Lab	4
<b>TOTAL</b>		<b>18</b>

Graduate with AMT: Welding Pipe & Plate Certificate

### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
CNS	105 CNS 105 & 106	2
WELD	124 Fabrication Methods I (PPF)	2
WELD	140 Fabrication Methods II (PPF)	2
WELD	213 Adv Pipe Groove Lab (Fabrication) (PPF)	4
Approved Written Communications Course		3
<b>TOTAL</b>		<b>13</b>

Graduate with AMT: Welding Pipe, Plate, & Fab Certificate

<b>Spring Semester</b>		<b>Hours</b>
AMT	182 Intro to Automated Robotics	3
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
Approved Civics Course		3
Approved Mathematics Course		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>16</b>

Graduate with AMT: Welding Option AAS

Total Plate Certificate Hours Required	16
Additional Hours Needed for P&P Cert	15
Total P&P Certificate Hours Required	31
Additional Hours Needed for P&P&F Cert	15
Additional Hours Needed for AAS	19
Total AAS Hours Required	65

Courses for Certificate	
Additional Courses for AAS Degree	



## CERTIFICATE Welding Certificate (Plate)

			Done	Curr	To do
<b>Major courses</b>					
	<b>16 hours</b>				
WELD	117 Blue Print Reading (2)				
WELD	151 Welding Theory I (2)				
WELD	152 Welding Theory II* (2)				
WELD	153 Welding Lab I (5)				
WELD	154 Welding Lab II (5)				



## CERTIFICATE Welding Certificate (Pipe & Plate)

			Done	Curr	To do
<b>Major courses</b>					
	<b>31 hours</b>				
WELD	117 Blue Print Reading (2)				
WELD	151 Welding Theory I (2)				
WELD	152 Welding Theory II* (2)				
WELD	153 Welding Lab I (5)				
WELD	154 Welding Lab II (5)				
WELD	201 Welding Theory III* (2)				
WELD	202 Welding Theory IV* (2)				
WELD	211 Welding Lab III* (7)				
WELD	216 Pipe and Plate Fabrication Lab* (4)				



## CERTIFICATE Welding Certificate (Pipe & Plate & Fabrication)

			Done	Curr	To do
<b>Major courses</b>					
	<b>46 hours</b>				
CNS	105 & 106 Technical Career Development I & II (2)				
DRFT	101 Intro to Eng Drw g and Print Reading (3)				
WELD	117 Blue Print Reading (2)				
WELD	124 Fabrication Methods I (2)				
WELD	135 Basic Metallurgy (2)				
WELD	140 Fabrication Methods II* (2)				
WELD	151 Welding Theory I (2)				
WELD	152 Welding Theory II* (2)				
WELD	153 Welding Lab I (5)				
WELD	154 Welding Lab II (5)				
WELD	201 Welding Theory III* (2)				
WELD	202 Welding Theory IV* (2)				
WELD	211 Welding Lab III* (7)				
WELD	213 Advanced Pipe Groove Lab* (4)				
WELD	216 Pipe and Plate Fabrication Lab* (4)				



## ASSOCIATE OF APPLIED SCIENCE DEGREE Advanced Manufacturing Technology: Welding Option

			Done	Curr	To do	Done	Curr	To do
<b>Orientation</b>								
	<b>1 hour</b>							
COLL	101							
<b>Communications</b>								
	<b>9 hours</b>							
<b>Written Communications (6 hours)</b>						<b>Oral Communications (3 hours)</b>		
ENGL	101*					COMM	104*	
ENGL	102*, 104*							
ENGL	203*							
<b>Mathematics</b>								
	<b>3 hours</b>							
MATH	135*					MATH	104*	
<b>Civics</b>								
	<b>3 hours</b>							
HIST	106*					PLSC	103*, 104*	
HIST	107*							
<b>Required Courses</b>								
	<b>49 hours</b>							
AMT	182 Intro to Automated Robotics (3)					WELD	152 Welding Theory II* (2)	
CNS	105 & 106 Tech Career Dev (2)					WELD	153 Welding Lab I* (5)	
DRFT	101 Intro to Eng, Draw ing & PR (3)					WELD	154 Welding Lab II* (5)	
WELD	117 Welding Blue Print Reading* (2)					WELD	201 Welding Theory III* (2)	
WELD	124 Fabrication I* (2)					WELD	202 Welding Theory IV* (2)	
WELD	135 Basic Metallurgy* (2)					WELD	211 Welding Lab III* (7)	
WELD	140 Fabrication Methods II* (2)					WELD	213 Adv Pipe Groove Lab* (4)	
WELD	151 Welding Theory I* (2)					WELD	216 Pipe and Plate Fab Lab* (4)	

\*Prerequisite course(s) or minimum test scores required. See catalog course descriptions for details.

# CERTIFICATE

## Welding: 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.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Major Courses</b>		<b>12 hours</b>
WELD	113	Introduction to Welding (3)
WELD	145*	Gas Metal Arc Welding (GMAW/MIG) (2)
WELD	150*	Gas Tungsten Arc Welding (GTAW/TIG) (5)
WELD	155*	Shielded Metal Arc Welding (SMAW) (5)
<b>Support Courses</b>		<b>5-6 hours</b>
BSAD	115	Computer Concepts (3) – OR – BSAD 125
DRFT	101	Intro to Eng Drawing (3) – OR – WELD 117* (2)

\*Prerequisite requirement

### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
WELD	117 Blue Print Reading – OR – DRFT 101 (3)	2
WELD	113 Introduction to Welding	3
WELD	145 Gas Metal Arc Welding	3
<b>TOTAL</b>		<b>9</b>
<b>Second Semester</b>		<b>Hours</b>
BSAD	115 Comp Concepts – OR – BSAD 125	3
WELD	150 Gas Tungsten Arc Welding	3
WELD	155 Shielded Metal Arc Welding	3
<b>TOTAL</b>		<b>9</b>
<b>TOTAL HOURS REQUIRED</b>		<b>18-19</b>



## CERTIFICATE Electric Arc Welding

Done Curr To do

<b>Orientation</b>		<b>1 hour</b>			
COLL	101	College Orientation			
<b>Major Courses</b>		<b>12 hours</b>			
WELD	113	Intro to Welding (3)			
WELD	145	Gas Metal Arc Welding (GMAW)* (3)			
WELD	150	Gas Tungsten Arc Welding* (3)			
WELD	155	Shielded Metal Arc Welding* (3)			
<b>Support Courses</b>		<b>5-6 hours</b>			
BSAD	115	Computer Concepts (3)			
<b>OR</b>	BSAD	125 Computer Applications (3)			
DRFT	101	Intro to Engineering Drawing (3)			
<b>OR</b>	WELD	117 Blue Print Reading (2)			

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## Missouri Higher Education Transfer Core Curriculum at Crowder College

<b>Social and Behavioral Sciences (9 Credit Hours Total)</b> <b>Students must meet the nine credit hour requirement by selecting courses from two different disciplines (prefixes), including at least one Civics course</b>			
Other SBS Courses, 6 Credit Hours Required		Civics, 3 Credit Hours Required	
Principles of Macro Economics I, ECON 201 (MOTR ECON 101)	3	U.S. History I, HIST 106 (MOTR HIST 101)	3
Principles of Micro Economics II, ECON 202 (MOTR ECON 102)	3	U.S. History II, HIST 107 (MOTR HIST 102)	3
Principles of Agriculture Economics, AGECE 123 (MOTR ECON 102) {For Agriculture Majors Only}	3	National, State, Local Government, PLSC 103 (MOTR POSC 101)	3
World Regional Geography, GEOG 111 (MOTR GEOG 101)	3		
General Psychology, PSYC 101 (MOTR PSYC 100)	3		
Life Span Development, PSYC 211 (MOTR PSYC 200)	3		
General Sociology, SOC 101 (MOTR SOCI 101)	3		
<b>Written Communications and Oral Communications (9 Credit Hours Total)</b> <b>Written Communication, 6 Credit Hours Required</b>			
Written Communication, 6 Credit Hours Required		Oral Communication, 3 Credit Hours Required	
English Composition, ENGL 101 (MOTR ENG 100)	3	Fundamentals of Speech, COMM 104 (MOTR COMM 110)	3
Advanced English Composition, ENGL 102 (MOTR ENG 200)	3		
<b>Natural Sciences (7 Credit Hours Total)</b> <b>Students must meet the seven credit hour requirement by selecting courses from two different disciplines (prefixes), including at least one Lab course</b>			
Lab		Non-Lab	
General Biology, BIOL 101 (MOTR BIOL 100L)	5	Descriptive Astronomy, PHYS 105 (MOTR ASTR 100) UNDER REVIEW	3
General Zoology, BIOL 110 (MOTR BIOL 150L)	5		
General Botany, BIOL 120 (MOTR BIOL 150L)	5		
Human Anatomy & Physiology I, BIOL 152 (MOTR LIFS 100L)	5		
Human Anatomy & Physiology II, BIOL 252 (MOTR LIFS 150L)	5		
Survey of Chemistry, CHEM 101 (MOTR CHEM 100L)	5		
Chemistry for Health Sciences, CHEM 104 (MOTR CHEM 100L)	5		
General Chemistry I, CHEM 111 (MOTR CHEM 150L)	5		
Introduction to Geology, GEOL 115 (MOTR GEOL 100L)	5		
Earth and Space Science for Teachers, GEOL 210 (MOTR PHYS 110L)	4		
Survey of Physical Science, PHYS 101 (MOTR PHYS 110L) UNDER REVIEW	5		
General Physics I, PHYS 190 (MOTR PHYS 200L)	5		
<b>Mathematical Sciences (3 Credit Hours Total)</b>			
Algebra for Calculus, MATH 135 (MOTR MATH 130)			3
Quantitative Reasoning, MATH 125 (MOTR MATH 120)			3
Elementary Statistics, MATH 130 (MOTR MATH 110)			3
<b>Humanities and Fine Arts (9 Credit Hours Total)</b> <b>Students must meet the nine credit hour requirement by selecting courses from two different disciplines (prefixes)</b>			
Art Appreciation, ART 101 (MOTR ARTS 100)	3	Western Civilization I, HIST 101 (MOTR WCIV 101)	3
Drawing I, ART 106 (MOTR PERF 105D)	3	Western Civilization II, HIST 102 (MOTR WCIV 102)	3
Beginning American Sign Language I, ASL 101	3	Music Appreciation, MUSC 101 (MOTR MUSC 100)	3
Beginning American Sign Language II, ASL 102	3	Introduction to Western Philosophy, PHIL 101 (MOTR PHIL 100)	3
Introduction to Literature ENGL 109 (MOTR LITR 100)	3	World Religions, PHIL 121 (MOTR RELG 100)	3
World Literature I, ENGL 222 (MOTR LITR 200)	3	Ethics, PHIL 202 (MOTR PHIL 102)	3
World Literature II, ENGL 225 (MOTR LITR 200)	3	Beginning Spanish I, SPAN 101 (MOTR LANG 103)	3
American Literature I, ENGL 230 (MOTR LITR 101)	3	Beginning Spanish II, SPAN 102 (MOTR LANG 104)	3
American Literature II, ENGL 235 (MOTR LITR 101)	3	Introduction to Theatre, TA 205 (MOTR THEA 100A)	3
British Literature I, ENGL 240 (MOTR LITR 102)	3		
British Literature II, ENGL 245 (MOTR LITR 102)	3		
French I, FREN 101 (MOTR LANG 101)	3		
<b>CORE Electives (5 Credit Hours Total)</b> <b>Any additional 5 credit hours from courses listed above.</b> <b>Courses cannot be used as Core Electives if counted under another section.</b>			

Latest Revision: 3/26/18