

# **CROWDER COLLEGE**

## ***Course Catalog 2016-2017***

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

Version 1.55

**Neosho (Main Campus)**

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

**Cassville Instruction Center**

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

**McDonald County Instruction Center**

194 College Road, Jane, 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 in various towns throughout the nine county service area as follows:**

**Carthage**

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

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

**Monett**

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

**Mt. Vernon**

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

# Crowder College | 2016-2017 CALENDAR

## AUGUST 2016

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

## FALL 2016 Semester

- 22** Classes begin – 16 wk & 1<sup>st</sup> 8 wk
- 23** Enrollment Ends – 1<sup>st</sup> 8 wk
- 26** Enrollment Ends – 16 wk
- 31** 100% Tuition & Fee Refund ends – 1<sup>st</sup> 8 wk

## SEPTEMBER 2016

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

- 5** Labor Day – College closed
- 6** 50% Tuition & Fee Refund ends – 1<sup>st</sup> 8 wk
- 12** 100% Tuition & Fee Refund ends – 16 wk
- 12** 100% Book Buyback ends – 16wk
- 20** 50% Tuition & Fee Refund ends – 16 wk
- 29** Last day to withdraw – 1<sup>st</sup> 8 wk

## OCTOBER 2016

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

- 1** - 7 Course Evals open – 1<sup>st</sup> 8 wk
- 13** Finals – 1<sup>st</sup> 8 wk
- 14** Fall Break – College closed
- 17** Classes begin – 2<sup>nd</sup> 8 wk
- 18** Enrollment Ends – 2<sup>nd</sup> 8 wk
- 26** 100% Tuition & Fee Refund ends – 2<sup>nd</sup> 8 wk
- 26** 100% Book Buyback ends – 2<sup>nd</sup> 8
- 31** 50% Tuition & Fee Refund ends – 2<sup>nd</sup> 8 wk

## NOVEMBER 2016

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

- 1** Financial Aid Priority Deadline
- 9** Last day to withdraw – 16 wk
- 14** Priority Enrollment – Sophomores 28 hours plus
- 17** Priority Enrollment – Freshmen 1-27 hours
- 23** - 25 Thanksgiving Break – College closed
- 28** Open Enrollment
- 28** Last day to withdraw – 2<sup>nd</sup> 8 wk

## DECEMBER 2016

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

- 12** - 15 **FINALS** – 16 wk & 2<sup>nd</sup> 8 wk
- 17** Graduation
- 23** College closes at 3:00pm for Winter Break
- 26** - Jan 2 Winter Break – College closed

## JANUARY 2017

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

## SPRING 2017 Semester

- 2** New Year's Day (observed)– College closed
- 16** ML King Day – College Closed
- 17** Classes begin – 1<sup>st</sup> 8 & 16 wk
- 18** Enrollment ends – 1<sup>st</sup> 8 wk
- 20** Enrollment ends – 16 wk
- 26** 100% Tuition & fees refund – 1<sup>st</sup> 8
- 31** 50% Tuition & fees refund – 1<sup>st</sup> 8

## FEBRUARY 2017

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

- 6** 100% Tuition & fees refund -16 wk
- 6** 100% Book buy-back ends
- 14** 50% Tuition & fees refund – 16 wk
- 20** Presidents' Day (Twilight & Evening classes meet)
- 24** Last day to withdraw – 1<sup>st</sup> 8
- 25** - Mar 3 Course evals – 1<sup>st</sup> 8

## MARCH 2017

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

- 10** Finals – 1<sup>st</sup> 8 wk
- 13** - 19 Spring Break – No Classes
- 20** Classes begin - 2<sup>nd</sup> 8 wk
- 21** Enrollment ends – 2<sup>nd</sup> 8 wk
- 29** 100% Tuition & fees refund ends – 2<sup>nd</sup> 8 wk
- 29** 100% Book buy-back ends – 2<sup>nd</sup> 8 wk

## APRIL 2017

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

- 1** Financial Aid Priority Deadline for
- 3** 50% Tuition & Fee Refund ends – 2<sup>nd</sup> 8 wk
- 13** College closes at 3:00pm (twilight & evening classes meet)
- 14** Good Friday – College closed
- 17** Last day to withdraw – 16 wk
- 17** Priority Enrollment – Soph 28+ hrs
- 20** Priority Enrollment – Fresh 1-27 hrs
- 22** - 28 Course evals open – 16 wk & 2<sup>nd</sup> 8 wk
- 28** Last day to withdraw – 2<sup>nd</sup> 8 wk

## MAY 2017

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

- 1** Open enrollment
- 15** - 18 **FINALS**
- 20** Graduation
- 29** Memorial Day – College Closed

## SUMMER 2017 Semester

### JUNE 2017

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

- 5** Classes begin – 1<sup>st</sup> 4 & 8 wk
- 5** Enrollment ends – 1<sup>st</sup> 4 wk
- 6** Enrollment ends – 8 wk
- 8** 100% Tuition & Fees Refund – 1<sup>st</sup> 4
- 12** 50% Tuition & Fees Refund – 1<sup>st</sup> 4
- 14** 100% Tuition & Fees Refund – 8 wk
- 14** 100% Book buyback ends – 8 wk & 1<sup>st</sup> 4
- 17** - 23 Course evals open – 1<sup>st</sup> 4
- 19** 50% Tuition & Fees Refund – 8 wk
- 23** Last day to withdraw – 1<sup>st</sup> 4 wk
- 30** **FINALS** – 1<sup>st</sup> 4 wk

### JULY 2017

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

- 1** Financial Aid Priority Deadline
- 3** Classes begin – 2<sup>nd</sup> 4 wk
- 3** Enrollment ends – 2<sup>nd</sup> 4 wk
- 3** College closes at 3pm (twilight & evening classes meet)
- 4** Independence Day – College Closed
- 7** Make up classes for holiday
- 7** 100% Tuition & Fees Refund – 2<sup>nd</sup> 4
- 7** 100% Book buyback ends – 2<sup>nd</sup> 4
- 11** 50% Tuition & fees refund – 2<sup>nd</sup> 4
- 14** Last day to withdraw – 8 wk
- 15** - 21 Course evals open – 2<sup>nd</sup> 4 & 8 wk
- 21** **FINALS** – 8 wk & 2<sup>nd</sup> 4 wk

## Table of Contents

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:

<b>Crowder College   2016-2017 CALENDAR.....</b>	<b>3</b>
<b>AN INTRODUCTION TO CROWDER COLLEGE.....</b>	<b>6</b>
Academic Integrity .....	6
Affiliation and Accreditation .....	6
Opportunities.....	6
Student Abilities .....	7
<b>ADMISSION .....</b>	<b>7</b>
General Admission Requirements .....	7
College Orientation (COLL 101) .....	8
Dual Credit/Dual Enrollment Admissions.....	8
International Student Admissions Required Documentation.....	8
Transcript Policy .....	9
Transfer Student Admissions .....	9
<b>SPECIAL ADMISSION PROGRAMS.....</b>	<b>9</b>
Nursing.....	9
Occupational Therapy Assistant.....	10
Veterinary Technology.....	10
<b>ASSESSMENT AND PLACEMENT .....</b>	<b>10</b>
ACT and COMPASS Testing.....	10
Advanced Placement .....	11
College Level Exam Program (CLEP) .....	11
English Language Institute (ELI).....	11
Military Service and Training .....	12
Testing Out (Credit by Examination) .....	12
<b>STUDENT CLASSIFICATIONS.....</b>	<b>12</b>
Degree Seeking Students .....	12
Dual Credit/Dual Enrollment Students .....	12
International Students .....	12
Lifetime Learner Students .....	12
Military Duty Activation.....	12
Non-Degree Seeking Students .....	12
Senior Citizen Students .....	13
<b>DEGREE CLASSIFICATIONS.....</b>	<b>13</b>
Associate of Arts Degree (A.A.).....	13
Associate of Science Degree (A.S.).....	13
Associate of Applied Science Degrees (A.A.S.).....	13
Certificates of Study .....	13
<b>COURSE CLASSIFICATIONS.....</b>	<b>13</b>
Auditing a Course .....	13
Community Education Classes .....	13
Experiential Credit .....	13
Flex Classes .....	13
Non-traditional Credit.....	14
Online Course .....	14
Programs of Study.....	14
Repeat Course.....	14
Self-Directed Learning .....	14
Traditional Course.....	14
<b>PAYMENT OF FEES .....</b>	<b>14</b>
Acceptable Payment Arrangements.....	14
Course Fees & Tuition .....	14

Payment Arrangements .....	15
<b>COURSE CHANGES AND ATTENDANCE .....</b>	<b>15</b>
Classification of Residency .....	15
Course Cancellations .....	15
Hardship Withdrawals .....	15
Residency Status Policy.....	15
Tuition and Fees Refunds.....	16
<b>CHANGE OF RESIDENCY .....</b>	<b>16</b>
Evidence of Domicile .....	16
<b>FINANCIAL AID .....</b>	<b>16</b>
Federal Direct Loan Program .....	16
Federal Supplemental Educational Opportunity Grants (FSEOG) .....	17
Federal Work-Study Program.....	17
Honors Program .....	17
Pell Grants .....	17
Scholarships .....	17
Veteran's Services.....	17
<b>STUDENT PROGRESS AND POLICIES .....</b>	<b>18</b>
Student Progress Policies.....	18
Academic Forgiveness .....	18
Academic Probation .....	19
Academic Suspension.....	19
Academic Warning.....	19
Attendance .....	19
Credit Hour Policy .....	19
Dean's List/Honors.....	19
Grades .....	19
Grade Point Average (GPA).....	20
Grade Reports .....	20
Incomplete Grades.....	20
Procedures for Implementing Finals due to School Cancellation .....	20
Readmission, Suspension and Appeal Process .....	21
Satisfactory Progress.....	21
State of Missouri Constitution Requirements .....	21
<b>GRADUATION.....</b>	<b>21</b>
Degree/Program Requirements .....	21
Graduation Application .....	21
Transcripts .....	21
<b>CAMPUS SERVICES AND RESOURCES.....</b>	<b>22</b>
College Assistance Migrant Grant Program (CAMP) .....	22
Faculty/Academic Advisors .....	22
Student Success Center (SSC) .....	22
Student Support Services (SSS) .....	23
Student Housing .....	23
Student Clubs and Organizations .....	23
Catalog, Program, Course, and Policy Changes.....	23
<b>GLOSSARY OF COLLEGE TERMS.....</b>	<b>24</b>
<b>COURSE DESCRIPTION.....</b>	<b>26</b>
<b>PROGRAMS OF STUDY .....</b>	<b>61</b>
Associate of Arts.....	61
Associate of Science.....	95
Associate of Applied Science .....	100
Certificates.....	129
Programs Of Study Index .....	142

## AN INTRODUCTION TO CROWDER COLLEGE

### Academic Integrity

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

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

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

Plagiarism is the use of another person's words or ideas without

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

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

### 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 May 2016

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

**Nursing** – National League for Nursing Accreditation Commission; Missouri State Board of Nursing, Expires 2018

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

**Paramedic** – Committee on Accreditation of Educational Programs for Emergency Medical Services Professions (CoAEMSP), Expires September 2017; State of Missouri, Bureau of EMS Division (BEMS)

**Veterinary Technology** – American Veterinary Medical Association (AVMA), Expires 2016

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

## Opportunities

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

- A. A program in the Arts and Sciences directed toward transfer to baccalaureate degree granting institutions and to general intellectual enrichment;
- B. Career education leading to economic self-reliance;
- C. Both developmental and honors education to allow greater opportunity to fully exercise each individual's academic potential;
- D. Endeavors to enrich life through cultural and a vocational opportunity;
- E. Partnerships with business, industry and others designed to support a greater quality of life and an economic base in the community.

## Student Abilities

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

- **COMMUNICATION**

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

- **RESPONSIBLE CITIZENSHIP**

Citizenship refers to the relationship between an individual and the community to which he or she belongs. Responsible citizenship involves the recognition of the inseparable rights and duties

associated with membership in this community. It also requires accountability and meaningful participation in public decision making and obligations of life in this community.

- **PROBLEM SOLVING**

Problem Solving is the process of identifying an obstacle or dilemma, using critical thinking strategies and decision making skills, and applying appropriate measures needed to overcome or resolve the obstacle or dilemma.

- **CULTURAL AWARENESS**

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

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

- **ETHICAL DECISION MAKING**  
Ethical Decision Making is the selection of courses of action in accordance with principles or standards of right or good conduct.

- **PHYSICAL AND EMOTIONAL HEALTH**

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

- **SELF-ASSESSMENT**

Self-assessment is a process of determining one's level of functioning, both strengths and weaknesses. It precedes the final decision-making stage of evaluation, focusing upon a

number of variables judged to be important, and using a number of techniques to provide authentic and meaningful feedback for improvement.

- **MANAGING INFORMATION**

Managing information is the ability to access, utilize, implement, and store information from electronic and other sources in order to make informed decisions, present information, and solve problems.

## 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)**

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

Students that are non-degree seeking are not required to take COLL101. However, if students become degree or certificate seeking, they will be required to successfully complete the course.

Students that were enrolled before Fall 2005 (when the course was officially in the catalog) are not required to take the course and are grandfathered in. However, students must be consecutively enrolled prior to Fall 2005 to be considered under the grandfather clause.

## **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:

- a) 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.
- b) 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.
- c) 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.
- d) 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**

1. Application for Admission – The application must be completed in English and the application fee paid.
2. Current Passport and Visa – Copies will be made upon arrival at the college.

3. High School Transcript – Copies of the high school and college transcripts must be provided.
4. College Transcripts – College Transcripts (in which credits are to be transferred) must be translated through WES (World Education Services).
5. Financial Statement – These documents must prove that money exists to pay for the first year of classes. Proof of adequate funds for the duration of study should also be included.
6. Insurance – All international students are required to have health insurance that includes medical evacuation and repatriation. Students may purchase insurance through the college OR provide proof of insurance and sign a waiver of the coverage available through the college. Cost for health insurance or proof of insurance must be provided upon arrival.
7. Munoz Test – This test will be administered to all students not having English as their first language. The Munoz Test is administered on the Crowder College campus. Based on the results of the test, if necessary, a secondary language skills examination will further designate the English Language Institute (ELI) courses in which students should be placed.

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

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

and refunded to purchase a return ticket home at the time of departure, or for emergency travel home.

### **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**

### **Nursing**

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

Application requirements for all nursing students are as follows:

1. Be approved for admission to Crowder College
2. Be at least 19 years of age by completion of the program
3. Have a high school diploma or high school equivalency certificate
4. Have Certified Nurse Assistant certification or EMT licensure
5. Have a minimum GPA or 2.75 on required general education courses
6. Have a minimum ACT composite score of 19 or equivalent Compass score
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
9. LPN's must have completed Anatomy and Physiology I, II,

- and Chemistry 104 or 111 to be eligible for admission
10. Complete application

## **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 or 2.5 on required general education courses
4. Complete application requirements
5. Eligibility to sit for the NBCOT (National Board of Certification Occupational Therapy) exam

## **Veterinary Technology**

The Crowder College Veterinary Technology Program is a 78 credit hour program which is fully accredited by the American Veterinary Medical Association (AVMA) and prepares students for careers as veterinary technicians. This is a selective admission program. Applications are accepted in April for the class which begins the following August. An ACT test result must accompany the application. Students must complete a minimum of BIOL 101 or BIOL 110, MATH 50 (or appropriate placement), ENGL 100 (or appropriate placement), and LOC 50 (or appropriate placement), and have worked with or observed

a licensed veterinarian in practice for a minimum of 20 clock hours to be eligible for the program. To be licensed as a Registered Veterinary Technician in Missouri, a student must be at least 19 years of age, graduate from an AVMA accredited program, pass the Veterinary Technician National Examination, and pass the Missouri State Veterinary Medical Board Examination. An applicant must be approved by the Missouri State Veterinary Medical Board, or the State Veterinary Medical Board of any other state in which the student wishes to be licensed, before being allowed to sit for these examinations. For more information call 417-455-5772.

## **ASSESSMENT AND PLACEMENT**

### **ACT and COMPASS Testing**

To facilitate student success at Crowder College, the following guidelines have been established for enrollment in Crowder courses. Crowder College will accept the ACT scores for college-level placement if a student has an English score of at least 18, a math score of at least 22 and a reading score of at least 18. If a student's ACT scores are below the levels listed above, s/he must take the COMPASS test for placement purposes.

The COMPASS test is a placement test for students enrolling for an English, mathematics class, and to determine reading level for online courses and certain reading-intensive courses. The scores on this test are used to enroll students in appropriate levels of English, mathematics, reading, or other courses, which require a minimum

score for placement. The COMPASS consists of three parts: Math, Reading, and Writing. The \$25 application fee to Crowder covers the cost of the first attempt of the test. Retakes of any section cost \$5 each. The range of scores for placement in other identified courses is available in the Student Success Center (SSC). Assessment and placement guidelines have been developed, after careful consideration, to promote the greatest level of individual student success.

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

The COMPASS placement exam is for "placement" only. To better align Crowder College with ACT regulations, a student has the option of one retake per section, per academic year of the COMPASS (Math, Reading, and Writing). ACT clearly states that allowing more than one retake per year compromises the integrity of the test, and that "statistically, placement rarely changes from the original score." Crowder College

will honor the highest COMPASS score achieved for placement in prerequisite courses for enrollment of the following semester. If a student wishes to “test out” of a class, the CLEP test is the more appropriate choice (for English or Math), or they may contact the Vice President of Academic Affairs Office to see if there is an option for taking a Departmental Exam or getting Experiential credit for a course. Speak to SSC Staff for CLEP and Testing Out opportunities.

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

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

Students may call the Student Success Center at (417) 455-5602 or visit [www.crowder.edu](http://www.crowder.edu) for

complete COMPASS exam information and instructions. Additional COMPASS Guidelines are available for review in the Student Success 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
Engl Lang & Comp	ENGL 101
Engl 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 SSC (417) 455-5602.

Crowder College is a limited testing center.

## English Language Institute (ELI)

Persons applying for admission to Crowder College with an I-20 visa or who have completed all or part of their high school education outside of the United States must demonstrate English language proficiency. Students without college level ACT scores have two paths from which to choose:

1. Students may choose to take the reading and writing sections of the COMPASS test. If a student’s COMPASS scores are below college level, he/she is required to enroll in the English Language Institute (ELI) for further language development. The Woodcock Munoz assessment is given to determine the student’s placement within the ELI program.
2. Students may choose to directly enroll in the English Language Institute. The Woodcock Munoz assessment is given to determine the student’s placement within the ELI program.

High school graduates whose first language is not English but who attended all four years in the United States may request further language assessment for possible placement in the ELI prior to COMPASS testing. Also, students who believe their COMPASS scores are not an accurate reflection of their language ability may request additional testing with the Woodcock Munoz for possible placement in the ELI. Crowder College faculty and staff may also recommend to a student that additional Woodcock Munoz testing be conducted.

## **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.

### **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 (A.A.)

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

#### Associate of Science Degree (A.S.)

The degree given to students who have completed the requirements listed in the catalog. Associate of

Science degrees have been developed for transfer to specific universities and programs. Crowder College offers A.S. degrees in Nursing and Pre-Engineering.

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

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

#### Certificates of Study

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

### COURSE CLASSIFICATIONS

#### 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.

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.

## PAYMENT OF FEES

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

## 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 permanent home is in a foreign country at the time of registration. Students are not eligible to change their residency status while they remain international students.

## 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) or state (Missouri Resident).

## **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 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 either chapter 30 or chapter 33, of title 38, United States Code.

## STUDENT PROGRESS AND POLICIES

### Student Progress Policies

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

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

2.50 Cumulative Grade Point Average - 17 hours

2.75 Cumulative Grade Point Average - 18 hours

3.25 Cumulative Grade Point Average - 19 hours

Exceptions to the above guidelines must be approved by the Vice President of Academic Affairs or the Vice President of Student Affairs.

Additional guidelines to be considered before registration:

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

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

### 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 Probation

Students on academic warning with a term GPA below 2.0 will be placed on academic probation regardless of the cumulative GPA. This applies also to students transferring in with a GPA below a 2.0. After being placed on academic probation, the student must maintain a 2.0 GPA each term to avoid being placed on academic suspension. Students on academic probation must enroll in College Connections (LOC 103) in the subsequent term. Students who are placed on academic probation and maintain a 2.0 term GPA, will be placed on probation-continued until their cumulative GPA is a 2.0 or above.

## Academic Suspension

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

If the student was previously on suspension one time and is placed on suspension a second time, the student will be not be allowed to enroll for one year. The student must then petition for

admission through the suspension committee. If the student was previously on suspension twice and is placed on suspension a third time the student is not eligible for admission to Crowder College. A student suspended three times may appeal to the Vice President of Student Affairs.

## Academic Warning

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

## 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.

## 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 better semester grade point average are placed on the Dean's List. Full-time students with a 3.5 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. 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 #2, #3, and #4 apply.
2. Students who miss an on-ground final exam due to school being cancelled on the day of the final may take the grade they have earned going into the final exam.
3. Students who miss an on-ground final as defined in # 2 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) to set the time and date to take the exam. 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.
4. There are two weeks in which a student could take the missed final exam. He or she could choose a date and time during the current finals week, or he or she could choose a date and

time during the first week of the following spring semester. Students should keep in mind, when making arrangements to take a missed final exam, that if they choose to take a final exam during the first week of the spring semester and either fail a prerequisite for a spring course or are on academic suspension once finals are completed, they may not be able to adjust their spring schedule. Also, if the student is planning to graduate the next semester after the finals week in question, and he or she chooses to take a final exam during the first week of the spring semester, he or she will delay his or her graduation date.

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

## Satisfactory Progress

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

## State of Missouri Constitution Requirements

According to Missouri Senate Bill No. 4, 1947, Section 170.011 (Rev 1986), candidates for degrees must satisfactorily pass a course that examines “the provisions and principles of the Constitution of the United States and of the State

of Missouri, and in American History and American institutions.” To comply with the law, students may: (1) Complete PLSC 103 or HIST 106 or (2) complete the transfer equivalent at another collegiate institution within the State of Missouri. Transfer students who have had a course in American Government or U.S. History I that did not include a study of the Missouri Constitution must successfully complete PLSC 102.

## GRADUATION

### Degree/Program Requirements

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

### Graduation Application

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

invited to participate in the Spring graduation ceremony.

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

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

## Transcripts

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

contacting the Records Office. See Student Handbook “Rights to Privacy and Educational Records”.

## **CAMPUS SERVICES AND RESOURCES**

### **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

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. The SSC staff is eager to assist students who desire to arrange tutoring, testing, or supplemental instruction. The PLATO Learning Systems and HAWKES math software is available in the computer lab for all students. The SSC can be reached at (417) 455-5602.

### **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.

### **Office of Disability Services**

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

The ODS office is located in the Student Affairs department in the

Farber Building, and can be contacted at (417) 455-5733. For more information, please review the Student Handbook on Policies and Procedures: Accommodations, Accessibility, and Testing online at [www.crowder.edu](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 (SSS)**

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

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

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

### **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).

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

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

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

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

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

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

Auditing a Class – Attending a course without expectation of credit. People who audit 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.

# Description of Courses

ACCOUNTING .....	27
ADMINISTRATIVE ASSISTANT .....	27
ADVANCED MANUFACTURING TECHNOLOGY .....	27
AGRICULTURE .....	28
ALTERNATIVE ENERGY .....	30
ART & DESIGN .....	32
AUTOMOTIVE TECHNOLOGY .....	32
BIOLOGY .....	33
BUSINESS ADMINISTRATION .....	34
CERTIFIED MEDICAL ASSISTANT .....	34
CERTIFIED NURSING ASSISTANT .....	35
CHEMISTRY .....	36
COLLEGE SKILLS .....	36
COLLISION REPAIR.....	36
COMPUTER AND NETWORK SUPPORT .....	37
COMPUTER PROGRAMMING .....	38
CONSTRUCTION .....	38
CRIMINAL JUSTICE .....	40
DIESEL TECHNOLOGY .....	41
DRAFTING AND DESIGN TECHNOLOGY .....	41
PRESCHOOL TEACHER/ PARAPROFESSIONAL.....	42
ECONOMICS .....	42
EDUCATION .....	43
EMERGENCY MEDICAL SERVICES .....	43
ENGLISH AND LITERATURE .....	44
FIRE SCIENCE .....	44
GEOGRAPHY .....	45
GEOLOGY .....	45
GRAPHIC DESIGN .....	45
HISTORY .....	46
HONORS .....	46
JOURNALISM AND PUBLIC RELATIONS .....	46
LANGUAGES.....	47
LEARNING OPPORTUNITIES .....	48
MANAGEMENT .....	49
MATHEMATICS .....	50
MEDICAL ADMINISTRATIVE ASSISTANT .....	51
MUSIC.....	51
NURSING.....	51
OCCUPATIONAL THERAPY ASSISTANT .....	53
PHARMACY TECHNICIAN .....	54
PHILOSOPHY .....	54
PHYSICAL EDUCATION .....	54
PHYSICS AND PHYSICAL SCIENCE .....	56
POLITICAL SCIENCE .....	56
PSYCHOLOGY .....	56
SOCIAL WORK.....	57
SOCIOLOGY.....	57
SPEECH .....	57
THEATRE .....	57
TRANSPORT TRAINING.....	58
VETERINARY TECHNOLOGY .....	58
WELDING .....	59

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

## ACCOUNTING

### **ACCT 101** **F,S,SU**

**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** **S**

**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** **F,S**

**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** **F,S,SU**

**Principles of Accounting I (3-0) 3 Credits**  
This course includes double-entry accounting systems and concepts for business enterprises. Journals, ledgers and basic financial statements are covered.

### **ACCT 202** **F,S,SU**

**Principles of Accounting II (3-0) 3 Credits**  
This course is designed to provide an understanding of accounting information and its use for business decision making. The emphasis is on where accounting data is obtained, what kind of information is needed, and how it is used in the management process. (Prerequisites: ACCT 201)

### **ACCT 245** **F**

**Tax Accounting (3-0) 3 Credits**  
This course acquaints students with the economic and social policy implications of the tax systems by which governments raise revenues. In addition, it familiarizes students with federal income tax as it applies to the individual. Students will learn how to prepare individual federal income tax returns.

### **ACCT 250** **S**

**Certified Bookkeeper Review (3-0) 3 Credits**  
This is a capstone course for the accounting program and will prepare students for the Certified Bookkeeper Exam and leads to a national certification in bookkeeping through the American Institute of Professional Bookkeepers (AIPB). This certification is a practical way to demonstrate a high level of skill and experience to advance an accounting career. If you choose to be a candidate for the Certified Bookkeeper designation, you must pass the exam which consists of two 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 255** **F**

**Intermediate Accounting I (3-0) 3 Credits**  
This course comprehensively covers financial accounting for business enterprises (with emphasis on the corporation). The course is organized in these areas: (1) environment of financial accounting and basic theory underlying financial accounting; (2) accounting process from transaction analysis to financial statements; (3) statement analysis and revenue recognition; and (4) accounting for certain assets. (Prerequisite: ACCT 202 with a "C" or better; Co-requisite: MATH 111)

### **ACCT 290** **F,S**

**Accounting Clerk Internship (1-2) 2 Credits**  
Supervised work experience allows the student to apply skills and office procedures in an actual office situation. Students will be required to gain experience in the area in which they are seeking a degree. Students will meet once a week in class and will work 80 hours during the semester in supervised work experience. (Sophomore level)

## ADMINISTRATIVE ASSISTANT

### **OA 102** **S**

**Filing Systems and Records Management (3-0) 3 Credits**  
Students are introduced to the knowledge and skills needed in modern-day records management in various work settings. This comprehensive course studies basic filing rules, procedures, equipment, and manual and computerized management of records.

### **OA 107** **F**

**College Keyboarding (3-0) 3 Credits**  
Students continue to develop decision-making and production skills through preparation of documents representative of various businesses.

### **OA 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.

### **OA 170, 171, 270, 271** **As Needed**

**Topics in Business and Office Administration (1-3) 1-3 Credits**  
Instruction will be provided as the need arises on topics in business and office administration. If needed, the computer facilities at the college or at the business will be utilized. The course may be repeated if the topic is different.

### **OA 200** **F**

**Word Processing I (3-0) 3 Credits**  
Students are introduced to word processing concepts, applications and skills. Speed and accuracy are improved through the production of business documents using IBM compatible computers. (Prerequisite: BSAD 125)

### **OA 211** **S**

**Secretarial Office Procedures (3-0) 3 Credits**  
This course is designed to prepare the student to carry out the normal duties in a business office including a broad variety of business documents from memos and letters to comprehensive reports. Students practice a wide range of skills, such as: proofreading for errors, composing original documents, checking calculations, using organizational skills and decision making.

### **OA 231** **F,S**

**Office Administration Internship (1-2)**  
Supervised work experience allows the student to apply skills and office procedures in an actual office situation. Students will be required to gain experience in the area in which they are seeking a degree. Students will meet once a week in class and will work 80 hours during the semester in supervised work experience. (Sophomore level)

## ADVANCED MANUFACTURING TECHNOLOGY

### **AMT 102** **F,S**

**Introduction to Industrial Electricity (2-2) 3 Credits**  
This course is designed to provide a broad range of basic information and hands-on practice to beginning students in industrial electricity. Topics covered at the introductory level will include basic electrical circuits, electrical measurements, electrical relay control logic, residential and industrial wiring. A course fee will apply. (Co-Requisites: AMT 111, MATH 60, COMM 80)

**AMT 104** **F,S**  
**Electrical Motor Controls (2-2)**

**3 Credits**

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

**AMT 111** **F,S**  
**Introduction to Industrial Safety (1-0)**

**1 Credit**

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

**AMT 112** **F,S**  
**Occupational Safety (1-3.5)**

**3 Credits**

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

**AMT 122** **F,S**  
**Basic Machining (2-2)**

**3 Credits**

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

**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; Co-Requisites: AMT 102, MATH 50/70)

**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. (Prerequisites: AMT 111; Co-Requisites: MATH 50/70)

**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; Co-requisite: MATH 104)

**AMT 182** **S**  
**Introduction to Automated Robotics (3-0)**

**3 Credits**

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

**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; Co-Requisites: AMT 104, MATH 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 entry level knowledge of industrial robotic programming. Topics covered will include the utilization of special "teach pendant" accessories for remote programming, robotic axis interfacing, and program optimization relative to cycle times and other functions. Students will practice the interchange and calibration of various system components on a robotic trainer and

modify "pick and place" programs using override function keys. A course fee will apply. (Prerequisites: AMT 182; Co-Requisites: MATH 104)

**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**

**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** **S**  
**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)** **4 Credits**  
**(180 contact hours)**  
 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. (Prerequisite: CHEM 101 or 104, or 111 or permission of the instructor)

**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 (even 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 it's 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.

**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.

**HORT 101** **F**  
**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** **F**  
**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** **F**  
**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**  
**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**  
**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)** **3 Credits**  
**(135 Contact Hours)**  
 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 research paper based course that presents key concepts that are applicable to alternative and renewable energy resources and the technology needed to harvest them. The course also considers their potential as an energy source, energy production, environmental concerns and other factors needed to make informed decisions about alternative and renewable energy systems. Topics include solar energy, bioenergy, wind, hydroelectricity, tidal power, 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 132 F,S**  
**Introduction to Wind (3-0) 3 Credits**  
 This course will emphasize the basic concepts and principles of wind energy technology. Topics include the evolution of wind 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. A course fee will apply.

**ENER 134 F,S**  
**Wind Turbine Troubleshooting (3-0) 3 Credits**  
 This course will cover the basic strategies and techniques used to troubleshoot, maintain, and repair mechanical and/or electrical problems in utility scale wind turbines. A course fee will apply. (Prerequisites: ENER 132, CNS 101)

**ENER 150 F**  
**Passive Solar Systems (3-0) 3 Credits**  
 This class provides an overview of passive solar space and domestic hot water heating systems. It provides a foundation in insulation theory, energy conservation, heat flow calculations, alternative architecture and design theory 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 151 F**  
**Passive Solar Systems Lab (1-2) 2 Credits**  
 This class gives hands-on experience with construction, installation and evaluation of passive solar systems. A course fee will apply.

**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 156, 157, 158 Upon Request**  
**Projects in Alternative Energy**  
**1 Credit (1-1) 2 Credit (1-2) 3 Credit (2-2)**  
 This course examines wind and solar-electric conversion devices for production of mechanical power and electricity. Site evaluation, system design, utility interface and energy management are studied. The course includes installation, operation and evaluation of wind and photovoltaic conversion systems. Students participate in team-based activities as they complete class projects. (This description represents a typical topic offering; course content varies by semester) A course fee will apply.

**ENER 160 F,S**  
**Introduction to Process Technology 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 F,S**  
**Introduction to Electric Power Transmission and Distribution 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 PLC's along with the 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 201 F,S**  
**Introduction to Supervisory Controls and Data Acquisition (SCADA) 3 Credits**  
 This course will emphasize the basic concepts and principles concerning the use of SCADA as a control and monitoring application of wind turbine generators and its relationship throughout the wind farm and industry in general. It includes the connected relationship of PLC's along with the science and technology of turbine function. A course fee will apply.

**ENER 232 F,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. (Prerequisites: Permission of Instructor; AMT 112, ENER 132, ENER 134)

**ENER 250 S**  
**Solar Thermal Systems (3-0) 3 Credits**  
 This class examines the design, installation, operation and maintenance of active solar equipment. Course topics include servicing hot water systems, residential and industrial heating, concentrating collectors, tracking equipment, and solar cooling. System design, sizing, economics, installation, operation and maintenance are among the areas examined in detail. A course fee will apply. (Prerequisite: Placement scores must indicate proficiency level of Math 100 or higher or have completed Math 50)

**ENER 251 S**  
**Solar Thermal Systems & Lab (1-2) 2 Credits**  
 This laboratory accompanies Active Solar Systems as a "hands-on" application of solar principles to practical projects. The class provides experience in the construction and installation of solar heating systems suitable for homes or small businesses. A course fee will apply. (Co-requisite: ENER 250)

**ENER 256, 257, 258 Upon Request**  
**Projects in Alternative Energy**  
**1 Credit (1-1); 2 Credits (1-2); 3 Credits (2-2)**  
 This class examines energy storage strategies as applicable to small-scale alternative energy systems, especially in transportation applications. Storage systems include conventional and advanced batteries, hydrogen and fuel cells, and flywheels. The laboratory component of the class includes applications in electric vehicle use. Students develop and direct team based activities such as construction of and competing with solar and electric vehicles. A course fee will apply. (This description represents a typical topic offering; course content varies by semester)

**ENER 260 F,S**  
**Solar Electric Energy (3-0) 3 Credits**  
 Solar Electric Energy presents the key components of photovoltaic (PV) conversion systems to produce electricity from sunlight. Solar module types and properties, balance of system components, stand-alone and utility interface, energy management, and economics for a variety of PV applications are studied. The course includes details of installation, operation, and evaluation of photovoltaic systems. Students will participate in a team-based design project. The course includes preparation for the NABCEP (North American Board of Certified Energy Practitioners) PV exam. A course fee will apply. (Prerequisite: ENER 105; Placement scores must indicate proficiency level of

Math 100 or higher or have completed Match 50)

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

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

## 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** **F,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,S**  
**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,S**  
**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** **F,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** **F,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 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** **F,S**  
**Ceramics II (2-4)** **3 Credits**

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

**ART 211** **F**  
**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)

## 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 (4-2)**  
**5 Credits**

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

**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 (Odd Years)**  
**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 Compass 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 biology, 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,S**  
**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. (Prerequisites: Placement scores must indicate proficiency level of Math 100 or higher or completed MATH 50/70)

**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 218** **S**  
**Spreadsheets (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 219** **F**  
**Database Management (3-0)** **3 Credits**  
 This course allows students to refine their skills in database applications. Microsoft Access will be used to teach advanced concepts in this software package. The course will include all concepts of using and creating database tables, reports, forms, and queries. (Prerequisites: BSAD 125)

**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**  
**Business Statistics (3-0)** **3 Credits**  
 Business Statistics addresses the collection, analysis, interpretation, and presentation of data related to business. Topics include measures of central tendency and dispersion, frequency distribution, hypothesis testing, and sampling distribution. Spreadsheet software will be utilized in analysis of a variety of application problems. (Prerequisites: MATH 111)

**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.

## **CERTIFIED MEDICAL ASSISTANT**

**MEDA 101** **F,S**  
**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,S**  
**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,S**  
**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,S**  
**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,S**  
**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** **F,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** **F,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** **F,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** **F,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** **F,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)

## **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 (4-2)** **5 Credits**

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

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

This course for students planning to enter certain health fields satisfies part of the general education science requirement. The scope of the course is quite broad with emphasis on descriptive rather than theoretical chemistry. Topics are taken from inorganic, organic and biochemistry with emphasis on those concepts that have application in human health. Credit may not be earned for both Chemistry 101 and 104.

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

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

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

**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** **F,S,SU**  
**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** **F,S,SU**  
**College Orientation (1-0)** **1 credit**

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

## COLLISION REPAIR (AUTO BODY)

**CLRP 102** **F**  
**Auto Body Construction and Sheet Metal (2-2)** **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** **F**  
**Auto Body Plastics and Composites (2-2)** **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** **S**  
**Auto Body Welding and Structural Straightening (2-2)** **3 Credits**

This course moves into the repair of bolted-on components and other areas requiring the use of gas-metal arc welding (GMAW). Additional time is also devoted to the advanced use of body fillers and repairs to both fixed and 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** **S**  
**Auto Body Painting and Refinishing (2-2)** **3 Credits**

This course covers aligning/repairing the vehicle frame, working with aluminum body parts, and the final steps in the painting/finishing process. Finding and repairing wind noise and water leaks is also addressed. Classes are built around learning modules licensed from I-CAR (Inter-Industry Conference on Auto Collision Repair) which include both

classroom and hands-on shop exercises with competencies cross-indexed to ASE/NATEF (Automotive Service Excellence/National Automotive Technicians Education Foundation). A course fee will apply.

## COMPUTER AND NETWORK SUPPORT

### **CNS 101** **F,S,SU** **Introduction to Electronics (2-2)** **3 Credits**

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

### **CNS 105** **F,S** **Technical Career Development (1-0)** **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** **F,S** **Technical Career Development (1-0)** **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** **F,S**  
**PC Basics I (2-2)** **3 Credits**  
This course covers the fundamentals of the internal PC hardware and peripheral devices (PC = "Personal Computer" = Intel-based X86 architecture), and also provides an introduction to operating system concepts. Through hands-on labs, desktop learning tools, and extensive Internet-based research, students develop critical thinking and complex problem-solving skills. A course fee will apply. (Co-requisites: CNS 101, CNS 115, MATH 40/60, COMM 80)

**CNS 112** **F,S**  
**PC Basics II (2-2)** **3 Credits**  
This course addresses the software side of the PC by focusing on the operating system, basic networking concepts, and PC security. The course also provides an introduction to selected additional concepts including troubleshooting methods, "help desk" or "call center" procedures, and ethical considerations in computer technology. A course fee will apply. (Prerequisites: CNS 111 or Permission of Instructor; Co-requisites: MATH 50/70)

**CNS 115** **F,S**  
**Cisco Networking I (2-2)** **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. (Co-requisites: CNS 101, CNS 111, MATH 40/60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing)

**CNS 116** **F,S**  
**Cisco Networking II (2-2)** **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 125** **S**  
**Programming for CNS Technicians (2-2)** **3 Credits**  
This course provides basic computer programming skills for computer technology students who are not enrolled in a computer science-based program and whose math skills incorporate only introductory algebra. Emphasis will be placed on learning basic program structures, flow charting, and development of simple applications using an entry-level programming language. A course fee will apply. (Co-requisites: MATH 104 or Appropriate Placement by ACT/COMPASS testing)

**CNS 217** **F,S**  
**Cisco Networking III (2-2)** **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 (2-2)** **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 250** **F**  
**Linux Network Administration (2-2)** **3 Credits**  
This course covers the installation, configuration, and maintenance of a Linux-based operating system in a networked, multi-user environment. Primary focus will be on user/group management, file system utilization, system security, and utilization of various popular Linux server functionalities. A course fee will apply. (Co-Requisite: CNS 112)

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

This course is designed to prepare students for the responsibilities of being a network administration technician using the Microsoft Windows Server family of server operating systems. It provides hands-on experience incorporating Microsoft's client/server-based products such as Active Directory (AD), Internet Information Services (ISS), and Distributed File System (DFS). A course fee will apply. (Co-requisites: CNS 112, CNS 116, or Permission of Instructor)

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

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

**CNS 270 F,S****Network Security (2-2) 3 Credits**

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

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

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

**CNS 275 S****Advanced Microsoft Server (2-2) 3 Credits**

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

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

This course introduces the fundamental concepts necessary for designing, using, and implementing database systems and database applications. The student will be introduced to database management software, including Basic Structured Query Language (SQL). Through a combination of classroom lectures, hands-on labs, and desktop learning tools, students will develop both critical thinking and problem-solving skills. A course fee will apply. (Prerequisites: CNS 125; Co-Requisites: BSAD 125, MATH 104)

**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: CNS 260 and Sophomore Standing (i.e.-Completed 28 semester hours) or Permission of Instructor; Co-Requisites: CNS 218)

## 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 111)

**COMP 140 S (Even Years)****RPG Programming (2-2) 3 Credits**

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

**COMP 200 S (Odd Years)****COBOL (2-2) 3 Credits**

Computer programming concepts in the COBOL language, a widely used business oriented language, are examined. Instructional topics include: programming methodologies, program divisions, control

breaks and file maintenance. (Prerequisite: COMP 111 and MATH 111)

**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. (Prerequisites: MATH 50 or MATH 70 or Appropriate Placement by ACT/COMPASS testing, ENGL 100 or Appropriate Placement by ACT/COMPASS testing)

**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. (Co-requisite: MATH 40 or MATH 60 and COMM 80)

**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)

**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)

**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 Ventilation) 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 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, Co-requisite: AMT 102 and MATH 50 or MATH 70)

**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)

**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 243** **S**  
**Project Supervision (2-2) 3 Credits**  
 This course provides introductory material relevant to front-line supervision in construction technology and is built upon NCCER's (National Center for Construction Education and Research) Project Supervision module. Topics covered include orientation to the job, human relations, problem solving, safety, quality control, contract/construction documents, document control/estimating, planning/scheduling, and resource control/cost awareness. A course fee will apply. (Prerequisite: CONS 112)

**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 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, Co-requisite: MATH 100 and ENGL 100)

**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 102 and CONS 105 or Permission of Instructor, Co-requisite: MATH 100 and ENGL 100)

**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, Co-requisite: MATH 111 and ENGL 100)

**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** **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 150** **F** **Corrections Officer (2-2)** **3 Credits**

This course assist in developing effective and efficient Corrections Officers in law enforcement, corrections and correctional probation. Course will address the entry level officer training, through topics such as Ethics, professionalism, State rules and regulations. The course will address Legalities such as Legal Terminology, Constitutional Law, Subpoena, and Civil and Criminal Liability. Students will be trained in the subjects of Classes of Offenses, Use of Force, and Restoration of Civil Rights. A course fee will apply.

### **CJ 190** **F,S** **Patrol Operations** **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 220** **S** **Security Officer (2-2)** **3 Credits**

This course will address the entry level officer training, through topics including basic crime scene investigation, report writing, communications, interviewing and interrogation, law and the private sector, active threats and use of force situations. Students will demonstrate understanding through the use of mock crime scenes, scenarios, and varied use of force simulators. A course fee will apply.

### **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** **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 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 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 industrial equipment examines basic system components, controls and air movement devices. Troubleshooting, testing and basic tool use such as pressure gauge sets and refrigerant recovery are also covered. A course fee will apply.

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

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

**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, 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. (Co-requisite: MATH 50 or MATH 70 and COMM 80)

**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 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 (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 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)

## **PRESCHOOL TEACHER/ PARAPROFESSIONAL**

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

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

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

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

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

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

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

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

## ECONOMICS

### **ECON 201** **F,S,SU** **Principles of Economics I (3-0) (Macro)** **3 Credits**

This basic course in aggregate economics emphasizes national income theory, fiscal policy, money and monetary policy, business cycles and economic growth. Students successfully completing this course partially fulfill Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading Level 1) (MATH 100 or higher is recommended)

### **ECON 202** **F,S,SU** **Principles of Economics II (3-0)** **(Micro) 3 Credits**

A continuation of Economics 201, this course emphasizes price, theory, competition models, wage, rent, and profit determination, international trade and balance of payments theory, and special international problems. Students successfully completing this course partially fulfill Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at Reading Level 1) (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.*

A grade of B or better in all education classes and C or better in all general education courses is required.

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

### **EDUC 150** **F,S** **Introduction to Teacher Education** **(1-0) 1 Credit**

This course familiarizes students with the personal and professional demands of teaching, explores the field of teaching, and introduces teacher education programs and certifications. In introducing students to the educational field, the course depicts teaching in its realistic intricacies and describes the considerations of professional teaching. This course is intended for students interested in pursuing the Associate of Arts in Teaching (AAT) degree program. To successfully complete EDUC 150, students must have by the end of the course a current criminal background screening and complete the Missouri Educator Profile. A grade of "B" or higher is required for students to continue in the AAT program.

### **EDUC 203** **F,S** **Foundations of Education (3-0)** **3 Credits**

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

### **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 210** **F,S** **Technology for Teachers (3-0)** **3 Credits**

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

### **EDUC 230** **F,S,SU** **Educational Psychology (3-0)** **3 Credits**

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

### **EDUC 250** **F,S** **Teaching Profession with Field** **Experience (3-0) 3 Credits**

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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 state certification exam for licensure. A course fee will apply. (Prerequisites: AHA Healthcare Provider Level CPR certification, fingerprint background check at the cost of the student PRIOR to acceptance into program; and college level reading)

**EMTP 201** **F,S**  
**Emergency Medical Technician-**  
**Paramedic (18-0)** **18 Credits**

This is the first of two 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 and pharmacology to the assessment and management of emergency patients, be able to properly administer medications, and communicate effectively with patients. A course fee will apply. (Prerequisites: Current EMT national certification and/or state licensure AHA Healthcare Provider level card required. Acceptance to Paramedic Program required to enroll.)

**EMTP 202** **F,S**  
**Emergency Medical Technician-**  
**Paramedic (18-0)** **18 Credits**

This is the second of two courses which follow the United States Department of Transportation Paramedic National Standard Curriculum. In this course the students will apply the basic concepts of development pathophysiology and pharmacology to assessment and management of emergency patients, be able to properly administer medications, communicate effectively with patients, and complete clinical rotations in both the prehospital and hospital settings. In order to successfully complete this course, each student must satisfy all hourly and patient intervention requirements. A course fee will apply. (Prerequisite: EMTP 201)

## ENGLISH AND LITERATURE

**ENGL 100** **F,S,SU**  
**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 (3-0)**

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.

**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 120** **S**  
**Masterpieces of World Literature I**  
**(3-0)** **3 Credits**

Selected reading in Greek and Roman literature emphasizes epics, dramas, and mythology as well as the Divine Comedy, Don Quixote, and a Shakespearean masterpiece. The time period studied begins with the Classical Age and continues through the Renaissance. This course partially fulfills general education humanities requirements.

**ENGL 125** **F,S,SU**  
**Masterpieces of World Literature II**  
**(3-0)** **3 Credits**

A survey of landmarks of world literature from the eighteenth century to the twentieth century Western thought. Readings are selected from Moliere, Swift, Voltaire, Chekhov, Ibsen, Tolstoy, Kafka, and others. This course partially fulfills general education humanities requirements. A course fee will apply.

**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)

## FIRE SCIENCE

**FSCI 102**  
**Building Construction Related to Fire**  
**Service (3-0)** **3 Credits**

This course provides the components of building construction that relate to fire and life safety. The focus of this course is on firefighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. (Prerequisite: FSCI 111 or Firefighter I & II certification)

**FSCI 103**  
**Fire Investigations (3-0)** **3 Credits**

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene analysis and interpretations, including recognizing and conducting origin and cause, preservation of evidence, evidence collection, scene documentation, scene security, motives of the fire setter, and types of fire causes. (Prerequisites: FSCI 111 or Firefighter I & II certification)

**FSCI 107****Fire Service Hydraulics & Fire Pump Operations (3-0) 3 Credits**

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. (Prerequisites: FSCI 111 or Firefighter I & II certification)

**FSCI 108****Fire Protection Systems (3-0) 3 Credits**

This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. (Prerequisites: FSCI 111 or Firefighter I & II certification)

**FSCI 109****Legal Aspects of Emergency Services (3-0) 3 Credits**

This course introduces the Federal, State, and local laws that regulate emergency services, national standards influencing emergency services, standard of care, tort, liability, and a review of relevant court cases.

**FSCI 111****Firefighter I and II (4-4) 6 Credits**

This course places emphasis on those skills and related information necessary to develop a recruit firefighter into a usable member of the firefighting team. The course is divided into 21 subject areas. Recruit firefighters will gain essential knowledge through both lecture and practical skill development. Topics include: fire behavior, building construction, firefighter safety, rescue, extrication, fire control, hazardous materials, and EMS. Successful completion of this course will prepare recruit firefighters for the International Fire Service Accreditation Congress (IFSAC) Certifications for Firefighter I, Firefighter II, Hazardous Materials Awareness, and Hazardous Materials Operations.

**FSCI 120****Hazardous Materials (3-0) 3 Credits**

A second semester of the review of basic fundamentals of chemistry used in fire science emphasizes less common special hazards. Topics covered include nuclear reactions, ionization, radiation detection equipment, peace time uses of radioactive materials, and control of resulting hazards. (Prerequisites: FSCI 111 or Firefighter I & II certification)

**FSCI 205****Tactics & Strategies (3-0) 3 Credits**

This course provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire ground. The course will cover aspects of incident command, company operations, special situations and occupancies, and post

incident activities. (Prerequisites: FSCI 111 or Firefighter I & II certification; FSCI 108)

**FSCI 207****Fire Prevention/Code Enforcement (3-0) 3 Credits**

This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education. (Prerequisite: FSCI 111 or Firefighter I & II certification; FSCI 108)

**FSCI 208****The Company Officer (3-0) 3 Credits**

This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis will be placed on fire service leadership from the perspective of the company officer. (Prerequisite: FSCI 111 or Firefighter I & II certification; FSCI 109 preferred)

**FSCI 210****Fire Service Instructor (3-0) 3 Credits**

This course covers the roles of a fire service instructor, the characteristics of an effective instructor, various aspects of communication, challenges facing emergency services instructors, different aspects of professional development, the importance of instruction, and common instructional techniques. (Prerequisite: FSCI 111 or Firefighter I & II certification; COMM 104 recommended)

**FSCI 212****Occupational Safety & Health for the Fire Service (3-0) 3 Credits**

This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. Upon completion of this course, students should be able to establish and manage a safety program in an emergency service organization. (Prerequisites: FSCI 111 or Firefighter I & II certification)

**FSCI 260, 261, 262, 263****Problems in Fire Science 1-4 Credits**

Course content is assigned by the instructor and approved by the Associate Dean of Technical Education.

## GEOGRAPHY

**GEOG 111****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****Introduction to Geology (4-2) 5 Credits**

This class introduces students to the basic concepts of Geology. Students will use these concepts to gain an understanding of: (1) the Earth's dynamic processes of formation and change, (2) how those changes are reflected and identified as its geologic history, and (3) environmental challenges on the planet. This course will partially fulfill the science requirements for the Associate of Arts degree.

**GEOL 210****Earth and Space Science for Teachers (2-4) 4 Credits**

A laboratory intensive course designed to give students an understanding of the processes of science and the basic concepts of Earth science (Geology, Oceanography, and Atmospheric Science) and Astronomy. This course is designed primarily for students intending to major in elementary education. One-day field trips and some night-time astronomical observations will be required. (Prerequisite: PHYS 101)

## GRAPHIC DESIGN

**ART 190****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)

## 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. HIST 102 is a Social Science, not a Humanities, course. (Prerequisite: Reading at least at college level) (Note: HIST 101 is not a prerequisite for HIST 102)

**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. Successful completion of History 106 at an accredited Missouri college fulfills the Missouri State requirements in constitutional study and partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level)

**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 partially fulfill 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)

**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** **3 Credits**

This honors English course continues the study of clearly effective written expository essays for those who have successfully completed English 101 and are participants in the Crowder College Honors Program. In addition, students advance to study more complex methods of thesis development, particularly argument. Research and documentation procedures are integral subject matter. This course fulfills a portion of communications general education requirements and requires students to complete an additional research component for all honors program participants. (Prerequisite: Limited to honors program participants and completion of ENGL 101)

**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 I) This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both.

## **FREN 101** **Beginning French (3-0) 3 Credits**

This is a multimedia course that combines video, audio and print to teach French language and culture. It immerses the student in current, living French in everyday situations, spoken by natives. Its focus is on communication and proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. Not offered at the Neosho campus.

**SPAN 100**  
**Introduction to Spanish Vocabulary,  
Culture and Conversation (3-0)**  
**3 credits**

This course introduces students to Spanish vocabulary, culture, and conversation. Audio and video materials supplement class practice. This is not a substitution for SPAN 101 and does not fulfill any requirements for a foreign language credit. Not offered at the Neosho campus.

**SPAN 101**  
**Beginning Spanish (3-0)**  
**F,S 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**  
**Beginning Spanish II (3-0)**  
**S 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**  
**Conversational Spanish (3-0)**  
**F 3 Credits**

This course is geared to those who have knowledge of the Spanish language. This course emphasizes idiomatic usage, vocabulary, grammar, and syntax. There is a focus on acquisition and development of skills necessary for effective oral and written communication. Hispanic culture, history, art, and literature will be highlighted in course materials, student presentations, and writing assignments. The material covered in this course is designed not only to meet the educational needs of traditional students of the language, but also the needs of the heritage language speakers who enter the Spanish program with some or all of the four language skills developed to varying degrees. (Prerequisites: SPAN 102 or equivalent)

**SPAN 106**  
**Basic Conversational Spanish II (3-0)**  
**S 3 Credits**

This is a continuation of Conversational Spanish I (SPAN 105) that includes conversational practice and cultural, historic, art and literary readings and discussions with student presentations and writing assignments. (Prerequisite: SPAN 105 or equivalent)

**SPAN 111**  
**Introduction to Spanish for Health Care  
Workers (2-2)**  
**S 3 Credits**

This is a multimedia course that combines video, audio, and print to introduce students to medical terms and elementary non-medical expressions in Spanish. This course is designed for students who work/plan to work in health care and who want to learn Spanish phrases as related to their daily activities. The course activities are divided into 2 major sections: First, basic language skills that are taught using the textbook, "an Introduction to Spanish for Health Care Workers"; Second, the memorization of dialogs related to specific medical tasks (e.g., assessing medical history, assessing health risks, making appointments, etc.). This course is not a Spanish language (grammar) course per se, but it designed to teach health care workers how to do specific tasks in Spanish. As such, there is no specific Spanish prerequisite to be enrolled in this course. All health care workers/students who are interested in acquiring the basic Spanish skills as related to their daily activities are encouraged to enroll in this course. Students who are interested in acquiring the Spanish language in general are invited to enroll in traditional Spanish language (grammar) courses. This class may apply toward the Humanities Elective education requirement for the Nursing Program, or may apply toward an elective requirement for an A.A. in Spanish, but may not apply toward both.

**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.

**SPAN 201**  
**Intermediate Spanish (3-0)**  
**F 3 Credits**

This course continues the study of Spanish language and culture. It immerses the student in current, living Spanish in everyday situations. Its focus is on communication proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: SPAN 102 or permission of instructor)

**SPAN 202**  
**Intermediate Spanish II (3-0)**  
**S 3 Credits**

This course continues the study of Spanish language and culture. It immerses the student in current, living Spanish in everyday situations. Its focus is on communication proficiency. This class may apply toward the Humanities General Education requirement, or may apply toward a foreign language requirement for a bachelor of arts, but may NOT apply toward both. (Prerequisite: SPAN 201 or permission of instructor)

## LEARNING OPPORTUNITIES

**COMM 80**  
**Introduction to Communications (2-0)**  
**F,S 2 Credits**

This course focuses on the study of basic grammar and mechanics of composition including an analysis of subjects, verbs, sentence structure, and punctuation. The course is required of some students as determined by scores on placement tests and is recommended for students returning to school from a prolonged absence. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. A letter grade will not be given and there will be no impact on the student's grade point average. Students must earn credit for the course or reach the appropriate Crowder placement score in order to take further composition courses. These credits cannot be applied toward graduation requirements. (Placement by Crowder Standard Placement Exam) A course fee will apply.

**COMM 91, 92, 93, 94**  
**Developmental Communication Arts**  
**(0-4) F,S 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 40** **F,S**  
**Reading Enhancement I (2-0)** **2 Credits**  
 Students will be taught basic reading strategies to facilitate comprehension of expository and narrative text. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. These credits cannot be applied to requirements for graduation. A letter grade will not be given and there will be no impact on the student's grade point average. A course fee will apply. (Prerequisite: Placement by Crowder Standard Placement Exam)

**LOC 50** **F,S**  
**Reading Enhancement II (2-0)** **2 Credits**  
 This is a course for students needing to improve specific reading skills. Emphasis will be on adequate reading preparation, increasing reading speed and improving vocabulary and comprehension through the development of literal, critical and effective reading skills. These skills will be taught through a variety of textbook exercises, tests, computer software, quizzes and readings. In addition, outside reading/writing may be utilized to further ensure development of skills. The course is offered on a credit/no credit basis, with 75% or better required to receive credit. These credits cannot be applied to requirements for graduation. A letter grade will not be given and there will be no impact on the student's grade point average. A course fee will apply. (Prerequisite: LOC 40 or Placement by Crowder Standard Placement Exam)

**LOC 90** **F,S**  
**Reading Across the Curriculum (3-0)** **3 Credits**  
 This course is designed to improve reading skills necessary to succeed in college level courses across disciplines. Emphasis is on critical reading techniques, content-specific vocabulary and efficient comprehension. A variety of readings, assessments, and supplemental exercises are included to enhance the development of the various reading skills. The course is offered on a credit/no credit basis, with 70% or better required to receive credit. These credits cannot be applied to requirements for graduation. A letter grade will not be given and there will be no impact on the student's grade point average. A course fee will apply. (Prerequisite: LOC 50 or Placement by Crowder Standard Placement Exam)

**LOC 100** **F,S**  
**College Success (3-0)** **3 Credits**  
 This course is designed to increase success in college by assisting you in acquiring and mastering the skills necessary for you to reach your personal and educational goals. Course topics will include time and stress management, test taking, communication skills, study techniques, question-asking skills, community resources, college transfer issues, career planning, budget planning, and personal issues that one may face as a college student. Successful completion of

College Success is required for students placing in three or more developmental courses.

**LOC 103** **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 you in acquiring and implementing many proven strategies for creating greater academic, professional, and personal success. To explore these strategies we will use individual and group discussions, activities, and assignments, guided journal writing, as well as personal one-on-one meetings. 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)

**LOC 105**  
**Career Directions (1-0)** **1 Credit**  
 This course is designed to help students discover what their personal interests, values, and talents are, and to learn how to use this knowledge to help them in choosing a career. Taking this course can shape their educational experiences at Crowder College and help them understand how career choices can impact their lifestyle. (Course location varies)

**LOC 206**  
**Career Exploration (0.5-1.25)** **1 Credit**  
 This course provides students with the opportunity to refine their career plan, to practice job search skills such as interviewing and professional communication, and to evaluate their career goals. Students will complete a combination of an eight hour equivalent of class meetings and twenty hours of on-site field experience. (Course location varies)

## MANAGEMENT

**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 290** **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 40** **F,S,SU**  
**Arithmetic (2-0)** **2 Credits**  
 This college prep course is recommended for students needing to improve their basic skills in the use of whole numbers, fractions, decimals, simple geometry and number theory. Students whose placement scores indicate a need are required to enroll. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: An appropriate math placement score)

**MATH 50** **F,S,SU**  
**Basic Algebra (3-0)** **3 Credits**  
 This college prep course is recommended for students who have had no previous background in algebra and those whose placement scores indicate a need for beginning algebra. This course is offered on a credit/no credit basis, with 70% or better required to receive credit. This course cannot be applied to requirements for graduation. (Prerequisite: MATH 40, MATH 60, or an appropriate math placement score)

**MATH 60** **F,S,SU**  
**Pre-Collegiate Math I (2-2)** **3 Credits**  
 This college prep course is recommended for students needing to improve their skills in basic math. Students whose placement scores indicate a need are required to enroll. The course is offered on a credit/no credit basis, with 80% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: An appropriate math placement score)

**MATH 70** **F,S,SU**  
**Pre-Collegiate Math II (2-2)** **3 Credits**  
 This college prep course is recommended for students needing to improve their skills in basic algebra. The course is offered on a credit/no credit basis, with 70% or better required to receive credit. This course cannot be applied to the general education mathematics requirement for graduation. (Prerequisites: MATH 40, MATH 60, or an appropriate math placement score)

**MATH 90 (91,92,93,94)** **F,S,SU**  
**Developmental Mathematics (0-2)** **1 Credits**  
 This college prep course is recommended for students needing to improve their skills in basic math and algebra. Students whose placement scores indicate a need are required to enroll. The course is offered on a credit/no credit basis. This course cannot be applied to the general education mathematics requirement for graduation. A course fee will apply. (Prerequisites: An appropriate math placement score)

**MATH 100** **F,S,SU**  
**Intermediate Algebra (3-0)** **3 Credits**  
 This preparatory course for College Algebra is recommended for students successfully completing Basic Algebra or whose placement scores indicate a need for additional algebra. Topics include linear equations, graphing, systems of equations and polynomials. This course will not satisfy most degree requirements for mathematics. It will count as an elective on your transcript. (Prerequisite: MATH 50, MATH 70, or an appropriate math placement score)

**MATH 104** **S**  
**Technical Mathematics (3-0)** **3 Credits**  
 Technical Mathematics applies practical concepts of mathematics to a variety of real world problems. This class is specifically designed to meet the needs of students in the college's AAS Technology programs. This class will not satisfy the general education requirement for an Associate of Arts degree. (Prerequisite: MATH 50, MATH 70, or an appropriate placement exam score)

**MATH 107** **F,S,SU**  
**Introduction to Mathematics (3-0)** **3 Credits**  
 This course emphasizes some of the basic concepts, principles, and methods of mathematics. Topics include: set theory, geometry, probability, statistics, problem-

solving and financial mathematics. (Prerequisite: MATH 100 or an appropriate placement exam score)

**MATH 111** **F,S,SU**  
**College Algebra (3-0)** **3 Credits**  
 College Algebra involves the study of equations and inequalities; linear, quadratic, polynomial, rational, exponential, and logarithmic; and their applications. This course will satisfy most degree requirements in Mathematics and should transfer to any four-year institution. (Prerequisite: MATH 100 or placement by the placement exam)

**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 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 111 (may be taken concurrently) or an appropriate placement exam score; MATH 112 (may be taken concurrently) or an appropriate placement exam 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)

## **MEDICAL ADMINISTRATIVE ASSISTANT**

**OA 102 S****Filing Systems and Records Management (3-0) 3 Credits**

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

**OA 107 F**

**College Keyboarding (3-0) 3 Credits**  
Students continue to develop decision-making and production skills through preparation of documents representative of various businesses.

**OA 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.

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

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

**OA 200 F****Word Processing I (3-0) 3 Credits**

Students are introduced to word processing concepts, applications and skills. Speed and accuracy are improved through the production of business documents using IBM compatible computers. (Prerequisite: BSAD 125)

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

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

**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.

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

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

**HIT 220 S****ICD Coding (2-2) 3 Credits**

This course introduces the student to the coding conventions, coding principles and Centers for Medicare and Medicaid Services (CMS) official (inpatient) coding guidelines using the International Classification of Diseases (ICD) system. The coding principles of every section of the ICD system will be practiced. Topics discussed include MDCs (major diagnostic categories) and DRGs (diagnostic related groups). Students will be required to assign ICD codes to diagnosis/procedure using the ICD manual and web-based assignments assisting in the development of basic skills needed for accurate coding for medical billing purposes. A course fee will apply. (Prerequisites: OA 215)

**HIT 230 S****CPT Coding (2-2) 3 Credits**

This course introduces the student to the theory, structure and process of coding procedures using Current Procedural Terminology (CPT) and Healthcare and Financing Administration's (HCFA) Common Procedural Coding System (HCPCS). CPT coding guidelines, principles and conventions along with ambulatory services coding related to facility and professional services will be examined in detail. Students will also be exposed to HCPCS codes and the hospital chargemaster. A course fee will apply. (Prerequisites: OA 215)

## **MUSIC**

**MUSIC 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.

**MUSIC 105 F,S****Elementary Class Piano I (1-2) 1 Credit**

For the beginning pianist, dynamic group learning introduces the keyboard. Scales, chords and the harmonization of simple melodies are studied.

**MUSIC 106, 107, 206, 207 F,S****Chorale (0-3) 1 Credit**

This course is open to all college students who like to sing. Functions include preparation and performance of a large variety of works. Credit is given for participation each semester in accordance with course number sequence shown.

**MUSIC 112 S****Voice for Theatre Majors 1 Credit**

This is a course for Theatre majors who need singing skills for musicals. The course will be offered as needed. (Prerequisite: permission of the instructor)

**MUSIC 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.

**MUSIC 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)

**MUSIC 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.

MUSIC 120, 121, 220, 221 Piano  
MUSIC 140, 141, 240, 241 Voice  
MUSIC 180, 181, 280, 281 Guitar

**2 Credits**

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

# NURSING

**ADN 163 S**  
**Nursing Concepts I (3-0) 3 Credits**  
 This course provides exploration of the concepts and theories that support the nursing role. Emphasis will be on critical thinking and the nursing process. Professional, legal and ethical aspects of evidenced-based care will be introduced. This is an introductory course of normal growth and development from birth to the older adult. A holistic approach will be utilized encouraging the student to assess the client's physical, cultural, developmental, and psychosocial aspects of care. (Prerequisite: BIOL 152 and CNA, EMT, or Paramedic license)

**ADN 167 S**  
**Clinical I (0-3) 1 Credit**  
 This course introduces the healthcare setting. The student will complete 32 hours of clinical practice in an approved medical facility, and additional simulation and dosage calculation experiences, for total of 48 contact hours. During the course the student is provided with clinical practice in providing basic nursing care for medical clients. The student will assess, plan, implement and evaluate nursing care. Legal documentation of care will be emphasized. The student will be given opportunity to develop skill in basic nursing procedures. A course fee will apply. (Prerequisite: BIOL 152 and CNA, EMT, or Paramedic license)

**ADN 169 S**  
**Nursing Interventions I (3-1) 3 Credits**  
 The focus of this course is acquisition of knowledge and skills to provide basic nursing care. Nursing procedures will be introduced during the lab component of this course. Emphasis will be on system-specific assessments. Application of principles of critical thinking and problem-solving skills will be practiced in simulation. Medical terminology and professional communication will be emphasized through documentation of assessments and procedures. A course fee will apply. (Prerequisite: BIOL 152 and CNA, EMT, or Paramedic license)

**ADN 170 F**  
**Nursing Interventions II (4-1) 4 Credits**  
 This course applies the principles and skills related to advanced assessment in evaluating normal client health states. Incorporation of lab and diagnostic values will be emphasized. Initial interventions related to nursing care of clients will be included. Incorporation of support systems in client care will be stressed. Continued development of nursing skills will be emphasized throughout the lab component of this course. This course includes 64 hours of didactic and 16 hours of skills labs and simulations. A course fee will apply. (Prerequisite: BIOL 252 and ADN 169)

**ADN 172 F**  
**Family Development (2-0) 2 Credits**  
 This course provides the principles of family-centered, maternal-newborn nursing. The course focuses on the physical, cultural, spiritual, and psychosocial needs of the pregnant woman, her family, and the newborn. Assessment and health promotion of the well child will be incorporated. (Prerequisite: ADN 163 & ADN 169)

**ADN 175 S**  
**Dosage Calculation I (1-0) 1 Credit**  
 This course will provide introduction to basic dosage calculations. Emphasis will be placed on developing and expanding math skills as they relate to administering medications and dosage related medical terminology.

**ADN 176 F**  
**Dosage Calculation II (1-0) 1 Credit**  
 This course will build on basic dosage calculations learned in Dosage Calculation I. Emphasis will be placed on calculation related to preparation of solutions, pediatric dosages, parenteral medications, enteral and intravenous infusions. (Prerequisite: ADN 175 or Instructor Approval)

**ADN 177 F**  
**Clinical II (0-12) 3 Credits**  
 This course provides clinical practice in basic nursing skills in addition to dosage calculation, and simulation experiences. The student will be encouraged to apply growth and development principles in assessing, planning, intervening, and evaluating nursing care. Emphasis will be on therapeutic communication and legal documentation. A course fee will apply. (Prerequisites: ADN 167)

**ADN 200 F**  
**Transition (LPN's only) (2-0) 2 Credits**  
 This is a specially designed course for licensed practical nurses entering into professional nursing. This course provides essential concepts and skills to facilitate the assimilation of knowledge and incorporation of the professional nursing role. (Prerequisite: Student must be an LPN and admitted to the ADN program, BIOL 252 and CHEM 104 or CHEM 111)

**ADN 260 S**  
**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 CHEM 104 or CHEM 111)

**ADN 263 S**  
**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 S**  
**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 instruction will 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 F**  
**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, successful completion of the third semester nursing courses)

**ADN 277 F**  
**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 instruction will be provided. The student will be given the opportunity to master nursing skills in a variety of settings. Evidenced-based nursing care will be emphasized. A course fee will apply. (Prerequisite: ADN 267)

**ADN 279 F**  
**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** **SU**  
**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** **S**  
**Dosage Calculation III (1-0)** **1 Credit**

This course will provide and build on basic dosage calculations learned in Dosage Calculation I & II. With emphasis on blood modifying and metabolic dosage calculations.

**ADN 282** **F**  
**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.

## **OCCUPATIONAL THERAPY ASSISTANT**

**(Offered only at Webb City)**

**OTA 101** **S**  
**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 and OTA 116)

**OTA 111** **S**  
**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 116** **S**  
**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 131** **F**  
**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; Co-requisites: OTA 140 and OTA 201)

**OTA 140** **F**  
**Occupational Therapy Trends and**  
**Issues (2-0)** **2 Credits**

This course will cover the roles and responsibilities in the administration of occupational therapy services. Topics include assistance with the management of departmental operations; development of values, attitudes, and behaviors congruent with Occupational Therapy (OT) standards and ethics; the role of the Occupational Therapy Assistant (OTA) in OT, research publication, and program evaluation; supervisory requirements; certification and licensure; reimbursement issues; personnel training and supervision; continued learning; and promotion of the OT profession; and job search skills. A course fee will apply. (Prerequisite: OTA 111; Co-requisites: OTA 131 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** **F**  
**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** **S**  
**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 221** **S**  
**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 236** **S**  
**Occupational Performance Issues in**  
**Later Adulthood (2-2)** **3 Credits**

This course will cover Occupational Therapy (OT) related geriatric issues. Topics include: study of the normal aging process, physical, psychosocial and cognitive dysfunctions common to the elderly, OT practice framework domain, process and therapeutic intervention with the geriatric population. This course will emphasize the importance of patient, family

and caregiver education. 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 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 110** **F**  
**Critical Thinking (3-0)**  
**3 Credits**

This course teaches the art of critical thinking and informal logic in examining the messages in all kinds of discourse: media, politics, values conflicts, and personal conversation. It teaches the ability to evaluate and manage claims for truth, and how to effectively engage others in positive and productive argumentation. The course examines theories of ethics and values, and methods of discourse with others regarding issues in ethics and values. Students successfully completing this course may apply the hours to partial fulfillment of the general education requirement in either Humanities or Social Sciences but not both simultaneously. (Prerequisite: Reading at least at 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. Students successfully completing this course may apply the hours to partial fulfillment of the general education requirement in either Humanities or Social Sciences but not both simultaneously.

**PHIL 201** **Upon Request**  
**Logic (3-0)**  
**3 Credits**

The methods and principles used in distinguishing sound from faulty reasoning, both deductive and inductive, are examined. Students successfully completing this course partially fulfill Humanities general education requirements. (Prerequisite: Reading at least at college level)

**PHIL 202** **Upon Request**  
**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 courses meet physical education activity graduation requirements.

**PE 103** **F,S**  
**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** **1 Credit**  
**Rhythmic Aerobics (0-2)**

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** **F,S**  
**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** *Upon Request*  
**Lifetime Activities (0-2)** **1 Credit**  
 This course acquaints students with a wide variety of activities that can be enjoyed throughout their lifetime. The following individual and group lifetime activities are covered: walking, bowling, badminton, volleyball, whiffle ball, table tennis, pickle ball and Frisbee. A course fee may apply.

**PE 113** *F,S*  
**Lifetime Fitness and Wellness (1-1)** **2 Credits**  
 This course provides contemporary information about the beneficial effects of a positive healthy lifestyle and how to implement and live such a lifestyle through lecture, lab work, and weight workouts. General topics covered include cardiovascular fitness, posture, flexibility, agility, muscle tone, strength, endurance, diet and exercise. A course fee may apply.

**PE 114** *S*  
**Badminton and Table Tennis (0-2)** **1 Credit**  
 A brief history of each activity is followed by practice in the fundamental skills of badminton and table tennis. Scoring, strategy and rules are also taught.

**PE 117**  
**Walking for Fitness (0-2)** **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 118** *SU*  
**Introduction to Fly Fishing (0-2)** **1 Credit**  
 An introduction to fly fishing includes instruction in ways to preserve fish habitat and a basic introduction to the sport of fly fishing. Students' introduction to the sport will include: knowledge of equipment, fish identification, knot-tying, casting mechanics, fishing techniques, reading still and moving water, basic entomology and ecology, and environmental preservation and restoration projects. No previous fly fishing or conventional tackle fishing experience is needed for the course. This introductory course is intended to provide the novice angler with the fundamental skills and knowledge needed to enter the sport of fly fishing.

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

**PE 145** *F,S*  
**Beginning Tae Kwon Do (0-2)** **1 Credit**  
 This course is the continuation of the series of courses in Tae Kwon Do and provides the opportunity for continued growth and advancement in the art. (Prerequisite: PE 144)

**PE 204** *F,S*  
**Advanced Rhythmic Aerobics (0-2)** **1 Credit**  
 This general fitness class is designed to guide each student toward physical fitness and weight control through group exercise to music. (Prerequisite: PE 104. PE 104 and 204 should be taken in sequence) (Course location varies)

**PE 205** *F,S*  
**Advanced Weight Training (0-2)** **1 Credit**  
 This course is designed to assist participating students in maintaining and improving their general physical conditioning. The class emphasizes cardiovascular and muscular endurance, strength and flexibility through conditioning exercises and body mechanics. Daily activities include jogging and weight lifting to present a well-rounded program to students. (Prerequisite: PE 105)

**PE 244** *F,S*  
**Intermediate Tae Kwon Do (0-2)** **1 Credit**  
 This course is the continuation of the series of courses in Tae Kwon Do and provides the opportunity for continued growth and advancement in the art. (Prerequisite: PE 145)

**PE 245** *F,S*  
**Advanced Tae Kwon Do (0-2)** **1 Credit**  
 This course is the continuation of the series of courses in Tae Kwon Do and provides the opportunity for continued growth and advancement in the art. (Prerequisite: PE 244)

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 The following lecture courses will not meet PE activity graduation requirements.

**PE 115** *F*  
**First Aid (2-0)** **2 Credits**  
 This course will teach students how to give immediate care to a person who has been injured or suddenly taken ill. The course includes self-help and home care if medical assistance is unavailable or is delayed.

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

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

**PE 142** *F,S*  
**Personal and Community Health (3-0)** **3 Credits**  
 This course acquaints students with a variety of topics including emotional health, drugs and drug abuse, human sexuality, the care and prevention of common diseases, body systems, analysis of health problems and proper nutrition.

**PE 150** *F*  
**Psychological Aspects of Physical Activity and Sports (2-0)** **2 Credits**  
 This course will teach students the value of physical activities and sports in society through the development of the following personal characteristics: learning how to participate in sports anxiety-free, learning how to reach peak performance, learning how to maintain consistent quality performance, and learning how to win and lose.

**PE 160** *SDL, Upon Request*  
**Coaching Methods I (Basketball) (2-0)** **2 Credits**  
 The various facets of organizing and managing a school basketball program are taught. Areas of concentration involve systems of offense and defense, special game situations, organizing practices and teaching fundamental skills of the game.

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

**PE 260** *S*  
**Coaching Methods II (Baseball/Softball) (2-0)** **2 Credits**  
 The study of school baseball/softball program organization and management through basic concepts of individual and team offense and defense are taught. Game situations, organization, practices, and fundamental skills are covered.

**PE 197** *SDL, Upon Request*  
**Topics in Physical Education** **1 Credit**  
 This is a variable content course with topics that can change from semester to semester. Topics will be chosen each semester depending upon student requests and needs, and will be published in the schedule of classes. Topics may include but are not limited to: modern dance, swimming, outdoor education, basketball, tennis, racquetball, soccer, soft aerobics, etc. The course may be repeated if the topic is different.

## PHYSICS AND PHYSICAL SCIENCE

### **PHYS 101** **F,S,SU** **Survey of Physical Science (4-2)**

**5 Credits**

The basic principles and interrelations between physics, chemistry, earth science and astronomy are examined in this class. The course satisfies part of the general education science requirement for the Associate in Arts degree.

### **PHYS 190** **S** **General Physics I (4-2)** **5 Credits**

General Physics I is a calculus level course that examines the principles and applications of classical mechanics and thermodynamics. This class is intended for students majoring in engineering, the physical sciences, mathematics and computer science. (Prerequisites: MATH 150) (Co-requisite: MATH 160 or one-semester MATH 150/160 sequence concurrently with PHYS 190)

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

General Physics II continues study initiated in Physics 190. The topics covered are electricity and magnetism, optics and elements of modern physics. This course is intended for students majoring in engineering, the physical sciences, mathematics and computer science. (Prerequisite: PHYS 190, MATH 150 AND MATH 160)

### **PHYS 250** **S** **Statics (3-0)** **3 Credits**

Statics is a course for engineering majors that examines two and three-dimensional mechanical systems under equilibrium conditions. (Prerequisites: PHYS 190, MATH 150, and MATH 160)

### **PHYS 271, 272, 273** **Topics in Physics** **1-3 Credits**

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

## POLITICAL SCIENCE

### **PLSC 102** **F,S** **Missouri Constitution (1-0)** **1 Credit**

This survey of state and local government in Missouri includes the study of the state constitution and the political process and structures at the state and local levels. (This class is designed only for students who are transferring in the equivalent of PLSC 103 or HIST 106 from a non-Missouri accredited college) Successful completion of this course meets the State of Missouri constitution general education requirement for such students. (Prerequisite: Reading at least at college level) (Online or Individualized instruction and by permission of the instructor only)

### **PLSC 103** **F,S,SU** **National, State, Local Government** **(3-0)** **3 Credits**

PLSC 103 introduces the basic principles and structures of the American national government, and state and local government organizations and functions. Emphasis is placed on constitutional development and interpretation; the place of government in the social process; and the function of the executive, legislative, and judicial branches. Successful completion of PLSC 103 fulfills the State of Missouri constitution requirements and partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level)

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

This is a political science class designed for honors students. The course content is the same as Political Science 103 except this class is writing intensive and, when appropriate, more varied instructional techniques will be used in this class. (Prerequisite: admission to Honors Program or consent of the instructor and reading at the college level)

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

These courses provide an opportunity to study selected Political Science topics not covered in the Political Science curriculum or to study in greater depth, topics addressed in introductory Political Science courses. The content of these courses may vary from semester to semester and some may require a prerequisite. Check with the Division Chair, instructor or advisor regarding prerequisites for a specific topics course. These courses will transfer but may or may not meet specific degree or program requirements at other institutions (Prerequisite: Reading at least at college level)

### **PLSC 201** **Upon Request** **Contemporary Political** **Activities of the U.S. (1-2)** **2 Credits**

This course follows the most important problems, activities and functions of the United States government with emphasis on the political nature of the matter under consideration. (Prerequisite: (Reading at least at college level)

### **PLSC 205** **Upon Request** **Introduction to Political Science** **(3-0)** **3 Credits**

This course offers an introduction to the principles and problems related to the study of government and politics in today's world. The course provides students with a framework for the study of politics and introduces students to the various political science sub-fields including: comparative politics, international relations, political economy, and political philosophy. This course partially fulfills the Social and Behavioral Science General Education

requirements for the Associate of Arts degree. (Prerequisite: PLSC 103, 104 or equivalent, or permission of the instructor)

## PSYCHOLOGY

### **PSYC 101** **F,S,SU** **General Psychology (3-0)** **3 Credits**

An introduction to the scientific study of human behavior including motivation, perception, learning, emotions, intelligence and the physiological basis of behavior is presented. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements.

### **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 210** **F,S,SU** **Child Psychology (3-0)** **3 Credits**

This study of the origin and development of intellectual, emotional and physical growth of children from birth to adolescence emphasizes problems of child rearing, education and social action. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: PSYC 101 and Reading at least at college level)

**PSYC 215** **F,S**  
**Adolescent Psychology (3-0)**

**3 Credits**

Psychological principles for understanding of adolescent behavior are presented. Students study intellectual, emotional and physical growth from puberty to adulthood. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: PSYC 101 and Reading at least at college level)

**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 230)

## **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 219** **F,S**  
**Human Diversity (3-0)**

**3 Credits**

The purpose of this course is to provide a basis of understanding of human diversity in the United States and its implications for social work practice. Students are expected to develop sensitivity toward the unique status of, and special issues faced by, population groups that have experienced discrimination and oppression due to race, ethnicity, gender, age, sex, disability, or spiritual beliefs. Students will acquire a beginning understanding of culturally specific issues that are important to the ongoing development of cultural sensitivity and to the development of practice skills in working with diverse groups, and advocating for social justice.

**SWK 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.

**SOC 103** **F,S**  
**Marriage and the Family (3-0)**

**3 Credits**

This course focuses on a cross-cultural comparative analysis of marriage practices and family structures. Emphasis is placed on the role and scope of the family in contemporary American society. Successful completion of this course partially fulfills Social and Behavioral Science general education requirements. (Prerequisite: Reading at least at college level)

## **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**  
**Transport Training (13-0)** **13 credits**  
 This course offers the student entry-level knowledge and skills necessary to operate a tractor-trailer vehicle safely, efficiently and economically. The students' training will consist of various techniques of instruction including classroom training, driving on a controlled paved range, backing range, as well as highway and city driving. The tractor-trailers used in training students are comparable to what is used by the trucking industry today.

## VETERINARY TECHNOLOGY

**ANSC 180** **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 bandaging, casting, surgical preparations, monitoring, and post-operative procedures,

parenteral fluid administration and intravenous hookups. Drugs affecting the nervous and cardiovascular systems are discussed, along with the basics of pharmacology. 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 F,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**  
**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. (Co-requisite: MATH 40 or MATH 60 or appropriate placement by ACT/COMPASS testing, COMM 80 or Appropriate placement by ACT/COMPASS testing)

**WELD 117 S**  
**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. (Co-Requisites: AMT 111, WELD 113, MATH 60 or MATH 70 or Appropriate Placement by ACT/COMPASS testing or Permission of Instructor)

**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. (Co-requisites: MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 135 S**  
**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. (Co-requisites: MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**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 123; Co-requisites: MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 145 F**  
**Gas Metal Arc Welding-GMAW (2-2)**  
**3 Credits**  
This course is designed to provide the concepts, procedures, and operational hands-on practice necessary to perform gas metal arc welding (GMAW), formerly known as Metal Inert Gas (MIG) welding. Fee for materials and supplies. A course fee will apply. (Prerequisite: WELD 113 or Permission of Instructor, Co-requisites MATH 50 or MATH 70 or appropriate placement by ACT/COMPASS testing)

**WELD 150 S**  
**Gas Tungsten Arc Welding-GTAW (2-2)**  
**3 Credits**  
This course is designed to provide the concepts, procedures, and operational hands-on practice necessary to perform gas tungsten arc welding (GTAW), formerly known as Tungsten Inert Gas (TIG) welding. Fee for materials and supplies. A course fee will apply. (Prerequisite: WELD 113 or Permission of Instructor, Co-requisites: MATH 50 or MATH 70 or appropriate placement by ACT/COMPASS testing)

**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, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 152 S**  
**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, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 153 F**  
**Welding Lab I (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, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 154 S**  
**Welding Lab II (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, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 155 S**  
**Shielded Metal Arc Welding-SMAW (2-2) 3 Credits**

This course is designed to provide the concepts, procedures, and operational

hands-on practice necessary to perform shielded metal arc welding (SMAW), formerly known as "Stick" welding or traditional ARC welding. Fee for materials and supplies. A course fee will apply. (Prerequisite: WELD 113 or Permission of Instructor, Co-requisites: MATH 50 or MATH 70 or appropriate placement by ACT/COMPASS testing)

**WELD 197,198, 199, 297, 298, 299**  
**Topics in Welding Technology (0-8 to 3-0) 1-3 credits**

This is a variable content course with areas of study that reflect current needs of individual students in the area of Welding Technology. Topics are identified in the course description. Fee for materials and supplies. A course fee may apply. (Prerequisite: Permission of instructor)

**WELD 201 F**  
**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, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**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 212-213, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 211 F**  
**Welding Lab III (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 123; Co-requisites: WELD 201, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 213 S**  
**Welding Lab V Fabrication (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 202, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

**WELD 216 S**  
**Welding Lab IV Pipe/Plate (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 201, MATH 40 or MATH 60 or Appropriate Placement by ACT/COMPASS testing, COMM 80 or Appropriate Placement by ACT/COMPASS testing, or Permission of Instructor)

# ASSOCIATE OF ARTS DEGREES

## General Requirements

To graduate with the Associate in Arts Degree, a student must meet the following requirements:

- A.** Earn a minimum of 61 semester hours of credit. Of these, at least 15 of the last 30 semester hours must be earned in courses provided by Crowder College.
- B.** Earn a cumulative grade point average of 2.0 (C) or higher in all college courses attempted.
- C.** Complete an approved curriculum.
- D.** Fulfill the following General Education requirements.

Orientation: One (1) credit hour (this course is required of all new students at Crowder within the first 9 credits taken. This requirement will be waived for transfer students who have completed at least 12 credit hours with at least a 2.0 GPA.)

COLL 101

Communications: Nine (9) credit hours

ENGL 101

ENGL 102 or ENGL 104

COMM 104

Social and Behavioral Science: Nine (9) credit hours from at least two disciplines and must include HIST 106 or PLSC 103 or PLSC 104 (Missouri Constitution requirement). **Please note:** *Students who transfer in the equivalent of HIST 106 or PLSC 103 from out-of-state institutions must take HIST 106, PLSC 103, PLSC 104, or PLSC 102 (1 hour Constitution) to fulfill the Missouri Constitution requirement.*

If PLSC 103 or PLSC 104 is taken, then one social science course must be taken from the following: ECON 202, PHIL 121, HIST 101, HIST 102, HIST 106, HIST 107, or SOC 101.

If HIST 106 is taken, then one social science course must be taken from the following: ECON 201, ECON 202, GEOG 111, PHIL 121, PSYC 101, or SOC 101.

The third social science course may be taken from the following: ECON 201, ECON 202, GEOG 111, HIST 101, HIST 102, HIST 106, HIST 107, PHIL 110, PHIL 121, PLSC 103, PLSC 104, PLSC 205, PSYC 101, PSYC 210, PSYC 215, SOC 101, or SOC 103.

Science: Ten (10) credit hours, including a least one (1) course with a laboratory component.

One course must be a physical science: CHEM 101, CHEM 104, CHEM 111, PHYS 101, PHYS 190, or GEOL 115.

One science course must be a life science: BIOL 101

Mathematics: Three (3) credit hours.

MATH 107, 111, or 150 and 160

Humanities: Nine (9) credit hours.

One course must be taken from the fine arts group: ART 101, MUSC 101, or TA 205.

One course must be taken from the literature group: ENGL 109, ENGL 120, or ENGL 125.

The third course may be taken from either of the above groups or from the following list: ASL 101, ASL 102, FREN 101, HIST 101, PHIL 101, PHIL 110, PHIL 121, PHIL 201, PHIL 202, SPAN 101, SWK 219. (Note: HIST 101, PHIL 110, and PHIL 121 may fulfill the requirements for either social science or humanities, but not both.)

Physical Education: Two (2) credit hours

PE 102, PE 103, PE 104, PE 105, PE 110, PE 111, PE 113, PE 114, PE 116, PE 117, PE 118, PE 135, PE 144, PE 145, PE 204, PE 205, PE 216, PE 244, PE 245.

General Electives: Eighteen (18) credit hours

Any college-level course listed in the Description of Courses in the college catalog can apply to the general electives; however, students should consult their advisors about applicability of courses toward the baccalaureate degree.

\*Prerequisite requirement. Course must be completed before you take a more advanced course in the same field. English Composition I is a prerequisite for English Composition II, for instance.

\*\* Course meets partial physical education requirement

# ASSOCIATE OF ARTS DEGREE

## Agriculture – Ag Business Option

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 (Recommended) or	COLL 101	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL 101*		
ENGL 102*	OR ENGL 104*	
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART 101	ART 101	
MUSC 101	ASL 101, 102*	
TA 205	ENGL 109, 120, 125	
	FREN 101	
<b>Literature (3 hours)</b>		HIST 101*
ENGL 109, 120, 125	MUSC 101	
	PHIL 101*, 110*, 121, 201*, 202*	
	SPAN 101	
	SWK 219	
	TA 205	
<b>Mathematics</b>		<b>3 hours</b>
MATH 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113	<b>OR two of the following:</b>	
	PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL 101	CHEM 101, 104, 111*	
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>
HIST 106*	ECON 201*, 202*	
PLSC 103*, 104*	GEOG 111	
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
AGEC 123 (Ag majors only)	PHIL 110*, 121	
	PLSC 103*, 104*, 205*	
	PSYC 101, 210*, 215*	
	SOC 101	
<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	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGRI 111	Ag Career Development	1
AGRN 113	Crop Science	3
BIOL 101	General Biology	5
COMM 104	Fundamentals of Speech	3
ENGL 101	English Composition I	3
<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 111	College Algebra	3
Approved Fine Arts Course		3
<b>TOTAL</b>		<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGRN 214	Fundamentals of Soil Science	4
CHEM 101/104/111	Chemistry Course	5
Approved Literature Course – OR – Ag Elective		3
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
HIST 106	– OR – PLSC 103, 104	3
PE 113	Lifetime Fitness and Wellness	2
Approved Humanities Course		3
Approved Ag Elective – OR – Literature Course		3
<b>TOTAL</b>		<b>14</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

## Agriculture – Ag Education Option

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 (Recommended) or	COLL 101	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL 101*		
ENGL 102*	OR ENGL 104*	
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		
ART 101		
MUSC 101		
TA 205		
<b>Literature (3 hours)</b>		
ENGL 109, 120, 125		
<b>Additional Humanities (3 hours)</b>		
ART 101		
ASL 101, 102*		
ENGL 109, 120, 125		
FREN 101		
HIST 101*		
MUSC 101		
PHIL 101*, 110*, 121, 201*, 202*		
SPAN 101		
SWK 219		
TA 205		
<b>Mathematics</b>		<b>3 hours</b>
MATH 111*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113		
<b>OR two of the following:</b>		
PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*		
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		
BIOL 101		
<b>Physical Science (5 hours)</b>		
CHEM 101, 104, 111*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		
HIST 106*		
PLSC 103*, 104*		
<b>Additional 3 Hours</b>		
PSYC 101		
<b>And 3 Hours</b>		
HIST 107		
<b>Major Courses</b>		<b>24 hours</b>
<b>Required Courses (14 hours)</b>		
AGRN 113	EDUC 150	
AGRN 214*	EDUC 230	
AGMC 205	EDUC 250	
ANSC 114	HORT 113	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGRI 111	Ag Career Development	1
ANSC 114	– OR – AGRN 113 (3hrs)	4
ENGL 101	English Composition I	3
BIOL 101	General Biology	5
PSYC 101	General Psychology	3
EDUC 150	Intro to Teacher Ed	1
<b>TOTAL</b>		<b>17</b>

<b>Spring Semester</b>		<b>Hours</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 111	College Algebra	3
PE 113	Lifetime Fitness and Wellness	2
<b>TOTAL</b>		<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGMC 205	Agriculture Mechanics	3
AGRN 214	Fundamentals of Soil Science	4
CHEM 101	– OR – CHEM 104 – OR – 111	5
EDUC 230	Educational Psychology	3
PLSC 103	– OR – PLSC 104	3
<b>TOTAL</b>		<b>18</b>

<b>Spring Semester</b>		<b>Hours</b>
HORT 113	Greenhouse Management	3
EDUC 250	Teaching Prof w/Field Exp.	3
	Approved Fine Arts Course	3
	Approved Humanities Elective	3
	Approved Literature Course	3
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 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.

# ASSOCIATE OF ARTS DEGREE

## Agriculture - Agronomy Option

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 (Recommended) or COLL	101	
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL	101*		
ENGL	102*	OR	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
		FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 104, 111*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
AGEC	123 (Ag majors only)	PHIL	110*, 121
		PLSC	103*, 104*, 205*
		PSYC	101, 210*, 215*
		SOC	101
<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 111	College Algebra		3
PE 113	Lifetime Wellness		2
<b>TOTAL</b>			<b>15</b>

<b>Spring Semester</b>			<b>Hours</b>
AGEC 223	Ag Computer Applications		3
ANSC 114	Animal Science		4
BIOL 101	General Biology		5
ENGL 102	English Composition II		3
<b>TOTAL</b>			<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
AGRN 214	Fundamentals of Soil Science		4
CHEM 101/104/111	Chemistry Course		5
HIST 106	– OR – PLSC 103, 104		3
Approved Literature Course/or Ag Elective			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 Literature Course			3
Approved Fine Arts Course			3
Approved Humanities Course			3
Approved Soc & Behavioral Science Course			3
<b>TOTAL</b>			<b>15</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

## Agriculture - Animal Science Option

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 (Recommended) or	COLL 101	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL 101*		
ENGL 102*	OR ENGL 104*	
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART 101	ART 101	
MUSC 101	ASL 101, 102*	
TA 205	ENGL 109, 120, 125	
	FREN 101	
<b>Literature (3 hours)</b>		HIST 101*
ENGL 109, 120, 125	MUSC 101	
	PHIL 101*, 110*, 121, 201*, 202*	
	SPAN 101	
	SWK 219	
	TA 205	
<b>Mathematics</b>		<b>3 hours</b>
MATH 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113	<b>OR two of the following:</b>	
	PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL 101	CHEM 111*	
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>
HIST 106*	ECON 201*, 202*	
PLSC 103*, 104*	GEOG 111	
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
AGEC 123 (Ag majors only)	PHIL 110*, 121	
	PLSC 103*, 104*, 205*	
	PSYC 101, 210*, 215*	
	SOC 101	
<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 111	College Algebra	3
<b>TOTAL</b>		<b>14</b>

<b>Spring Semester</b>		<b>Hours</b>
AGEC 223	Ag Computer Applications	3
AGRN 113	Crop Science	3
BIOL 101	General Biology	5
ENGL 102	English Composition II	3
PE 113	Lifetime Wellness	2
<b>TOTAL</b>		<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGEC 123	Principles of Ag Economics	3
CHEM 111	General Chemistry	5
HIST 106	– OR – PLSC 103, 104	3
Approved Literature 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 Fine Arts Course		3
Approved Soc & Behavioral Science Course		3
Approved Humanities Course		3
Approved Ag Elective/or Literature Course		3-4
<b>TOTAL</b>		<b>15-16</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

## Agriculture - Poultry Science Option

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 (Recommended) or	COLL 101	
<b>Communications</b>		<b>9 hours</b>
<b>Written Communications (6 hours)</b>		
ENGL 101*		
ENGL 102*	OR ENGL 104*	
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART 101	ART 101	
MUSC 101	ASL 101, 102*	
TA 205	ENGL 109, 120, 125	
	FREN 101	
<b>Literature (3 hours)</b>		HIST 101*
ENGL 109, 120, 125	MUSC 101	
	PHIL 101*, 110*, 121, 201*, 202*	
	SPAN 101	
	SWK 219	
	TA 205	
<b>Mathematics</b>		<b>3 hours</b>
MATH 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113	OR two of the following:	
	PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL 101	CHEM 111*	
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>
HIST 106*	ECON 201*, 202*	
PLSC 103*, 104*	GEOG 111	
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
AGEC 123 (Ag majors only)	PHIL 110*, 121	
	PLSC 103*, 104*, 205*	
	PSYC 101, 210*, 215*	
	SOC 101	
<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 111	College Algebra	3
<b>TOTAL</b>		<b>14</b>

<b>Spring Semester</b>		<b>Hours</b>
AGEC 223	Ag Computer Applications	3
AGRN 113	Crop Science	3
BIOL 101	General Biology	5
ENGL 102	English Composition II	3
POSC 104	Intro to Careers in Poultry	2
<b>TOTAL</b>		<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGEC 123	Principles of Ag Economics	3
CHEM 111	General Chemistry	5
PE 113	Lifetime Wellness	2
POSC 105	Avian Biology	2
	Approved Literature Course	3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
ANSC 213	Feeds & Nutrition	3
HIST 106	– OR – PLSC 103, 104	3
	Approved Soc & Behavioral Science Course	3
	Approved Humanities Course	3
	Approved Fine Arts	3
<b>TOTAL</b>		<b>15</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

## Alternative Energy – Solar

The Alternative Energy Program – Solar provides engineering and science students with a unique applied foundation in solar technologies and applications. The program emphasizes learning through classroom and applied research projects. The curriculum below is the result of a cooperative agreement between Crowder College and the School of Engineering at the Missouri University of Science and Technology (Rolla); cooperative programs are available at Missouri State University and Pittsburg State University. Students in the Alternative Energy - Solar program include Alternative Energy, Engineering, Science, and Technology majors. Students are required to take the entry level NABCEP Solar PV exam given as part of the ENER 260 course. Students must also report their score to the College for completion of this degree program.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
		FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	111* & 112* 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*,205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 111* (5)
		PHYS	101 (5)
		PHYS	190* (5)
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Add'l Social Sciences (3 hours)</b>	
HIST	106*	ECON	202*
PLSC	103*, 104*		
<b>Additional (3 hours)</b>		PLSC	103*, 104*, 205*
ECON	201*	PSYC	101, 210*, 215*
GEOG	111	SOC	101, 103*
HIST	101*, 102*, 106*, 107*		
PHIL	110*, 121		
<b>Major Courses</b>		<b>19 hours</b>	
AMT	112	ENER	250*
ENER	105	ENER	251*
ENER	150	ENER	260*
		ENER	261*

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
BIOL	101	Biology	5
COLL	101	College Orientation	1
ENER	105	Introduction to Energy	3
ENGL	101	English Composition	3
MATH	111	College Algebra	3
PLSC	103	Nat'l, State, Local Gov't	3
<b>TOTAL</b>			<b>18</b>

<b>Spring Semester</b>			<b>Hours</b>
AMT	112	Occupational Safety	3
ENER	250	Solar Thermal Systems	3
ENER	251	Solar Thermal Lab	2
ENGL	102	Advanced English Comp	3
MATH	112	Trigonometry	3
Approved Physical Education Course			2
<b>TOTAL</b>			<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
COMM	104	Fundamentals of Speech	3
ENER	150	Passive Solar	3
Approved Fine Arts Course			3
Approved Literature Course			3
Approved Physical Science Course			5
<b>TOTAL</b>			<b>17</b>

<b>Spring Semester</b>			<b>Hours</b>
ECON	202	Principles of Econ II	3
ENER	260	Solar Electric Energy	3
ENER	261	Solar Electric Lab	2
Approved Humanities Course			3
Approved Soc & Behavioral Science Course			3
<b>TOTAL</b>			<b>14</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

## Alternative Energy – Wind

The Alternative Energy Wind Program provides engineering and science students with a unique applied foundation in renewable energy technology. The program emphasizes wind turbine technology. The curriculum below is designed to give the student a strong footing for employment or transfer to any of our cooperative programs that are available at Missouri State University, Missouri University of Science and Technology (Rolla), and Pittsburg State University. Students in the Alternative Energy program include engineering, science, and technology majors. Students are required to take a certification exam given as part of the ENER 232 course and report their score to the College for Completion of this degree program. Students are strongly encouraged to contact the Wind Instructor for advisement before beginning this program.

### 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>OR</b>
ENGL	104*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
		FREN 101
<b>Literature (3 hours)</b>		HIST 101*
ENGL	109, 120, 125	MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>5 hours</b>
MATH	111* & 112*, 150* & 160*	
<b>Physical Education</b>		<b>2 hours</b>
PE	113	<b>OR two of the following:</b>
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	CHEM 101, 111*
		PHYS 101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional (3 hours)</b>
PLSC	103*, 104*	ECON 201*
HIST	106*	GEOG 111
		HIST 101*, 102*, 106*, 107*
<b>Additional (3 hours)</b>		PHIL 110*, 121
ECON	202*	PLSC 103*, 104*, 205*
		PSYC 101, 210*, 215*
		SOC 101, 103*
<b>Major Courses</b>		<b>21 hours</b>
AMT	102	ENER 132
AMT	112	ENER 134*
CNS	101	ENER 232*
ENER	105	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
BIOL	101	Biology	5
CNS	101	Introduction to Electronics	3
COLL	101	College Orientation	1
ENER	105	Introduction to Energy	3
ENGL	101	English Composition	3
MATH	111	College Algebra	3
<b>TOTAL</b>			<b>18</b>

<b>Spring Semester</b>			<b>Hours</b>
AMT	102	Intro to Industrial Electricity	3
AMT	112	Occupational Safety	3
ENER	132	Introduction to Wind	3
ENGL	102	Advanced English Comp	3
Approved Fine Arts Course			3
Approved Physical Education Course			2
<b>TOTAL</b>			<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
COMM	104	Fundamentals of Speech	3
ENER	134	Wind Turbine Troubleshooting	3
MATH	112	Trigonometry	3
Approved Physical Science Course			5
Approved Literature Course			3
<b>TOTAL</b>			<b>17</b>

<b>Spring Semester</b>			<b>Hours</b>
ECON	202	Principles of Econ II (Micro)	3
ENER	232	Wind Turbine Internship	3
PLSC	103	Nat'l, State, Local Gov't	3
Approved Humanities Course			3
Approved Soc & Behavioral Science Course			3
<b>TOTAL</b>			<b>15</b>

**TOTAL HOURS REQUIRED 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.

# ASSOCIATE OF ARTS DEGREE

## Art and Design

The Associate in Arts Degree in Art and Design provides the career student with the basic and comprehensive tools of art and design foundations. With a solid academic structure from Crowder College, students can transfer to four-year institutions where bachelor degrees are offered in graphic design, painting, sculpture, fibers, ceramics, drawing, jewelry, art history, art education, media and computer arts. Elective courses should be determined by contacting the college and department to which students wish to transfer. The following program is suggested if students have not yet chosen the institution to which they plan to transfer following graduation.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
		HIST	101*
<b>Literature (3 hours)</b>		MUSC	101
ENGL	109, 120, 125	PHIL	101*,121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	107*, 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
		<b>OR two of the following:</b>	
PE	113	PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144,145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL	110*, 121
GEOG	111	PLSC	103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC	101, 210*, 215*
PHIL	121	SOC	101
PSYC	101		
SOC	101		
<b>Major Courses</b>		<b>18 hours</b>	
ART	103	ART	107
ART	104	ART	110
ART	106	ART	111
<b>Other Enhancement Course Options</b>			
ART	105	ART	207*
ART	205	ART	210*
ART	206*	ART	211*

### 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	111	College Algebra	3
MUSC	101	– OR – TA 205	3
PE	113	Lifetime Fitness & Wellness	2
<b>TOTAL</b>			<b>15</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 Biological Science Course	5
<b>TOTAL</b>			<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
ART	106	Drawing I	3
ART	111	Sculpture I	3
		Approved Physical Science Course	5
		Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>			<b>14</b>

<b>Spring Semester</b>			<b>Hours</b>
ART	107	Painting I	3
HIST	106	– OR – PLSC 103, 104	3
		Approved Humanities Course	3
		Approved Literature Course	3
		Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>			<b>15</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

## Biology

Biologists are teachers in high schools, colleges, and universities. They also work as conservationists, nutritionists, laboratory technicians, foresters, rangers, sanitarians, marine biologists, and geneticists. Their working environment has as much variation as any career field: classrooms, laboratories, forests, national or state parks, state or municipal offices, agricultural research stations, oceanographic vessels, museums, zoos, greenhouses, medical laboratories, hospitals, deserts, tropical rain forests, or even the cold of the arctic regions. Biologically related jobs are predicted to increase much faster than most of the job market in the future. With recent advances in genetic research, many new doors are opening for biologists in such areas as medicine, synthesizing scarce biological molecules, and finding new food and energy sources.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
<b>Literature (3 hours)</b>		FREN	101
ENGL	109, 120, 125	HIST	101*
		MUSC	101
		PHIL	101*,121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	111* & 112*– OR – 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
		<b>OR two of the following:</b>	
PE	113	PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144,145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	111*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL	110*, 121
GEOG	111	PLSC	103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC	101, 210*, 215*
PHIL	121	SOC	101
PSYC	101		
SOC	101		
<b>Major Courses</b>		<b>15 hours</b>	
BIOL	110*	CHEM	112*
BIOL	120* (Sp, Odd Years)		
<b>Approved Electives</b>		<b>5 hours</b>	
BIOL	220*	MATH	150*
CHEM	201*	MATH	160*
CHEM	221*		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
BIOL	101	Biology	5
COLL	101	College Orientation	1
ENGL	101	English Composition	3
MATH	111	College Algebra	3
PE	113	Lifetime Wellness	2
Approved Soc & Behavioral Science Course			3
<b>TOTAL</b>			<b>17</b>

<b>Spring Semester</b>			<b>Hours</b>
BIOL	120**	– OR – Approved Elective	5
ENGL	102	Advanced English Comp	3
HIST	106	– OR – PLSC 103, 104	3
MATH	112	Trigonometry	3
Approved Fine Arts Course			3
<b>TOTAL</b>			<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
BIOL	110	General Zoology	5
CHEM	111	General Chemistry I	5
Approved Literature 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 66**

\*Prerequisite required

\*\*BIOL 120 offered only in odd years

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# ASSOCIATE OF ARTS DEGREE

## Business Administration

Business Administration at Crowder prepares the business-oriented student for transfer to a four-year business, marketing, accounting, economics or finance program. Business Administration provides a core of general education courses plus specific business courses equivalent to those found in any first and second year business program. The following program is suggested for students intending to transfer following graduation. For best transfer, contact with the senior institution should be made as early in the program as possible.

\*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating. A fee will be charged for this test.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
<b>Literature (3 hours)</b>		FREN	101
ENGL	109, 120, 125	HIST	101*
		MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	111* or 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>			
PLSC	103*, 104*	<b>OR</b>	HIST 106*
<b>Additional Social Science Courses (6 hours)</b>			
ECON	201*	ECON	202*
<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 and from the Business Department. Prefixes will be ACCT, BMGT, BSAD, or OA.			

### 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
MATH	111	College Algebra	3
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
ENGL	102	English Composition II	3
HIST	106	– OR – PLSC 103, 104	3
PE	113	Lifetime Fitness	2
Approved Biological Science Course			5
Approved Business Elective			3
<b>TOTAL</b>			<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
ACCT	201	Principles of Accounting I	3
ECON	201	Principles of Economics I	3
Approved Literature Course			3
Approved Physical Science Course			5
<b>TOTAL</b>			<b>14</b>

<b>Spring Semester</b>			<b>Hours</b>
ACCT	202	Principles of Accounting II	3
ECON	202	Principles of Economics II	3
Approved Business Elective			3
Approved Fine Arts Course			3
Approved Humanities Course			3
<b>TOTAL</b>			<b>15</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

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# ASSOCIATE OF ARTS DEGREE

## Chemistry

Instruction in the Physical Sciences is offered in the areas of chemistry, physics, geology and astronomy as the foundation for baccalaureate and graduate studies in these and related sciences at a university or four-year college. Physical Science students find employment in industrial research and development, government regulatory agencies, or secondary and post-secondary education. The suggested curriculum that follows assumes a mathematics background that will permit an enrollment in the calculus series as a freshman. If pre-calculus classes are needed, more than four semesters are necessary to complete this program.

### 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>OR</b> ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
<b>Literature (3 hours)</b>		FREN 101
ENGL	109, 120, 125	HIST 101*
		MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>5 hours</b>
MATH	150* & 160*	
<b>Physical Education</b>		<b>2 hours</b>
		<b>OR two of the following:</b>
PE	113	PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	CHEM 111*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hrs)</b>		<b>Additional 3 Hours</b>
HIST	106*	ECON 201*, 202*
PLSC	103*, 104*	GEOG 111
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL 110*, 121
GEOG	111	PLSC 103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC 101, 210*, 215*
PHIL	121	SOC 101
PSYC	101	
SOC	101	
<b>Major Courses</b>		<b>20 hours</b>
CHEM	112*	PHYS 190*
MATH	201*	PHYS 210*
<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
HIST	106	– OR – PLSC 103, 104	3
MATH	150	Calculus I, Part 1	2
<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 Fine Arts 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 Physical Education Activity			2
Approved Literature Course			3
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

## Computer Science

Computer Science is a technologically-oriented program of study that provides a foundation of computer programming, mathematics, and physical science-oriented course work for students intending to pursue a bachelor degree in this area. Students completing this two-year curriculum will transfer to a four-year college or university for upper division course work. After graduation from that institution, the student will be qualified for a career as an applications programmer, a systems programmer, or a systems analyst. 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
<b>Literature (3 hours)</b>		FREN	101
ENGL	109, 120, 125	HIST	101*
		MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	PHYS	190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL	110*, 121
GEOG	111	PLSC	103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC	101, 210*, 215*
PHIL	121	SOC	101
PSYC	101		
SOC	101		
<b>Major Courses</b>		<b>22 hours</b>	
COMP	111*		
COMP	140*	<b>OR</b>	COMP 200*
MATH	201*	<b>Recommended Additional Courses</b>	
MATH	202*	COMP	140*
PHYS	210*	COMP	200*
		MATH	210*

### 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
HIST	106	– OR – PLSC 103, 104	3
MATH	150	Calculus I, Part 1	2
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
COMP	140	– OR – COMP 200	3
ENGL	102	English Composition II	3
MATH	160	Calculus I, Part 2	3
PHYS	190	General Physics I	5
		Approved Fine Arts Course	3
<b>TOTAL</b>			<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
MATH	201	Calculus II	5
PHYS	210	General Physics II	5
		Approved Literature Course	3
		Approved Physical Education Class	2
		Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>			<b>18</b>

<b>Spring Semester</b>			<b>Hours</b>
MATH	202	Calculus III	5
		Approved Biological Science Course	5
		Approved Humanities Course	3
		Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>			<b>16</b>

**TOTAL HOURS REQUIRED 67**

\*Prerequisite required

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# ASSOCIATE OF ARTS DEGREE

## Criminal Justice

The Criminal Justice Associate Degree Program is designed to provide the student with the legal, technical, and practical aspects of justice system. This degree will provide the student with opportunities for careers or continued education in criminal justice, corrections, juvenile justice, and government or private security operations.

### 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*	OR ENGL 104*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
<b>Literature (3 hours)</b>		FREN 101
ENGL	109, 120, 125	HIST 101*
		MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH	107*, 111*, 150* & 160*	
<b>Physical Education</b>		<b>2 hours</b>
		<b>OR two of the following:</b>
PE	113	PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	CHEM 101, 104, 111*
		GEOL 115
		PHYS 101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 hours</b>
HIST	106*	ECON 201*, 202*
PLSC	103*, 104*	GEOG 111
<b>AND 3 hours</b>		HIST 101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL 110*, 121
GEOG	111	PLSC 103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC 101, 210*, 215*
PHIL	121	SOC 101
PSYC	101	
SOC	101	
<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 **

### 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
Approved Fine Arts Course	3
Approved Math Course	3
Approved Physical Education Course	2
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
BIOL 101 General Biology	5
CJ 280 Report Writing	3
ENGL 102 – OR – ENGL 104	3
HIST 106 – OR – PLSC 103, 104	3
<b>TOTAL</b>	<b>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 Physical Science Course	5
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>17</b>

<b>Spring Semester</b>	<b>Hours</b>
CJ 265 Ethics in Criminal Justice	3
Approved Criminal Justice Course	3
Approved Humanities Course	3
Approved Literature Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 61**

\*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

## Fire Science

The Fire Science program at Crowder College-Webb City prepares the student to enter an exciting career as a fire fighter. The degree offers the opportunity for current fire fighters to prepare themselves as supervisors and leaders in their own departments. It also prepares students who wish to begin a career in firefighting. **Completion of FSCI 111 or current FF I & II state certification is required before enrollment in any other Fire Science course.**

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
<b>Literature (3 hours)</b>		FREN	101
ENGL	109, 120, 125	HIST	101*
		MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	107*, 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101, 110*, 152*	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL	110*, 121
GEOG	111	PLSC	103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC	101, 210*, 215*
PHIL	121	SOC	101
PSYC	101		
SOC	101		
<b>Major Courses**</b>		<b>12 hours</b>	
FSCI	102*	FSCI	108
FSCI	107	FSCI	205*
<b>Approved Electives</b>		<b>6 hours</b>	
FSCI	103*	FSCI	208*
FSCI	109	FSCI	210*
FSCI	202	FSCI	212
FSCI	207*	FSCI	263

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
ENGL 101 English Composition I	3
FSCI 107 Fire Service Hydraulics	3
FSCI 108 Fire Protection Systems	3
Approved Fine Arts Course	3
Approved Math Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
ENGL 102 – OR – ENGL 104	3
FSCI 102 Building Construction	3
FSCI 205 Tactics & Strategies	3
HIST 106 – OR – PLSC 103, 104	3
Approved Biological Science Course	5
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
COMM 104 Fundamentals of Speech	3
Approved Fire Science Course	3
Approved Physical Science Course	5
Approved Soc & Behavioral Sciences Course	3
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
Approved Fire Science Course	3
Approved Humanities Course	3
Approved Literature Course	3
Approved Physical Education Course	2
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>14</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

**Fire Science Program Prerequisite – FSCI 111 Fire Fighter I & II (6) or current FF I & II state certification**

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

## General Studies

Students undecided about their major area of emphasis or career goals are urged to follow the General Studies curriculum. With the help of counseling from Student Services and consultation with an assigned faculty advisor, students should be able to transfer or graduate with a better idea of individual career strengths. For best results, general studies students should contact the four-year institution to which they plan to transfer while a sophomore.

### 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>OR</b>
ENGL	104*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
<b>Literature (3 hours)</b>		FREN 101
ENGL	109, 120, 125	HIST 101*
		MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH	107*, 111*, 150* & 160*	
<b>Physical Education</b>		<b>2 hours</b>
PE	113	<b>OR two of the following:</b>
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101 (recommended)	CHEM 101, 104, 111*
		GEOL 115
		PHYS 101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 hours</b>
HIST	106*	ECON 201*, 202*
PLSC	103*, 104*	GEOG 111
<b>AND 3 hours</b>		HIST 101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL 110*, 121
GEOG	111	PLSC 103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC 101, 210*, 215*
PHIL	121	SOC 101
PSYC	101	
SOC	101	
<b>Approved Electives 18 hours</b>		
(Courses cannot be used as electives if counted under another section and must be numbered 100 or higher)		

### 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
PE 113 Lifetime Fit and Wellness	2
Approved General Studies Elective	3
Approved Mathematics Course	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
ENGL 102 English Composition II	3
Approved Biological Science Course	5
Approved Fine Arts Course	3
Approved General Studies Elective	3
Approved Missouri Constitution Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
Approved General Studies Elective	3
Approved General Studies Elective	3
Approved Literature Course	3
Approved Physical Science Course	5
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
Approved General Studies Elective	3
Approved General Studies Elective	3
Approved Humanities Course	3
Approved Soc & Behavioral Sci Course	3
Approved Soc & Behavioral Sci Course	3
<b>TOTAL</b>	<b>15</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

## Graphic Design

The Associate of Arts Degree in Graphic Design provides the career student with the basic and comprehensive tools of art and design foundations. With a solid academic structure from Crowder College, students can transfer to four-year institutions where bachelor's degrees are offered in graphic design, digital media and computer arts. Elective courses should be determined by contacting the college and department to which students wish to transfer. The following program is suggested if students have not yet chosen the institution to which they plan to transfer following graduation.

### 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*	OR ENGL 104*	
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
MUSC 101	ASL 101, 102*	
TA 205	ENGL 109, 120, 125	
	HIST 101*	
<b>Literature (3 hours)</b>		MUSC 101
ENGL 109, 120, 125		PHIL 101*, 121, 201*, 202*
		SPAN 101, 102*
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH 107*, 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113	<b>OR two of the following:</b>	
	PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL 101	CHEM 101, 104, 111*	
	GEOL 115	
	PHYS 101, 190*	
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>
HIST 106*	ECON 201*, 202*	
PLSC 103*, 104*	GEOG 111	
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
ECON 201*, 202*	PHIL 110*, 121	
GEOG 111	PLSC 103*, 104*, 205*	
HIST 101*, 102*, 107*	PSYC 101, 210*, 215*	
PHIL 121	SOC 101	
PSYC 101		
SOC 101		
<b>Major Courses</b>		<b>18 hours</b>
ART 190 Illustrator	ART 192* Design & Web App	
ART 191 Photoshop	ART 193* Typography	
	ART 194* Portfolio	
One of the following:		
ART 103, 104, 105, 106, 107		
110, 111, 206, 207, 210		

### 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 111	College Algebra	3
MUSC 101	– OR – TA 205	3
PE 113	Lifetime Fitness & Wellness	2
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
ART 103	– OR – 104, 105, 106, 107, 110, 111, 206, 207, 210	3
ART 191	Graphic Design II	3
COMM 104	Fundamentals of Speech	3
ENGL 102	English Composition II	3
Approved Biological 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 193	Typography	3
Approved Physical Science Course		5
Approved Social & Behavioral Sci Course		3
<b>TOTAL</b>		<b>14</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 Literature Course		3
Approved Social & Behavioral Sci Course		3
<b>TOTAL</b>		<b>15</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

## History

History majors are directed toward teaching, social services, and law. Requirements for an Associate of Arts Degree in History include the American History and Western Civilization survey courses and the completion of the general education core.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
<b>Literature (3 hours)</b>		FREN	101
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	107*, 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
		<b>OR two of the following:</b>	
PE	113	PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional (3 hours)</b>	
PLSC	103*, 104*	ECON	201*, 202*
<b>3 hours of the following:</b>		GEOG	111
ECON	202*	PHIL	110*, 121
PHIL	121	PLSC	205*
SOC	101	PSYC	101, 210*, 215*
		SOC	101, 103*
<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*	PHIL	121
ECON	202*	PSYC	101
GEOG	111	SOC	101

### 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 111 College Algebra	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
ENGL 102 English Composition II	3
HIST 107 U.S. History II	3
PLSC 103 Nat, State, & Local Gov't	3
Approved Fine Arts Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
HIST 101 Western Civilization I	3
Approved Literature Course	3
Approved Physical Science Course	5
Approved Elective	3
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
HIST 102 Western Civilization II	3
PE 113 Lifetime Fit and Wellness	2
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
Approved Elective	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

## Information Science

Information Science is a business-oriented program of study that provides a foundation of computer programming and business course work for students intending to pursue a bachelor degree in this area. In this program, the level of required mathematics is less than that for the computer science program. Students completing this two-year curriculum will transfer to a four-year college or university for upper division course work. After graduation from that institution, the student will be qualified for a career as a business applications programmer, a systems programmer or a systems analyst.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
		FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	111* – OR – 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>			
PLSC	103*, 104*	<b>OR</b>	HIST 106*
<b>Additional Social Science Courses (6 hours)</b>			
ECON	201*	ECON	202*
<b>Major Courses</b>		<b>22 hours</b>	
<b>Required (19 hours)</b>			
BSAD	150	COMP	111*
ACCT	201	COMP	140*
ACCT	202*	COMP	200*
<b>Elective (3 hours)</b>			
Any BSAD course			

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
COMP	111	Intro to Programming	4
ECON	201	Principles of Economics I	3
ENGL	101	English Composition I	3
HIST	106	– OR – PLSC 103, 104	3
MATH	111	College Algebra	3
<b>TOTAL</b>			<b>17</b>

<b>Spring Semester</b>			<b>Hours</b>
BIOL	101	General Biology	5
BSAD	150	Introduction to Business	3
COMP	140	– OR – COMP 200	3
ENGL	102	English Composition II	3
Approved Fine Arts Course			3
<b>TOTAL</b>			<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
ACCT	201	Principles of Accounting I	3
COMM	104	Fundamentals of Speech	3
Approved Literature Course			3
Approved Physical Education Activity			2
Approved Physical Science Course			5
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
ACCT	202	Principles of Accounting II	3
COMP	140	– OR – COMP 200	3
ECON	202	Principles of Economics II	3
Approved BSAD Course			3
Approved Humanities Course			3
<b>TOTAL</b>			<b>15</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

## Journalism and Public Relations

Career fields include mass media (newspapers, radio, TV, magazines), internet publications, and public relations, advertising, marketing, and human resources. In all fields, key job skills focus on effective communication by writing, speaking, or visually communicating. Crowder offers basic course work and experience through publications and hands-on activities. Transfer to a four-year college is recommended. For best transfer, students should contact the college of choice. For those seeking a job directly after graduating, the internship in the selected career field is recommended.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
		FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	107*, 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
		<b>OR two of the following:</b>	
PE	113	PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>AND 3 hours</b>		HIST	101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL	110*, 121
GEOG	111	PLSC	103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC	101, 210*, 215*
PHIL	121	SOC	101
PSYC	101		
SOC	101		
<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*		

### 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
Approved Mathematics Course	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>
BIOL 101 Biology	5
HIST 106 – OR – PLSC 103	3
Approved Fine Arts Course	3
Approved Literature Course	3
Approved Physical Education Activity	1
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
Approved Humanities Course	3
Approved Journalism Elective	3
Approved Physical Education Activity	1
Approved Physical Science Course	5
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15</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

## Mathematics

A major in mathematics is designed for students planning to teach mathematics at the secondary school level as well as for those desiring to work as professional mathematicians outside of education. Students entering this program should enjoy working with logic and numbers and should enjoy the challenge of applying mathematics to the sciences and related areas. A bachelor degree is necessary as a minimum requirement for employment in these areas. Students with mathematics backgrounds which require pre-calculus courses may need to plan for more than four semesters to complete this program.

### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
		FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	PHYS	190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL	110*, 121
GEOG	111	PLSC	103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC	101, 210*, 215*
PHIL	121	SOC	101
PSYC	101		
SOC	101		
<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*

### 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
HIST	106	– OR – PLSC 103, 104	3
MATH	150	Calculus I, Part 1	2
<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 Physical Educations Activity			2
Approved Fine Arts Course			3
<b>TOTAL</b>			<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
BIOL	101	General Biology	5
MATH	201	Calculus II	5
Approved Literature Course			3
Approved Soc & Behavioral Science Course			3
<b>TOTAL</b>			<b>16</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 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

## Photography

This multi-disciplinary program encompasses the wide variety of career options in the field of photography. Options include photojournalism, fine art photography, and commercial endeavors, which include products, portraiture, and events such as weddings. Photographers can work for an employer, own their own business, and/or work as freelancers.

### 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>OR</b>	ENGL	104*
<b>Oral Communications (3 hours)</b>			
COMM 104*			
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART 101		ENGL	109, 120, 125
		FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL 109, 120, 125		MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH 107*, 111*, 150* & 160*			
<b>Physical Education</b>		<b>2 hours</b>	
PE 113		<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144,145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL 101		CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>	
HIST 106*		ECON	201*, 202*
PLSC 103*, 104*		GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
ECON 201*, 202*		PHIL	110*, 121
GEOG 111		PLSC	103*, 104*, 205
HIST 101*, 102*, 107*		PSYC	101, 210*, 215*
PHIL 121		SOC	101
PSYC 101			
SOC 101			
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (9 hours)</b>			
ART 191	Graphic Design II (3)	COMM 231*	Photocomm II (3)
COMM 220 Photocomm I (3)			
<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
Approved Mathematics Course	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>
BIOL 101 Biology	5
HIST 106 – OR – PLSC 103	3
Approved Literature Course	3
Approved Photography Elective	3
Approved Physical Education Activity	1
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
Approved Humanities Course	3
Approved Photography Elective	3
Approved Physical Education Activity	1
Approved Physical Science Course	5
Approved Social Science Course	3
<b>TOTAL</b>	<b>15</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

## Physical Education

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. Individuals seeking coaching/teaching careers in public schools must meet state certification requirements. The following program is suggested for graduation. For best transfer, Physical Education 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>OR</b> ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
<b>Literature (3 hours)</b>		HIST 101*
ENGL	109, 120, 125	MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH	107*, 111*	
<b>Physical Education</b>		<b>2 hours</b>
PE	113	
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	CHEM 101, 104, 111*
		PHYS 101 (recommended)
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional (6 Hours)</b>
PLSC	103*, 104*	HIST 106*
		PSYC 101
<b>Major Courses</b>		<b>12 hours</b>
PE	115	PE 142
PE	120	PE 150
PE	125	PE 160 <b>OR</b> 260
<b>PE Activities Classes (2 one hour classes maximum)</b>		
<b>Approved Electives</b>		<b>6-11 hours</b>
PSYC	210*	EDUC 230* (recommended)
PSYC	215*	BIOL 152* (recommended)

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
ENGL	101 English Composition	3
MATH	107 – OR – MATH 111	3
PE	115 First Aid (Fall Only)	2
PSYC	101 General Psychology	3
	Approved Fine Arts 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>
ENGL	109 Intro to Literature	3
PE	120 Intro to PE (Fall Only)	2
PE	150 Sports Psychology (Fall Only)	2
PHYS	101 Survey of Phys. Science	5
EDUC	230 Educational Psychology	3
<b>TOTAL</b>		<b>15</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 Elective	3
	Approved Humanities Course	3
<b>TOTAL</b>		<b>16</b>

**TOTAL HOURS REQUIRED 62**

\*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 Sciences

Instruction in the Physical Sciences is offered in the areas of chemistry, physics, geology, and astronomy as the foundation for baccalaureate and graduate studies in these and related sciences at a university or four-year college. Physical Science students find employment in industrial research and development, government regulatory agencies, or secondary and post-secondary education. Each suggested curriculum that follows assumes a mathematics background that will permit an enrollment in the calculus series as a freshman. If pre-calculus classes are needed, more than four semesters may be necessary to complete this program.

### 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>OR</b> ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
		FREN 101
<b>Literature (3 hours)</b>		HIST 101*
ENGL	109, 120, 125	MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>5 hours</b>
MATH	150* & 160*	
<b>Physical Education</b>		<b>2 hours</b>
PE	113	<b>OR two of the following:</b>
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	CHEM 111*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hrs)</b>		<b>Additional 3 Hours</b>
HIST	106*	ECON 201*, 202*
PLSC	103*, 104*	GEOG 111
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL 110*, 121
GEOG	111	PLSC 103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC 101, 210*, 215*
PHIL	121	SOC 101
PSYC	101	
SOC	101	
<b>Major Courses</b>		<b>20 hours</b>
CHEM	112*	PHYS 190*
MATH	201*	PHYS 210*
<b>Additional Recommended Courses</b>		
COMP	111*	MATH 202*
GEOL	115	

### 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
HIST	106 – OR – PLSC 103, 104	3
MATH	150 Calculus I, Part 1	2
<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 Fine Arts 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 Physical Educations Activity		2
Approved Literature Course		3
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

## Physics

Instruction in the Physical Sciences is offered in the areas of chemistry, physics, geology, and astronomy as the foundation for baccalaureate and graduate studies in these and related sciences at a university or four-year college. Physical Science students find employment in industrial research and development, government regulatory agencies, or secondary and post-secondary education. Each suggested curriculum that follows assumes a mathematics background that will permit an enrollment in the calculus series as a freshman. If pre-calculus classes are needed, more than four semesters may be necessary to complete this program.

### 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>OR</b>
ENGL	104*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
		FREN 101
<b>Literature (3 hours)</b>		HIST 101*
ENGL	109, 120, 125	MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>5 hours</b>
MATH	150* & 160*	
<b>Physical Education</b>		<b>2 hours</b>
PE	113	<b>OR two of the following:</b>
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	PHYS 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>
HIST	106*	ECON 201*, 202*
PLSC	103*, 104*	GEOG 111
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL 110*, 121
GEOG	111	PLSC 103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC 101, 210*, 215*
PHIL	121	SOC 101
PSYC	101	
SOC	101	
<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*
<i>Any classes in Alternative Energy</i>		

### 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
HIST	106 – OR – PLSC 103, 104	3
MATH	150 Calculus I, Part 1	2
<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 Fine Arts Course		3
Approved Physical Education Activity		2
<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 Literature 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
MATH	202 Calculus III	5
MATH	210 Differential Equations	3
Approved Humanities Course		3
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>19</b>

#### TOTAL HOURS REQUIRED 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.

# ASSOCIATE OF ARTS DEGREE

## Pre-Medicine

This program provides introductory courses for students interested in application to a college of medicine. Students should consult their advisors, as well as the institution to which they intend to transfer to finish their prerequisites, to insure that their course selections are appropriate. Prerequisite requirements for the college of medicine of interest should also be considered.

### 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*	OR	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ENGL	109, 120, 125
TA	205	FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		SWK	219
		TA	205
<b>Mathematics</b>		<b>5 hours</b>	
MATH	150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118,144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	111*
BIOL	110*		
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hrs)</b>		<b>Additional 3 Hours</b>	
HIST	106*	ECON	201*, 202*
PLSC	103*, 104*	GEOG	111
<b>And 3 Hours</b>		HIST	101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL	110*, 121
GEOG	111	PLSC	103*, 104*, 205*
HIST	101*, 102*, 107*	PSYC	101, 210*, 215*
PHIL	121	SOC	101
PSYC	101		
SOC	101		
<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*

### 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
HIST	106 – OR – PLSC 103, 104	3
MATH	160 Calculus 1, Part II	3
Approved Fine Arts 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 Literature Course		3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
COMM	104 Fundamentals of Speech	3
PE	113 Lifetime Wellness	2
PHYS	190 General Physics I	5
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

### Preschool Teacher/Paraprofessional

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.

#### 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>OR</b>	ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART 101		ART 101
MUSC 101		ASL 101, 102*
		ENGL 109, 120, 125
		FREN 101
<b>Literature (3 hours)</b>		HIST 101*
ENGL 109, 120, 125		MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH 107*, 111*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113 (recommended)	<b>OR two of the following:</b>	
	PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL 101		PHYS 101
<b>Social and Behavioral Science</b>		<b>9 hours</b>
PLSC 103*, 104*	<b>OR</b>	HIST 106*
PSYC 101		
SOC 101		
<b>Major Courses</b>		<b>18 hours from the following</b>
ECD 101 or EDUC 203		PSYC 203
ECD 103		PSYC 204
ECD 201*		PSYC 210*
ECD 203* or EDUC 250		PSYC 290
EDUC 206*		
Students with the Child Development Associate (CDA) national credential will be credited with completing ECD 101 and ECD 103.		

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
BIOL 101 General Biology	5
COLL 101 College Orientation	1
ENGL 101 English Composition I	3
PSYC 101 General Psychology	3
Major Course	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
ENGL 102 English Composition II	3
HIST 106 – OR – PLSC 103, 104	3
MATH 107 – OR – MATH 111	3
PE 113 Lifetime Fit and Wellness	2
SOC 101 General Sociology	3
Major Course	3
<b>TOTAL</b>	<b>17</b>

##### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
COMM 104 Fundamentals of Speech	3
PHYS 101 Survey of Physical Science	5
Approved Literature Course	3
Major Course	3
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
Approved Fine Arts Course	3
Approved Humanities Course	3
Major Course	3
Major Course	3
Major Course	3
<b>TOTAL</b>	<b>15</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

## Pre-Veterinary Medicine

This program provides introductory courses for students interested in application to a college of veterinary medicine. Students should consult their advisors, as well as the institution to which they intend to transfer to finish their prerequisites, to insure that their course selections are appropriate. Prerequisite requirements for the college of veterinary medicine of interest should also be considered.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>	
COLL 101	OR	AGRI 111	Ag Career Development
<b>Communications</b>		<b>9 hours</b>	
<b>Written Communications (6 hours)</b>			
ENGL 101*			
ENGL 102*	OR	ENGL 104*	
<b>Oral Communications (3 hours)</b>			
COMM 104*			
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART 101		ART 101	
MUSC 101		ASL 101, 102*	
TA 205		ENGL 109, 120, 125	
		FREN 101	
<b>Literature (3 hours)</b>		HIST 101*	
ENGL 109, 120, 125		MUSC 101	
		PHIL 101*, 110*, 121, 201*, 202*	
		SPAN 101	
		SWK 219	
		TA 205	
<b>Mathematics</b>		<b>5 hours</b>	
MATH 111* & 112*, 150* & 160*			
<b>Physical Education</b>		<b>2 hours</b>	
PE 113		<b>OR two of the following:</b>	
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL 110*		CHEM 111*	
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hrs)</b>		<b>Additional 3 Hours</b>	
HIST 106*		ECON 201*, 202*	
PLSC 103*, 104*		GEOG 111	
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*	
ECON 201*, 202*		PHIL 110*, 121	
GEOG 111		PLSC 103*, 104*, 205*	
HIST 101*, 102*, 107*		PSYC 101, 210*, 215*	
PHIL 121		SOC 101	
PSYC 101			
SOC 101			
<b>Major Courses</b>		<b>20 hours</b>	
<b>Required Courses (14 hours)</b>			
ANSC 114		CHEM 112*	
BIOL 220*			
<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 111	College Algebra	3
<b>TOTAL</b>		<b>16</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>
CHEM 111	General Chemistry I	5
PE 113	Lifetime Wellness	2
Approved Elective(s)		3-5
Approved Fine Arts Course		3
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>16-18</b>

<b>Spring Semester</b>		<b>Hours</b>
CHEM 112	General Chemistry II	5
HIST 106	– OR – PLSC 103	3
Approved Humanities Course		3
Approved Literature Course		3
Approved Soc & Behavioral Science Course		3
<b>TOTAL</b>		<b>17</b>

**TOTAL HOURS REQUIRED 66-70**

\*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: Autism Option

Career opportunities for Psychology-Autism Option majors include social work, education and counseling. After completion of a baccalaureate degree, graduates often find themselves working one-on-one with children with autism in the academic or health care setting. An Associate of Arts of Psychology-Autism Option requires completion of the general education core, fifteen hours in psychology, and EDUC 203.

### 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>OR</b>
ENGL	104*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
TA	205	ENGL 109, 120, 125
		FREN 101
<b>Literature (3 hours)</b>		HIST 101*
ENGL	109, 120, 125	MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH	111*, 150* & 160*	
<b>Physical Education</b>		<b>2 hours</b>
PE	113	<b>OR two of the following:</b>
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	CHEM 101, 104, 111*
		GEOL 115
		PHYS 101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>
HIST	106*	ECON 201*, 202*
PLSC	103*, 104*	GEOG 111
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
ECON	201*, 202*	PHIL 110*, 121
GEOG	111	PLSC 103*, 104*, 205*
HIST	101*, 102*, 107*	
PHIL	121	
SOC	101	
<b>Major Courses</b>		<b>18 hours</b>
EDUC	203*	PSYC 204
PSYC	101	PSYC 210*
PSYC	203	PSYC 215* – OR – PSYC 290*

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
ENGL 101 English Composition I	3
MATH 111 College Algebra	3
PSYC 101 General Psychology	3
Approved Physical Education Activity	2
Approved Social & Behavioral Science Course	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
ENGL 102 English Composition II	3
HIST 106 – OR – PLSC 103, 104	3
PSYC 210 Child Psychology	3
Approved Biological Science Course	5
Approved Fine Arts Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
ECON 201 Principles of Economics I	3
PSYC 203 Autism Spec. Disorders	3
PSYC 204 Applied Behavior Analysis	3
Approved Physical Science Course	5
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
COMM 104 Fundamentals of Speech	3
EDUC 203 Foundations of Education	3
PSYC 215 Adolescent Psychology	3
Approved Humanities Course	3
Approved Literature Course	3
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

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# ASSOCIATE OF ARTS DEGREE

## General Psychology

Career opportunities for psychology majors include social work, teaching and counseling. After completion of a baccalaureate degree, graduates often find work with government agencies. An Associate in Arts in Psychology requires completion of the general education core, nine hours in psychology, and Sociology 101.

### 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*	OR	ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART 101		ART 101
MUSC 101		ASL 101, 102*
TA 205		ENGL 109, 120, 125
		FREN 101
<b>Literature (3 hours)</b>		HIST 101*
ENGL 109, 120, 125		MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113		<b>OR two of the following:</b>
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL 101		CHEM 101, 104, 111*
		GEOL 115
		PHYS 101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 Hours</b>
HIST 106*		ECON 201*, 202*
PLSC 103*, 104*		GEOG 111
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
ECON 201*, 202*		PHIL 110*, 121
GEOG 111		PLSC 103*, 104*, 205*
HIST 101*, 102*, 107*		
PHIL 121		
<b>Major Courses</b>		<b>18 hours</b>
<b>Required Courses (12 hours)</b>		
PSYC 101		PSYC 215*
PSYC 210*		SOC 101
<b>Approved Electives (6 hours)</b>		
EDUC 230*		PSYC 203
HIST 106*		PSYC 204
HIST 107*		PSYC 290*
PLSC 103*, 104*		SOC 103*
PSYC 110*		

### 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 – OR – PLSC 103, 104	3
PSYC 101 General Psychology	3
Approved Mathematics Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
BIOL 101 General Biology	5
ENGL 102 English Composition II	3
SOC 101 General Sociology	3
Approved Fine Arts Course	3
Approved Social & Behavioral Science Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
PSYC 210 Child Psychology	3
Approved Social & Behavioral Science	3
Approved Literature Course	3
Approved Physical Science Course	5
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
PE 113 Lifetime Fit and Wellness	2
PSYC 215 Adolescent Psychology	3
Approved Psychology Elective	3
Approved Psychology Elective	3
Approved Additional Humanity	3
<b>TOTAL</b>	<b>14</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

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# ASSOCIATE OF ARTS DEGREE

## Social Work

The Social Work program provides students with an introduction to and a foundation in the field of Social Work. An associate of arts in social work leads to a Bachelor's degree, which paves the way for a job in social work. The following program is suggested for graduation. It is recommended that students contact the transfer institution for its specific Bachelor's degree requirements.

### 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*	OR	ENGL 104*
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART	101	ART	101
MUSC	101	ASL	101, 102*
TA	205	ENGL	109, 120, 125
		FREN	101
<b>Literature (3 hours)</b>		HIST	101*
ENGL	109, 120, 125	MUSC	101
		PHIL	101*, 110*, 121, 201*, 202*
		SPAN	101
		TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	107*, 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>	
PE	113	<b>OR two of the following:</b>	
		PE	102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL	101	CHEM	101, 104, 111*
		GEOL	115
		PHYS	101, 190*
<b>Social and Behavioral Science</b>		<b>6 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional Courses (3 hours)</b>	
HIST	106*	PLSC	103*, 104*
<b>Major Courses</b>		<b>21 hours</b>	
ECON	201*	SWK	200*
PSYC	101	SWK	219
SOC	101	SWK	221
		SWK	230

### 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	107 Intro to Mathematics	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>
BIOL	101 General Biology	5
ENGL	102 English Composition II	3
HIST	106 US History I	3
SWK	221 Basic Helping Skills	3
<b>TOTAL</b>		<b>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 Literature Course	3
	Approved Physical Science Course	5
<b>TOTAL</b>		<b>17</b>

<b>Spring Semester</b>		<b>Hours</b>
PE	113 Lifetime Fit and Wellness	2
PLSC	103 Nat'l, State, Local Gov't	3
SWK	219 Human Diversity	3
	Approved Fine Arts 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

## Spanish

Learning a second language encourages diversity, motivates or strengthens concern for world affairs, extends international business/marketing strategies, and enables global travel opportunities. Classes in Spanish may be used to fulfill Humanities requirements in other A.A programs and would be beneficial in almost any career field in the 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>OR</b>	ENGL 104*	
<b>Oral Communications (3 hours)</b>			
COMM 104*			
<b>Humanities</b>		<b>9 hours</b>	
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>	
ART 101		ART 101	
MUSC 101		ASL 101, 102*	
TA 205		ENGL 109, 120, 125	
<b>Literature (3 hours)</b>		MUSC 101	
ENGL 120 – OR – 125		PHIL 101*, 110*, 121, 201*, 202*	
		SWK 219	
		TA 205	
<b>Mathematics</b>		<b>3 hours</b>	
MATH 107*, 111*, 150* & 160*			
<b>Physical Education</b>		<b>2 hours</b>	
PE 113		<b>OR two of the following:</b>	
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*	
<b>Science</b>		<b>10 hours</b>	
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>	
BIOL 101		CHEM 101, 104, 111*	
		GEOL 115	
		PHYS 101, 190*	
<b>Social and Behavioral Science</b>		<b>9 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 hours</b>	
HIST 106*		ECON 201*, 202*	
PLSC 103*, 104*		GEOG 111	
<b>Social Science Courses (3 hrs)</b>		HIST 102*, 107*	
HIST 101*		PHIL 110*, 121	
		PLSC 103*, 104*, 205*	
		PSYC 101, 210*, 215*	
		SOC 101	
<b>Major Courses</b>		<b>18 hours</b>	
<b>Required Courses (12 hours)</b>			
SPAN 101		SPAN 201*	
SPAN 102*		SPAN 202*	
<b>Approved Electives (6 hours)</b>			
HIST 102*		SPAN 105*	
SWK 219		SPAN 106*	
		SPAN 111*	

### 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
SPAN 101 Beginning Spanish I	3
Approved Fine Arts Course	3
Approved Mathematics Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
ENGL 102 Advanced English Comp	3
HIST 106 – OR – PLSC 103, 104	3
SPAN 102 Beginning Spanish II	3
Approved Humanities Course	3
Approved Soc & Behavioral Science Course	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
SPAN 201 Intermediate Spanish I	3
Approved Elective	3
Approved Literature Course	3
Approved Physical Education Activity	1
Approved Science Course	5
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
HIST 101 Western Civilization	3
SPAN 202 Intermediate Spanish II	3
Approved Elective	3
Approved Physical Education Activity	1
Approved Science course	5
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

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# 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, 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. Because GPA and MoGEA entrance score requirements vary by institution, it is important to work closely with your education advisor at Crowder and the institution to which you plan to transfer. Students must register with FCSR and have a clearance letter before completing any observation in schools.

### 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*	OR ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART	101	ART 101
MUSC	101	ASL 101, 102*
<b>Literature (3 hours)</b>		ENGL 109, 120, 125
ENGL	109, 120, 125	FREN 101
		HIST 101*
		MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH	107, 111*	
<b>Physical Education</b>		<b>2 hours</b>
PE	113 (recommended)	OR two of the following:
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL	101	CHEM 101, 111*
		GEOL 115
		PHYS 101 (Elementary majors)
<b>Social and Behavioral Science</b>		<b>9 hours</b>
HIST	106*, 107*	PSYC 101
PLSC	103*, 104*	
<b>Major Courses</b>		<b>19 hours</b>
<b>Required Courses (13 hours)</b>		
EDUC	150	EDUC 230*
EDUC	203*	EDUC 250*
EDUC	210*	
<b>Electives (6 hours)</b> (Check with advisor)		
ECON	201*	GEOL 210*
EDUC	205	PSYC 204
EDUC	206	PSYC 210
GEOG	111	PSYC 215
Any content specific courses for Middle School or HS certification		
<b>Students must pass the MoGEA with a DESE approved score in each section.</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	5
COLL 101 College Orientation	1
EDUC 150 Intro to Teacher Education	1
EDUC 203 Foundations of Education	3
ENGL 101 English Composition I	3
PSYC 101 General Psychology	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
COMM 104 Fundamentals of Speech	3
EDUC 210 Technology for Teachers	3
ENGL 102 English Composition II	3
HIST 107 – OR – HIST 106	3
PE 113 Lifetime Fit and Wellness	2
Approved Mathematics Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
EDUC 230 Educational Psychology	3
PLSC 103 Nat'l, State, Local Gov't	3
Approved Literature Course	3
Approved Physical Science Course	5
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
EDUC 250 Teaching Prof w/Field Exp.	3
Approved Fine Arts Course	3
Approved Humanities Course	3
Approved Education Elective	3
Approved Education Elective	3
<b>TOTAL</b>	<b>15</b>

#### TOTAL HOURS REQUIRED 62

\*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

## Theatre

The Theatre Department has three general goals. First, all courses encourage the students to appreciate the theatre as an art form. Second, the courses encourage an understanding of how live theatre develops from script to performance. Third, the courses provide the student with many opportunities to experience live theatre performance and to participate in Crowder College Theatre productions in both performance and technical areas.

### 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*	OR	ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM 104*		
<b>Humanities</b>		<b>9 hours</b>
<b>Fine Arts (3 hours)</b>		<b>Additional Humanities (3 hours)</b>
ART 101		ART 101
MUSC 101		ASL 101, 102*
TA 205		ENGL 109, 120, 125
<b>Literature (3 hours)</b>		FREN 101
ENGL 109, 120, 125		HIST 101*
		MUSC 101
		PHIL 101*, 110*, 121, 201*, 202*
		SPAN 101
		SWK 219
		TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH 107*, 111*, 150* & 160*		
<b>Physical Education</b>		<b>2 hours</b>
PE 113		<b>OR two of the following:</b>
		PE 102, 103, 104, 105, 110, 111, 114, 116, 117, 118, 144, 145, 204*, 205*, 216*, 244*, 245*
<b>Science</b>		<b>10 hours</b>
<b>Biological Science (5 hours)</b>		<b>Physical Science (5 hours)</b>
BIOL 101		CHEM 101, 104, 111*
		GEOL 115
		PHYS 101, 190*
<b>Social and Behavioral Science</b>		<b>9 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Additional 3 hours</b>
HIST 106*		ECON 201*, 202*
PLSC 103*, 104*		GEOG 111
<b>And 3 Hours</b>		HIST 101*, 102*, 106*, 107*
ECON 201*, 202*		PHIL 110*, 121
GEOG 111		PLSC 103*, 104*, 205*
HIST 101*, 102*, 107*		PSYC 101, 210*, 215*
PHIL 121		SOC 101
PSYC 101		
SOC 101		
<b>Major Courses</b>		<b>12 hours</b>
TA 105		TA 208
TA 115		TA Theatre Practicum
<b>Approved Electives</b>		<b>8 hours</b>
MUSC 112*		TA 180
TA 108		TA Theatre Practicum
TA 112		TA Topics in Theatre
TA 125, 225		

### 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 111	College Algebra	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>
BIOL 101	General Biology	5
ENGL 102	English Composition II	3
HIST 106	– OR – PLSC 103, 104	3
TA 107/117	Theatre Practicum (Performance or Technical)	1
TA 115	Stagecraft (Spring only)	3
<b>TOTAL</b>		<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
TA 206/216	Theatre Practicum (Performance or Technical)	1
TA 180	Stage Makeup or other elective	3
Approved Physical Science Course		5
Approved Soc & Behavioral Science Course		3
Approved Theatre Elective		3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
PE 113	Lifetime Fit and Wellness	2
TA 208	Scene Work	3
Approved Humanities Course		3
Approved Literature Course		3
Approved Soc & Behavioral Science Course		3
Approved Theatre Elective		2
<b>TOTAL</b>		<b>16</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.

# **ASSOCIATE OF SCIENCE DEGREES**

Associate of Science Degrees have been developed for transfer to specific universities and programs. Be sure to consult with an advisor about pursuing the Associate of Science degree.

# ASSOCIATE OF SCIENCE DEGREE

## Nursing

The purpose of the Crowder College Nursing program is to prepare graduates who can demonstrate entry-level competencies as registered nurses, to provide a foundation for continued learning, and to provide a multiple entry program where licensed practical nurses can enter with advanced standing or students may enter with no previous nursing education. The program is approved by the Missouri State Board of Nursing and nationally accredited by the Accrediting 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.

The nursing faculty strongly believes that the learner must be an active participant in the educational process. A wide variety of instructional methods are utilized in the process oriented nursing curriculum. Registered nurses function as an integral part of the health care team in many different roles. They are responsible for planning, implementing, and evaluating patient care as well as for the supervision of other health care workers. The nursing program is a multiple entry, limited admission program. A grade point average of 2.75 and a minimum ACT composite score of 19 are required for both levels of students. Students without previous nursing education (those who are NOT licensed practical nurses) enter the program at Level I. These students must have a minimum ACT Composite score of 19 and minimum 2.75 GPA and must complete Anatomy & Physiology I (BIOL 152) prior to beginning the nursing program. All accepted Nursing Students will be required to have an active Nurse Assistant Certification or EMT or Paramedic license prior to beginning the nursing course. Applications for Level I are accepted from April 15 to August 15 for the Neosho and Cassville program that begins in January. Applications are accepted from October 15 to February 15 for the Nevada 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, be IV certified, and must have completed at least Anatomy and Physiology I and II and Chemistry for Health Sciences before beginning the second level nursing sequence. Applications for Level II are accepted from April 15 to August 15 for the Neosho and Cassville program and October 15 to February 15 for the Nevada and McDonald County program.

All classes must be passed with a C or better.

### 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>		<b>Oral Communications (3 hours)</b>	
ENGL	101*, 104*	COMM	104*
<b>Humanities</b>		<b>3 hours</b>	
ART	101	MUSC	101
ASL	101, 102*	PHIL	101*, 110*, 121, 201*, 202*
ENGL	109, 120, 125	SPAN	101, 111
FREN	101	SWK	219
HIST	101*	TA	205
<b>Mathematics</b>		<b>3 hours</b>	
MATH	107*, 111*		
<b>Science</b>		<b>20 hours</b>	
BIOL	152*	BIOL	252*
BIOL	220*	CHEM	104, 111*
<b>Social and Behavioral Science</b>		<b>6 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>And 3 hours of the following:</b>	
HIST	106*	PSYC	101
PLSC	103*, 104*	SOC	101
<b>Nursing Courses</b>		<b>33 hours</b>	
<b>Level I courses (16 hours)</b>			
ADN	167*	ADN	170*
ADN	169*	ADN	172*
ADN	163*	ADN	177*
<b>or ADN 200* LPNs Only</b>			
<b>Level II courses (17 hours)</b>			
ADN	260*	ADN	272*
ADN	263*	ADN	277*
ADN	267*	ADN	279*

\*Prerequisite requirement

### Suggested Plan of Study

#### Based On Acceptance to the Program

**Program Prerequisites:** Anatomy & Physiology I (BIOL 152) – 5 credit hours

Active CNA certification or EMT License

All general education courses must be completed by both Level I & Level II students.

<b>First Semester</b>		<b>Hours</b>
ADN	163 Nursing Concepts I	3
ADN	167 Clinical I	1
ADN	169 Nursing Interventions I	3
BIOL	252 Human A&P II	5
COLL	101 College Orientation	1
	Approved Mathematics Course	3
<b>Total</b>		<b>16</b>

<b>Second Semester</b>		<b>Hours</b>
ADN	172 Family Development	2
ADN	177 Clinical II	3
ADN	170 Nursing Interventions II	4
CHEM	104 – OR – CHEM 111	5
PSYC	101 Gen Psych – OR – SOC 101	3
<b>Total</b>		<b>17</b>

<b>Third Semester</b>		<b>Hours</b>
ADN	267 Clinical III	3
ADN	260 Nursing Interventions III	4
ADN	263 Nursing Concepts II	2
BIOL	220 General Microbiology	5
COMM	104 Fundamentals of Speech	3
<b>Total</b>		<b>17</b>

<b>Fourth Semester</b>		<b>Hours</b>
ADN	279 Nursing Interventions IV	3
ADN	272 Psychosocial Nursing	2
ADN	277 Clinical IV	3
ENGL	101 English Composition	3
HIST	106 – OR – PLSC 103	3
	Approved Humanities Course	3
<b>Total</b>		<b>17</b>

**TOTAL HOURS REQUIRED 72**

# ASSOCIATE OF SCIENCE DEGREE

## Occupational Therapy Assistant

The Occupational Therapy Assistant program prepares graduates to demonstrate entry level competencies as an Occupational Therapy Assistant (OTA) and provides a strong foundation for continued learning. The Certified Occupational Therapy Assistant functions as a member of the health care team; working under the supervision of a licensed Occupational Therapist, the Occupational Therapy Assistant helps disabled people of all ages acquire, improve, or regain the ability to do all activities that have meaning, value, or purpose. The OTA curriculum combines biological and behavioral sciences, along with the theory and principles of Occupational Therapy. The program is built to support the standards of the American Occupational Therapy Association and prepares students to sit for the National Board Certification for Occupational Therapy Assistant Exam. The Crowder College Occupational Therapy Assistant Program has applied for accreditation and has been granted Developing Program Status by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, 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* (3)	
<b>Oral Communications (3 hours)</b>		
COMM	104* (3)	
<b>Humanities</b>		<b>3 hours</b>
ART	101	MUSC 101
ASL	101, 102*	PHIL 101*, 110*, 121, 201*, 202*
ENGL	109, 120, 125	SPAN 101, 111
FREN	101	SWK 219
HIST	101*	TA 205
<b>Mathematics</b>		<b>3 hours</b>
MATH	107*, 111*	
<b>Office Administration</b>		<b>3 hours</b>
OA	215	
<b>Science</b>		<b>10 hours</b>
BIOL	152*	
BIOL	252*	
<b>Social and Behavioral Science</b>		<b>6 hours</b>
PSYC	101	
<b>Missouri Constitution (3 hours)</b>		
PLSC	103*, 104*	
HIST	106*	
<b>OTA Courses</b>		<b>41 hours</b>
OTA	101	OTA 211*
OTA	111	OTA 221*
OTA	116	OTA 236*
OTA	131*	OTA 240*
OTA	140*	OTA 250*
OTA	201*	

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 remediation.

### 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
OA	215 Medical Terminology	3
OTA	101 Prins of Occupational Therapy	2
OTA	111 Occ Performance	3
OTA	116 Prins of Therapeutic Intervention	3
<b>TOTAL</b>		<b>16</b>

<b>Summer Semester</b>		<b>Hours</b>
HIST	106 US History – OR – PLSC 103	3
Approved Math 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	140 Occ Therapy Trends & Issues	2
OTA	201 Practice: Children & Adolescents	5
Approved Humanities Course		3
<b>TOTAL</b>		<b>13</b>

<b>Spring Semester</b>		<b>Hours</b>
OTA	211 Practice: Mental Health	5
OTA	221 Practice: Physical Rehabilitation	5
OTA	236 Occ Perf Issues in Later Adulthood	3
<b>TOTAL</b>		<b>13</b>

#### THIRD YEAR

<b>Fall Semester</b>		<b>Hours</b>
OTA	240 Fieldwork level II A	5
OTA	250 Fieldwork level II B	5
<b>TOTAL</b>		<b>10</b>

**TOTAL HOURS REQUIRED 73**

\*Prerequisite required

# ASSOCIATE OF SCIENCE DEGREE

## Pre-Engineering

The Associate in Science (A.S.) Pre-Engineering degree is a cooperative program between Crowder College and the School of Engineering at the Missouri University of Science & Technology. In addition, similar cooperative programs have been developed with the University of Missouri - Columbia and the University of Arkansas. 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. The A.S. Pre-Engineering Alternative Energy Option degree is designed for those students who wish to pursue a career in alternative energies. 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* (3)		
ENGL 102* (3) OR	ENGL 104* (3)	
COMM 104* (3)		
<b>Humanities, Social and Behavioral Science †</b>		<b>12 hours</b>
<b>Missouri Constitution (3 hours)</b>		<b>Economics (3 hours):</b>
PLSC 103*, 104*		ECON 201*, 202*
HIST 106*		
<b>Humanities (3 hours)</b>		<b>Additional (3 hours) or another humanities</b>
ART 101		ECON 201*, 202*
ASL 101, 102*		GEOG 111
ENGL 109, 120, 125		HIST 101*, 102*, 106*, 107*
HIST 101*		PHIL 110*, 121
MUSC 101		PLSC 103*, 104*
PHIL 101*, 110*, 121, 201*, 202*		PSYC 101
SPAN 101		SOC 101
SWK 219		
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>Computer Science</b>		<b>4 hours</b>
COMP 111*		
<b>Technical Electives</b>		<b>6 hours</b>
CHEM 112*		DRFT 101
CHEM 201*		DRFT 115
Alternative Energy Courses		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</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>	<b>Hours</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

<b>Fall Semester</b>	<b>Hours</b>
HIST 106 US History – OR – PLSC 103	3
MATH 201 Calculus II	5
PHYS 210 General Physics II	5
Approved Soc & Behavioral Science Course	3
<b>Total</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
MATH 202 Calculus III	5
MATH 210 Differential Equations	3
PHYS 250 Statics	3
Approved Technical Electives	6
<b>Total</b>	<b>17</b>

**TOTAL HOURS REQUIRED 65**

\*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 – Alternative Energy Option

The Associate in Science (A.S.) Pre-Engineering degree is a cooperative program between Crowder College and the School of Engineering at the Missouri University of Science & Technology. In addition, similar cooperative programs have been developed with the University of Missouri - Columbia and the University of Arkansas. 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. The A.S. Pre-Engineering Alternative Energy Option degree is designed for those students who wish to pursue a career in alternative energies. 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*	OR	ENGL 104* (3)
COMM	104*		
<b>Humanities, Social and Behavioral Science †</b>		<b>12 hours</b>	
<b>Missouri Constitution (3 hours)</b>		<b>Economics (3 hours):</b>	
PLSC	103*, 104*	ECON	201*, 202*
HIST	106*		
<b>Humanities (3 hours)</b>		<b>Additional humanities (3 hours)</b>	
ART	101	ECON	201*, 202*
ASL	101, 102*	GEOG	111
ENGL	109, 120, 125	HIST	101*, 102*, 106*, 107*
HIST	101*	PHIL	110*, 121
MUSC	101	PLSC	103*, 104*
PHIL	101*, 110*, 121, 201*, 202*	PSYC	101
SPAN	101	SOC	101
SWK	219		
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*	CHEM	111
PHYS	210*		
PHYS	250*		
<b>Computer Science</b>		<b>4 hours</b>	
COMP	111*		
<b>Technical Electives</b>		<b>6 hours</b>	
CHEM	112*	ENER	251*
ENER	150*	ENER	256
ENER	151*	ENER	134*
ENER	156	ENER	232*
ENER	250*		

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</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>	<b>Hours</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

<b>Fall Semester</b>	<b>Hours</b>
HIST 106 US History – OR – PLSC 103	3
MATH 201 Calculus II	5
PHYS 210 General Physics II	5
Approved Humanities Course	3
<b>Total</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
MATH 202 Calculus III	5
MATH 210 Differential Equations	3
PHYS 250 Statics	3
Approved Technical Electives	6
<b>Total</b>	<b>17</b>

**TOTAL HOURS REQUIRED 65**

\*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 DEGREES**

Associate in Applied Science (A.A.S.) programs provide education for specific careers. Graduates are prepared for the world of work upon completion of suggested curriculum.

While the A.A.S. is not designed for transfer, selected A.A.S. programs may be transferred to four-year colleges through special articulation agreements. A.A.S. students seeking transfer should consult their faculty advisor before registering.

To graduate with the Associate in Applied Science Degree a student must meet the following requirements:

- A. Earn a minimum of 60 semester hours of credit. Of these, at least 15 of the last 30 semester hours must be earned in courses provided by Crowder College.
- B. Earn a cumulative grade point average of 2.0 (C) or higher in all college courses attempted.
- C. Complete an approved curriculum as listed on the following pages.

# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Accounting

This program is designed for students who seek immediate employment in the field of accounting and for those presently employed in accounting careers and desiring advancement. Crowder's Associate of Applied Science in Accounting degree gives students an advantage in the business world by training them in the latest accounting and computer techniques. Students learn how to solve problems using today's technology. This program focuses on the principles, procedures, and theories of managing and preparing financial records.

\*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating. A fee will be charged for this test.

### 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	111*	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
PLSC	103*, 104*	
<b>Business Core</b>		<b>10 hours</b>
BSAD	103 (2)	
BSAD	125 (3)	
BSAD	130* (3)	
ACCT	290 (2)	
<b>Accounting Core</b>		<b>33 hours</b>
ACCT	160 (3)	BSAD 150 (3) <b>OR</b> BMGT 175 (3)
ACCT	165* (3)	BSAD 218* (3)
ACCT	201 (3)	BSAD 230 (3)
ACCT	202* (3)	ECON 201* (3)
ACCT	245 (3)	ECON 202* (3)
ACCT	250* (3)	
<b>Electives</b>		<b>3 hours</b>
Electives can be taken from ACCT, BSAD, BMGT, or OA		

\*Prerequisite requirement

\*\*Prerequisite/co-requisite requirement

### 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
MATH 111 College Algebra	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
ACCT 165 QuickBooks	3
ACCT 202 Principles of Accounting II	3
BSAD 150 – OR – BMGT 175	3
BSAD 218 Spreadsheets	3
ENGL 102 English Composition II	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
ACCT 245 Tax Accounting (Fall only)	3
BSAD 130 Business Communications	3
ECON 201 Principles of Economics I	3
HIST 106 – OR – PLSC 103, 104	3
Approved Business Elective	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 Economics II	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.

# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Administrative Assistant

This program is designed to prepare students for office support positions. Office support personnel are needed in virtually every type of business and are essential in helping offices run effectively and efficiently. Crowder's Associate of Applied Science in Administrative Assistant degree will give you the opportunity to develop expert skills in keyboarding, software applications, transcription, business communications, and office management. Students will be able to utilize innovative technology to enhance and improve office procedures, in addition, students will develop the interpersonal, decision making and analytical skills required in dealing with workplace problems and situations. Through Crowder's comprehensive Internship program, you will have the opportunity to gain valuable work experience in a business office setting ensuring that you gain the valuable skills and connections you'll need to succeed in today's job market.

\*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating. A fee will be charged for this test.

### 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*	OR ENGL 104*
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
BSAD	121*	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
PLSC	103*, 104*	
<b>Business Core</b>		<b>13 hours</b>
BMGT	223 (3)	BSAD 130* (3)
BSAD	103 (2)	OA 231 (2)
BSAD	125 (3)	
<b>Administrative Assistant Core</b>		<b>30 hours</b>
ACCT	101 (3)	OR ACCT 201 (3)
ACCT	165* (3)	
BSAD	108 (3)	
BSAD	218* (3)	
BSAD	219* (3)	
OA	102 (3)	
OA	107 (3)	
OA	115 (3)	
OA	200* (3)	
OA	211 (3)	
<b>Electives</b>		<b>3 hours</b>
Electives can be taken from ACCT, BSAD, BMGT, OA, or ECON		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
BMGT 223 Business Ethics	3
BSAD 121 Business Math	3
COLL 101 College Orientation	1
COMM 104 Fundamentals of Speech	3
ENGL 101 Composition	3
OA 107 College Keyboarding (Fall only)	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
ACCT 101 Pract Acctg – OR – ACCT 201	3
BSAD 125 Computer Applications	3
ENGL 102 – OR – 203	3
HIST 106 US History – OR – PLSC 103,104	3
OA 102 Filing Sys & Recs Mgmt (Spring only)	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
ACCT 165 QuickBooks	3
BSAD 130 Business Communications	3
BSAD 219 Database Management (Fall only)	3
OA 115 Customer Service	3
OA 200 Word Processing (Fall only)	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
BSAD 103 Professional Development	2
BSAD 108 Personal Finance	3
BSAD 218 Spreadsheets (Online in Spring)	3
OA 211 Secretarial Off Proc (Spring only)	3
OA 231 Office Administration Internship	2
Approved Business Elective	3
<b>TOTAL</b>	<b>16</b>

**TOTAL HOURS REQUIRED 62**

\*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

### Advanced Manufacturing Technology: Automation/Robotics Option

The Advanced Manufacturing Technology program prepares students for employment in industries with automated manufacturing processes. The program is built around a set of core courses designed to give students the basic skill set required for this industry coupled with specialty courses allowing students to focus on various related options. This Program of Study addresses the Automation/Robotics Option.

#### 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* (3)	
ENGL 102* (3) – OR – ENGL 104*	
ENGL 203* (3)	
<b>Oral Communications (3 hours)</b>	
COMM 104* (3)	
<b>Mathematics</b>	<b>3 hours</b>
MATH 111* (3)	
MATH 104* (3)	
<b>Missouri Constitution</b>	<b>3 hours</b>
PLSC 103* (3)	
HIST 106* (3)	
<b>Support Courses</b>	<b>10 hours</b>
BSAD 103 (2)	
BSAD 115 (3) – OR – BSAD 125	
DRFT 101 (3)	
WELD 151* (2) – OR – WELD 113	
<b>Advanced Manufacturing Courses</b>	<b>19 hours</b>
AMT 102* Introduction to Industrial Electricity (3)	
AMT 104* Electrical Motor Controls (3)	
AMT 111 Introduction to Industrial Safety (1)	
AMT 132* Industrial Hydraulics (3)	
AMT 142* Manufacturing Mechanics (3)	
AMT 204* Programmable Logic Controllers (3)	
AMT 290* Manufacturing Internship (3)	
<b>Automation/Robotics Courses</b>	<b>15 hours</b>
AMT 182* Intro to Automated Robotics (3)	
AMT 206* Programmable Logic Controllers II (3)	
AMT 284* Automated Robotic Programming (3)	
CNS 101 Introduction to Electronics (3)	
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 (1st 8-Wks)	3
AMT 104 Electrical Motor Control(2nd 8-Wks)	3
AMT 111 Introduction to Industrial Safety	1
COLL 101 College Orientation	1
MATH 111 College Algebra	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>14</b>

<b>Spring Semester</b>	<b>Hours</b>
AMT 142 Manufacturing Mechanics	3
AMT 204 PLC I (1st 8-Weeks)	3
AMT 206 PLC II (2nd 8-Weeks)	3
BSAD 115 Comp Apps – OR – BSAD 125	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>15</b>

##### SECOND YEAR

<b>Fall Semester Hours</b>	
AMT 132 Industrial Hydraulics	3
BSAD 103 Professional Development	2
CNS 101 Introduction to Electronics	3
CNS 115 Cisco Networking I	3
COMM 104 Fundamentals of Speech	3
WELD 151 Welding Theory I	2
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AMT 182 Intro to Automated Robotics	3
AMT 284 Automated Robotic Programming	3
AMT 290 AMT Internship	3
DRFT 101 Intro to Engineering Drawing	3
HIST 106 US History – OR – PLSC 103	3
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 60**

\*Prerequisite required

Students interested in enrolling in technology classes should be advised through the Crowder Technical Education Center (CTEC). After advisement, the student should be enrolled through the CTEC personnel. For additional information, please contact 417-455-5596.

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

### Advanced Manufacturing Technology: Manufacturing Maintenance Option

The Advanced Manufacturing Technology program prepares students for employment in industries with automated manufacturing processes. The program is built around a set of core courses designed to give students the basic skill set required for this industry coupled with specialty courses allowing students to focus on various related options. This Program of Study addresses the Manufacturing Maintenance Option.

#### 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*	– OR – ENGL 104*
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	111*	
MATH	104*	
<b>Missouri Constitution</b>		<b>3 hours</b>
PLSC	103*	
HIST	106*	
<b>Support Courses</b>		<b>10 hours</b>
BSAD	103	
BSAD	115	– OR – BSAD 125
DRFT	101	
WELD	151*	– OR – WELD 113
<b>Advanced Manufacturing Courses</b>		<b>19 hours</b>
AMT	102*	Introduction to Industrial Electricity (3)
AMT	104*	Electrical Motor Controls (3)
AMT	111	Introduction to Industrial Safety (1)
AMT	132*	Industrial Hydraulics (3)
AMT	142*	Manufacturing Mechanics (3)
AMT	204*	Programmable Logic Controllers (3)
AMT	290*	Manufacturing Internship (3)
<b>Manufacturing Maintenance Courses</b>		<b>15 hours</b>
<b>Required Courses (9 hours)</b>		
AMT	122*	Basic Machining (3)
CONS	131	Plumbing (3)
CONS	155*	Basic HVAC (3)
<b>Specialty Electives (6 hours)</b>		
AMT	162*	Industrial Process Control I (3)
AMT	206*	Programmable Logic Controllers II (3)
CNS	101	Introduction to Electronics (3)
CNS	115	Introduction to Networking (3)
WELD	152*	Welding Theory II (2) – OR – WELD 145*
WELD	153*	Welding Lab I (5) – OR – WELD 150*
WELD	154*	Welding Lab II (5) – OR – WELD 155*
DEPT	XXX	Any Technology or Business Div Course (3)

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AMT	102 Intro to Industrial Electricity (1st 8 Weeks)	3
AMT	104 Electrical Motor Control (2nd 8 Weeks)	3
AMT	111 Introduction to Industrial Safety	1
COLL	101 College Orientation	1
MATH	111 College Algebra	3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>14</b>

<b>Spring Semester</b>		<b>Hours</b>
AMT	204 Programmable Logic Controllers (PLC) I (1st 8 Weeks)	3
BSAD	125 Computer Applications	3
DRFT	101 Introduction to Engineering Drawing	3
Approved Elective		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>15</b>

##### SECOND YEAR

<b>Fall Semester Hours</b>		
AMT	122 Basic Machining	3
AMT	132 Industrial Hydraulics	3
BSAD	103 Professional Development	2
COMM	104 Fundamentals of Speech	3
CONS	131 Plumbing (Fall only)	3
WELD	151 Welding Theory I	2
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
AMT	142 Manufacturing Mechanics	3
AMT	290 AMT Internship	3
CONS	155 Basic HVAC (Spring only)	3
HIST	106 US History – OR – PLSC 103	3
Approved Elective		3
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 60**

\*Prerequisite required

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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

## Advanced Manufacturing Technology: Welding Option

The Advanced Manufacturing Technology program prepares students for employment in industries with automated manufacturing processes. The program is built around a set of core 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.

### 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* – OR – ENGL 104*	
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	111*	
MATH	104*	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
PLSC	103*, 104*	
<b>Required Courses</b>		<b>49 hours</b>
AMT	182	Introduction to Automated Robotics (3)
BSAD	115	Computer Concepts – OR – BSAD 125
CNS	105 & 106	Tech Career Dev – OR – BSAD 106
DRFT	115	Basic Computer Aided Drafting (3)
WELD	117*	Welding Blue Print Reading (2)
WELD	124*	Fabrication I (1)
WELD	135*	Basic Metallurgy (2)
WELD	140*	Fabrication Methods II (1)
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 (1)
WELD	202*	Welding Theory IV (2)
WELD	211*	Welding Lab III (7)
WELD	213*	Welding Lab IV Fabrication (4)
WELD	216*	Welding Lab IV Pipe/Plate (4)

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
BSAD 115 Computer Concepts	3
COLL 101 College Orientation	1
MATH 111 College Algebra	3
WELD 117 Blue Print Reading	2
WELD 151 Welding Theory I	2
WELD 153 Welding Lab I	5
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AMT 182 Intro to Automated Robotics	3
WELD 124 Fabrication Methods I	1
WELD 135 Basic Metallurgy	2
WELD 152 Welding Theory II	2
WELD 154 Welding Lab II	5
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

#### SECOND YEAR

<b>Fall Semester Hours</b>	
COMM 104 Fundamentals of Speech	3
DRFT 115 Basic Computer Aided Drafting	3
HIST 106 US History – OR – PLSC 103	3
WELD 201 Welding Theory III	1
WELD 211 Welding Lab III	7
<b>TOTAL</b>	<b>17</b>

<b>Spring Semester</b>	<b>Hours</b>
CNS 105 CNS 105 & 106 – OR – BSAD 106	2
WELD 140 Fabrication Methods II	3
WELD 202 Welding Theory IV	2
WELD 213 Welding Lab IV (Fabrication)	4
WELD 216 Welding Lab IV (Pipe/Plate)	4
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

**TOTAL HOURS REQUIRED 65**

\*Prerequisite required

Students interested in enrolling in technology classes should be advised through the Crowder Technical Education Center (CTEC). After advisement, the student should be enrolled through the CTEC personnel. For additional information, please contact 417-455-5596.

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

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>	
BSAD	121*		
MATH	107*, 111*, 150* & 160*		
<b>Missouri Constitution</b>		<b>3 hours</b>	
HIST	106*		
PLSC	103*, 104*		
<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
Approved Mathematics Course		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
PLSC	103 – OR – HIST 106	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
HORT	113 Greenhouse Management	3
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
<b>TOTAL</b>		<b>18</b>

**TOTAL HOURS REQUIRED 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: Horticulture Option

This program offers the graduate an Associate of Applied Science degree (AAS) which provides education for specific careers in agricultural business, horticulture. Graduates are prepared for the world of work upon successful completion of the program. While an AAS is not designed to transfer, it is possible to transfer to a four-year college if planned accordingly. Students planning to transfer should consult their faculty advisor before registering for classes to assure appropriate classes are selected.

### 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>
BSAD	121*	
MATH	107*, 111*, 150* & 160*	
<b>Missouri Constitution</b>		<b>3 hours</b>
PLSC	103*, 104*	
HIST	106*	
<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>Agri-Business Horticulture Option</b>		<b>18 hours</b>
HORT	101	HORT 204
HORT	103	AGRN 243*
HORT	113	AGRI 123

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AGRI	111 Ag Career Orientation	1
AGRN	113 Crop Science	3
HORT	103 Floriculture	3
Approved Mathematics Course		3
Approved Written Communications Course		3
<b>TOTAL</b>		<b>13</b>

<b>Spring Semester</b>		<b>Hours</b>
AGEC	123 Principles of Ag Economics	3
AGRN	243 Forage Crops	3
ANSC	114 Animal Science	4
HORT	113 Greenhouse Management	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 Management	3
AGEC	223 Agriculture Computer Apps	3
AGMC	205 Ag Mechanics	3
AGRN	214 Fundamentals of Soil Science	4
HORT	101 General Horticulture	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
AGRI	123 Agriculture Chemicals	3
AGRI	202 Ag Capstone	2
AGRI	212 & AGRI 222 – OR – AGRI 204	2-4
COMM	104 Fundamentals of Speech	3
HORT	204 Nursery Mgmt/Landscape & Des	3
PLSC	103 – OR – HIST 106	3
<b>TOTAL</b>		<b>16-18</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite requirement

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Agri-Business Technology: Livestock Production Option

This program offers the graduate an Associate of Applied Science degree (AAS) which provides education for specific careers in agricultural business, livestock production. Graduates are prepared for the world of work upon successful completion of the program. While an AAS is not designed to transfer, it is possible to transfer to a four-year college if planned accordingly. Students planning to transfer should consult their faculty advisor before registering for classes to assure appropriate classes are selected.

### 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>	
BSAD	121*		
MATH	107*, 111*, 150* & 160*		
<b>Missouri Constitution</b>		<b>3 hours</b>	
HIST	106*		
PLSC	103*, 104*		
<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*	AGRN	243*
ANSC	114		
<b>Agri-Business Livestock Option</b>		<b>18 hours</b>	
AGRN	243*	ANSC	213
ANSC	153*	ANSC	232*
ANSC	203	ANSC	233

### 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
	Approved Mathematics Course	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
PLSC	103 – OR – HIST 106	3
<b>TOTAL</b>		<b>16-18</b>

**TOTAL HOURS REQUIRED 61-63**

\*Prerequisite requirement

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## ASSOCIATE OF APPLIED SCIENCE DEGREE

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

This program offers the graduate an Associate of Applied Science degree (AAS) which provides education for specific careers in agricultural business marketing and management. Graduates are prepared for the world of work upon successful completion of the program. While an AAS is not designed to transfer, it is possible to transfer to a four-year college if planned accordingly. Students planning to transfer should consult their faculty advisor before registering for classes to assure appropriate classes are selected.

#### 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>	
BSAD	121*		
MATH	107*, 111*, 150* & 160*		
<b>Missouri Constitution</b>		<b>3 hours</b>	
HIST	106*		
PLSC	103*, 104*		
<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>Agri-Business Agronomy</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
Approved Mathematics Course			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
BSAD	223	Business Ethics	3
PLSC	103	– OR – HIST 106	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

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Alternative Energy - Solar

The Alternative Energy-Solar AAS degree provides students with a unique applied foundation in solar technologies. The program covers all aspects of solar technologies and is designed to give the student a strong footing for employment or transfer to any of our cooperative programs that are available at Missouri State University or Pittsburg State University. Students in the Alternative Energy-Solar program include engineering, science, and technology majors. Students are required to take the entry level NABCEP Solar PV exam given as part of the ENER 260 course. Students must also report their score to the College for completion of this degree program.

### 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>OR</b>	ENGL 104*
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
MATH	104* (3)		
MATH	111* (3)		
<b>Science</b>		<b>5 hours</b>	
PHYS	101 (5)		
<b>Missouri Constitution</b>		<b>3 hours</b>	
HIST	106*		
PLSC	103*, 104*		
<b>Required Courses</b>		<b>38 hours</b>	
AMT	112 (3)	ENER	105 (3)
BSAD	103 (2)	ENER	150* (3)
CNS	101 (3)	ENER	151* (2)
CONS	105 (3)	ENER	250* (3)
CONS	131 (3)	ENER	251* (2)
CONS	141* (3)	ENER	260* (3)
DRFT	101 (3)	ENER	261* (2)
<b>Approved Electives</b>		<b>5 hours</b>	
AMT	102 (3)	DRFT	103 (3)
CONS	243* (3)	ENER	156, 157, 158 Projects (1-3)
CONS	245 (3)		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
CONS	105 Introduction to Construction	3
ENER	105 Introduction to Energy	3
MATH	111 College Algebra	3
PLSC	103 – OR – HIST 106	3
	Approved Written Communications Course	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
AMT	112 Occupational Safety	3
ENER	250 Solar Thermal Systems	3
ENER	251 Solar Thermal Systems Lab	2
PHYS	101 Survey of Physics	5
	Approved Written Communications Course	3
<b>TOTAL</b>		<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
CNS	101 Introduction to Electronics	3
COMM	104 Fundamentals of Speech	3
CONS	141 Electricity	3
ENER	150 Passive Solar Systems	3
ENER	151 Passive Solar Systems Lab	2
	Approved Elective	3
<b>TOTAL</b>		<b>17</b>

<b>Spring Semester</b>		<b>Hours</b>
ENER	260 Solar Electric Energy	3
ENER	261 Solar Electric Lab	2
CONS	131 Plumbing	3
DRFT	101 Intro to Engineering Drawing	3
BSAD	103 Professional Development	2
	Approved Elective	2
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 64**

\*Prerequisite requirement

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Alternative Energy - Wind

The Alternative Energy Program AAS Degree provides students with a unique applied foundation in renewable energy technology. The program's emphasis on vocational wind turbine technology is designed to give the student a strong footing for employment or transfer to any of our cooperative programs that are available at Missouri State University or Pittsburg State University. Students in the Alternative Energy program include engineering, science, and technology majors. Students are required to take a certification exam given as part of the ENER 232 course and report their score to the College for completion of this degree program. Students are strongly encouraged to contact the wind Instructor for advisement before beginning this program.

### 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*	OR ENGL	104*
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
MATH	104* (3)		
MATH	111* (3)		
<b>Science</b>		<b>5 hours</b>	
PHYS	101 (5)		
<b>Missouri Constitution</b>		<b>3 hours</b>	
HIST	106*		
PLSC	103*, 104*		
<b>Required Courses</b>		<b>41 hours</b>	
AMT	102 (3)	ENER	105 (3)
AMT	112 (3)	ENER	132 (3)
AMT	132* (3)	ENER	134* (3)
AMT	204* (3)	ENER	160 (3)
BSAD	103 (2)	ENER	162* (3)
CNS	101 (3)	ENER	201 (3)
CNS	115 (3)	ENER	232* (3)
<b>Approved Electives</b>		<b>3 hours</b>	
BSAD	115 (3)	ENER	156, 157, 158 Projects (1-3)
BSAD	125 (3)	ENER	256, 257, 258 Projects (1-3)
CONS	243* (3)	MATH	112* (3)

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
CNS	101	Introduction to Electronics	3
COLL	101	College Orientation	1
ENER	105	Introduction to Energy	3
ENER	160	Intro to Process Technology	3
MATH	104	– OR – 111	3
		Approved Written Communications Course	3
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
AMT	102	Intro to Industrial Electricity	3
AMT	112	Occupational Safety	3
ENER	132	Introduction to Wind	3
PHYS	101	Survey of Physical Science	5
		Approved Written Communications Course	3
<b>TOTAL</b>			<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
AMT	204	Programmable Logic Controllers	3
COMM	104	Fundamentals of Speech	3
ENER	134	Turbine Troubleshooting	3
ENER	162	Intro to Electric Power Trans	3
PLSC	103	Nat'l, State, Local Government	3
<b>TOTAL</b>			<b>15</b>

<b>Spring Semester</b>			<b>Hours</b>
AMT	132	Industrial Hydraulics	3
BSAD	103	Professional Development	2
CNS	115	CISCO Networking I	3
ENER	201	Introduction to SCADA	3
ENER	232	Wind Turbine Internship	3
		Approved Elective	3
<b>TOTAL</b>			<b>17</b>

**TOTAL HOURS REQUIRED 65**

\*Prerequisite requirement

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Auto Technology

The Automotive Technology program is aimed at training students in the maintenance and repair of today's modern, complex vehicles. Successful automotive graduates can expect to find employment in the automotive service industry as technicians, parts managers, service managers, or in sales positions.

### 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* – OR – ENGL 104*	
ENGL 203*	
<b>Oral Communications (3 hours)</b>	
COMM 104*	
<b>Mathematics</b>	<b>3 hours</b>
BSAD 121*	
MATH 104*	
<b>Missouri Constitution</b>	<b>3 hours</b>
HIST 106*	
PLSC 103*, 104*	
<b>Technical Core</b>	<b>45 hours</b>
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 Control Sys (5)	
AUTO 223 Auto Power Train Sys (3)	
AUTO 224 Computer Engine Control (4)	
AUTO 225 Auto Suspension and Steering (5)	
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
BSAD 115 – OR – BSAD 125	3
COLL 101 College Orientation	1
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AUTO 124 Brakes	4
AUTO 125 Electrical Systems	5
MATH 104 Tech Math – OR – BSAD 121	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
AUTO 214 Air Conditioning	4
AUTO 215 Emission Control Systems	5
BSAD 150 Introduction to Business	3
COMM 104 Fundamentals of Speech	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
AUTO 223 Power Trains	3
AUTO 224 Computer Engine Control	4
AUTO 225 Suspension and Steering	5
HIST 106 US History – OR – PLSC 103	3
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

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## ASSOCIATE OF APPLIED SCIENCE DEGREE

### Auto Technology – Parts Management Option

This curriculum was developed working closely with local automotive parts supply companies. The intent is to provide the student with the tools necessary to become successful in the automotive parts supply business. Special emphasis has been given to marketing, business law and personnel management.

#### 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* – OR – ENGL 104*	
ENGL 203*	
<b>Oral Communications (3 hours)</b>	
COMM 104*	
<b>Mathematics</b>	<b>3 hours</b>
BSAD 121*	
MATH 104*	
<b>Missouri Constitution</b>	<b>3 hours</b>
HIST 106*	
PLSC 103*, 104*	
<b>Technical Core</b>	<b>46 hours</b>
AUTO 114 Auto Fuel Systems (4)	
AUTO 115 Engine Repair (5)	
AUTO 124 Auto Brake Systems (4)	
AUTO 125 Auto Electrical Systems (5)	
AUTO 225 Auto Suspension and Steer (5)	
AUTO 240 Automotive Internship (2)	
BMGT 175 Management (3)	
BMGT 200 Marketing (3)	
BMGT 223 Business Ethics (3)	
BMGT 285 Human Resource Management (3)	
BSAD 115 Computer Concepts (3) – OR – BSAD 125	
BSAD 150 Intro to Business (3)	
BSAD 230 Business Law (3)	

\*Prerequisite required

#### Suggested Plan of Study

##### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
AUTO 114	Fuel Systems	4
AUTO 115	Engine Repair	5
BSAD 115	– OR – BSAD 125	3
COLL 101	College Orientation	1
	Approved Written Communications Course	3
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
AUTO 124	Brakes	4
AUTO 125	Electrical Systems	5
MATH 104	Tech Math – OR – BSAD 121	3
	Approved Written Communications Course	3
<b>TOTAL</b>		<b>15</b>

##### SECOND YEAR

<b>Fall Semester Hours</b>		
BMGT 175	Mgmt Strategies	3
BMGT 200	Marketplace Strategies	3
BMGT 223	Business Ethics	3
BSAD 150	Introduction to Business	3
COMM 104	Fundamentals of Speech	3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
AUTO 225	Suspension and Steering	5
AUTO 240	Internship	2
BMGT 230	Business Law	3
BMGT 285	Human Resource Management	3
HIST 106	American History (or PLSC 103)	3
<b>TOTAL</b>		<b>16</b>

**TOTAL HOURS REQUIRED 62**

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Certified Medical Assistant

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.

### 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*	
ENGL	102* – OR – ENGL 104*	
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104	
<b>Mathematics</b>		<b>3 hours</b>
MATH	111*	
BSAD	121*	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
PLSC	103*, 104*	
<b>Social and Behavioral Science</b>		<b>3 hours</b>
PSYC	101	
<b>Science</b>		<b>5 hours</b>
CHEM	104 Chemistry for Health Sciences	
<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	102* Math Application & Med Administration (2)	
MEDA	103* Medical Assisting Science I (4)	
MEDA	104* Clinical Medical Assisting (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)	
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

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
CHEM	104	Chemistry for Health Sciences	5
COLL	101	College Orientation	1
COMM	104	Fundamentals of Speech	3
PSYC	101	General Psychology	3
Approved Mathematics Course			3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>18</b>

<b>Spring Semester</b>			<b>Hours</b>
CNA	106	Phlebotomy	3
MEDA	101	Intro to Medical Assisting	3
MEDA	102	Math App & Med Admin	2
MEDA	103	Medical Assisting Science I	4
MEDA	104	Clinical Medical Assisting I	2
MEDA	105	Administrative Med Assisting I	2
<b>TOTAL</b>			<b>16</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
MEDA	203	Medical Assisting Science II	4
MEDA	204	Clinical Medical Assisting II	3
MEDA	205	Administrative Med Assisting II	3
MEDA	206	Medical Assisting Internship	5
MEDA	207	Medical Assisting Critique	1
<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
<b>TOTAL</b>			<b>15</b>

**TOTAL HOURS REQUIRED 65**

\*Prerequisite required

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Collision Repair Technology

The Collision Repair Technology program prepares students for employment in the field of collision repair or related occupations in the automotive industry. The program is built around nationally recognized standards from the National Institute for Automotive Service Excellence (ASE) provided through the National Automotive Technicians Education Foundation (NATEF). Instructional materials for the core collision repair courses are provided through I-CAR (Inter-Industry Conference on Auto Collision Repair). The program is not currently ASE/NATEF certified, but the core courses cover all of the high-priority ASE/NATEF competencies in Non-Structural Repair, Structural Repair, and Painting/Finishing.

### 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* – OR – ENGL 104*	
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104	
<b>Mathematics</b>		<b>3 hours</b>
MATH	104*	
BSAD	121*	
<b>Missouri Constitution</b>		<b>3 hours</b>
PLSC	103*	
HIST	106*	
<b>Collision Repair Core Courses</b>		<b>33 hours</b>
AUTO	125 Automotive Electrical Systems (5)	
AUTO	214 Automotive Air Conditioning (4)	
AUTO	225 Automotive Suspension/Steering (5)	
CLRP	102 Auto Body Construction & Sheet Metal (3)	
CLRP	104 Auto Body Plastics & Composites (3)	
CLRP	202 Auto Body Welding & Struct Straightening (3)	
CLRP	204 Auto Body Painting & Refinishing (3)	
WELD	151 Welding Theory I (2) – OR – WELD 113	
WELD	153* Welding Lab (5) – OR – WELD 145*	
<b>Support Courses</b>		<b>8 hours</b>
BSAD	103 Professional Development (2)	
BSAD	115 Computer Concepts (3) – OR – BSAD 125	
BSAD	150 Introduction to Business (3)	
<b>Approved Electives</b>		<b>5 hours</b>
Any course not specifically required above and for which any pre-requisite courses have been completed from among: AMT, AUTO, BSAD, CNS, CONS, DIES, DRFT, or WELD. Other courses upon approval of advisor or Division Chair.		

### Suggested Plan of Study

FIRST YEAR			
Fall Semester			Hours
BSAD	115 – OR – BSAD 125		3
CLRP	102 AB Construction & Sheet Metal		3
COLL	101 College Orientation		1
ENGL	101 English Composition I*		3
WELD	151 Welding Theory I		2
WELD	153 Welding Lab I		5
TOTAL			17
Spring Semester			Hours
AUTO	225 Suspension and Steering		5
CLRP	104 AB Plastics & Composites		3
ENGL	102 English Composition II*		3
MATH	104 Tech Math – OR – BSAD 121		3
TOTAL			14
SECOND YEAR			
Fall Semester			Hours
AUTO	214 Air Conditioning		4
BSAD	150 Introduction to Business		3
CLRP	202 AB Weld & Struct Straightening		3
COMM	104 Fundamentals of Speech		3
Approved Elective			3
TOTAL			16
Spring Semester			Hours
AUTO	125 Electrical Systems		5
BSAD	103 Professional Development		2
CLRP	204 AB Painting & Refinishing		3
HIST	106 US History – OR – PLSC 103		3
Approved Elective			2
TOTAL			15
TOTAL HOURS REQUIRED			62

\*Prerequisite required

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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

## Computer and Network Support Technology

The Computer and Network Support Technology program (CNS) prepares students for employment as support personnel in the areas of computer and information services. Students successfully completing this program will be able to setup and maintain microcomputer systems as well as perform basic administrative/maintenance tasks in a networked computing environment.

### 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* – OR – ENGL 104*	
ENGL 203*	
<b>Oral Communications (3 hours)</b>	
COMM 104*	
<b>Mathematics</b>	<b>3 hours</b>
MATH 104*	
MATH 111*	
<b>Missouri Constitution</b>	<b>3 hours</b>
HIST 106*	
PLSC 103*	
<b>Required Support Courses</b>	<b>5 hours</b>
BSAD 103 – OR – CNS 105/106	
BSAD 115 – OR – BSAD 125	
<b>Required CNS Courses</b>	<b>34 hours</b>
CNS 101 Intro to Electronics (3)	
CNS 111* PC Basics I (3)	
CNS 112* PC Basics II (3)	
CNS 115* CISCO Network I (3)	
CNS 116* CISCO Network II (3)	
CNS 125* Programming for CNS Techs (3)	
CNS 217* CISCO Network III (3)	
CNS 218* CISCO Network IV (3)	
CNS 260* Microsoft Network Admin (3)	
CNS 265* Microsoft Exchange Admin (3)	
CNS 285* CNS Internship (3)	
<b>Approved Electives</b>	<b>6 hours</b>
CNS 250* Linux Network Admin (3)	
CNS 270* Network Security (3)	
CNS 275* Advanced Microsoft Server (3)	
CNS 277* Data Management (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 115	Cisco Networking I	3
COLL 101	College Orientation	1
	Approved Math Course	3
	Approved Written Communications Course	3
	<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
BSAD 115	Computer Concepts – OR – BSAD 125	3
CNS 112	PC Basics II	3
CNS 116	Cisco Networking II	3
CNS 125	Programming for CNS Techs	3
	Approved Written Communications Course	3
	<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
CNS 217 Cisco Networking III	3
CNS 260 Microsoft Network Administration	3
COMM 104 Fundamentals of Speech	3
HIST 106 – OR – PLSC 103,104	3
Approved CNS Elective	3
<b>TOTAL</b>	<b>15</b>

<b>Spring Semester</b>	<b>Hours</b>
BSAD 103 – OR – CNS 105/106	2
CNS 218 Cisco Networking IV	3
CNS 265 Microsoft Exchange	3
CNS 285 CNS Internship	4
Approved CNS Elective	3
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 61**

\*Prerequisite required

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Construction Management

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.

### 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*	– OR – ENGL 104*
ENGL 203*	
<b>Oral Communications (3 hours)</b>	
COMM 104*	
<b>Mathematics</b>	<b>3 hours</b>
MATH 104	
MATH 111	
<b>Missouri Constitution</b>	<b>3 hours</b>
HIST 106*	
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>15 hours</b>
CONS 103* Sustainable Building Fundamentals (3)	
CONS 105 Introduction to Construction Technology (3)	
CONS 112* Carpentry Fundamentals (3)	
CONS 116* Framing and Finishing (3)	
CONS 290* Construction Internship (3)	
<b>Major Courses</b>	<b>24 hours</b>
CONS 121 Masonry (3)	
CONS 131 Plumbing (3)	
CONS 141* Electrical (3)	
CONS 174* Carpentry Forms (3)	
CONS 232 Site Layout (3)	
CONS 243* Project Supervision (3)	
CONS 245* Project Management (3)	
CONS 265* Alternative Energy Techniques (3)	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
COMM 104 Fundamentals of Speech	3
CONS 103 Sustainable Building Fundamentals	3
CONS 105 Intro to Construction Technology	3
MATH 111 College Algebra –OR- MATH 104	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
BSAD 115 Comp Concepts – OR – BSAD 125	3
CONS 112 Carpentry Fundamentals	3
CONS 116 Framing and Finishing	3
CONS 174 Carpentry Forms	3
DRFT 105 Architectural Drafting	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
CONS 232 Site Layout	3
CONS 131 Plumbing	3
CONS 141 Electrical	3
CONS 265 Alternative Energy Technologies	3
HIST 106 American History – OR – PLSC 103	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>18</b>

<b>Spring Semester</b>	<b>Hours</b>
BSAD 103 Professional Development	2
CONS 121 Masonry	3
CONS 243 Project Supervision	3
CONS 245 Project Management	3
CONS 290 Construction Internship	3
<b>TOTAL</b>	<b>14</b>

**TOTAL HOURS REQUIRED 63**

\*Prerequisite required

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## General Construction

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.

### 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*	– OR – ENGL 104*
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	104	
MATH	111*	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
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>15 hours</b>
CONS	103*	Sustainable Building Fundamentals (3)
CONS	105*	Introduction to Construction Technology (3)
CONS	112*	Carpentry Fundamentals (3)
CONS	116*	Framing and Finishing (3)
CONS	290*	Construction Internship (3)
<b>Major Courses</b>		<b>24 hours</b>
AMT	102	Introduction to Industrial Electricity (3)
CONS	121	Masonry (3)
CONS	131	Plumbing (3)
CONS	141*	Electrical (3)
CONS	155*	Basic HVAC (3)
CONS	174*	Carpentry Forms (3)
CONS	232	Site Layout (3)
CONS	265*	Alternative Energy Techniques (3)

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
COMM 104 Fundamentals of Speech	3
CONS 103 Sustainable Bldg Fundamentals	3
CONS 105 Intro to Construction Technology	3
MATH 111 College Algebra – OR – MATH 104	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AMT 102 Introduction to Industrial Electricity	3
CONS 112 Carpentry Fundamentals	3
CONS 116 Framing and Finishing	3
CONS 174 Carpentry Forms	3
DRFT 105 Architectural Drafting	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
CONS 131 Plumbing	3
CONS 141 Electrical	3
CONS 232 Site Layout	3
CONS 265 Alt Energy Technology	3
HIST 106 US History – OR – PLSC 103	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>18</b>

<b>Spring Semester</b>	<b>Hours</b>
BSAD 103 Pro Dev – OR – CNS 105/106	2
BSAD 115 Comp Concepts – OR – BSAD 125	3
CONS 121 Masonry	3
CONS 155 Basic HVAC	3
CONS 290 Construction Internship	3
<b>TOTAL</b>	<b>14</b>

**TOTAL HOURS REQUIRED 63**

\*Prerequisite required

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Criminal Justice

The Criminal Justice Associate Degree Program is designed to provide the student with the legal, technical, and practical aspects of justice system. This degree will provide the student with opportunities for careers or continued education in criminal justice, corrections, juvenile justice, and government or private security operations.

### 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*	– OR – ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	111*	
MATH	104*	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
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>39 hours</b>
CJ	101	Introduction to Criminal Justice (3)
CJ	102	Crime Scene Processing (3)
CJ	103	Telecommunications (3)
CJ	150	Corrections Officer (3)
CJ	190	Patrol Operations (3)
CJ	210	Criminal Procedures (3)
CJ	220	Security Officer (3)
CJ	250	Criminal Law (3)
CJ	265	Ethics in Criminal Justice (3)
CJ	270	Drug Investigation (3)
CJ	275	The Juvenile Justice System (3)
CJ	280	Report Writing (3)
CJ	290	Police Supervision & Management (3)

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
CJ	101	Introduction to Criminal Justice	3
CJ	102	Crime Scene Processing	3
COLL	101	College Orientation	1
MATH	111	Coll Algebra – or – MATH 104	3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>16</b>

<b>Spring Semester</b>			<b>Hours</b>
CJ	103	Telecommunications	3
CJ	190	Patrol Operations	3
CJ	210	Criminal Procedures	3
CJ	280	Report Writing	3
Approved Written Communications Course			3
<b>TOTAL</b>			<b>15</b>

#### SECOND YEAR

<b>Fall Semester Hours</b>			
CJ	150	Corrections Officer	3
CJ	250	Criminal Law	3
CJ	275	The Juvenile Justice Sys	3
COMM	104	Fundamentals of Speech	3
HIST	106	– OR – PLSC 103,104	3
<b>TOTAL</b>			<b>15</b>

<b>Spring Semester</b>			<b>Hours</b>
BSAD	103	– OR – CNS 105/106	2
CJ	220	Security Officer	3
CJ	265	Ethics in Criminal Justice	3
CJ	270	Drug Investigation	4
CJ	290	Police Supervision & Mgmt	3
<b>TOTAL</b>			<b>14</b>

**TOTAL HOURS REQUIRED 60**

\*Prerequisite required

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Diesel Technology

Interesting and challenging career opportunities are offered by the transportation and agricultural industries in the area of diesel technology. Jobs available to graduates include technicians, equipment managers, mechanics, service center supervisors, parts personnel, and salesmen. Prepares students for ASE certification testing.

### 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*	– OR – ENGL 104*
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
BSAD	121*	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
PLSC	103*	
<b>Required Support Courses</b>		<b>4 hours</b>
BSAD	115	– OR – BSAD 125
CNS	106	
<b>Major Courses</b>		<b>44 hours</b>
DIES	124	Prevent Maintenance (4)
DIES	134	Diesel Hydraulics (4)
DIES	144	Diesel Engines I (4)
DIES	164	Diesel Brake Systems (4)
DIES	184	Electricity/Electronics (4)
DIES	204	Diesel Powertrains (4)
DIES	224	Diesel Steering & Suspension (4)
DIES	234	Air Conditioning (4)
DIES	244*	Internship (4)
DIES	284	Diesel Electrical/Electronics (4)
DIES	294*	Diesel Engines II (4)

### Suggested Plan of Study

Beginning in **EVEN YEAR\*\***

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
BSAD	121 Business Math	3
COLL	101 College Orientation	1
DIES	124 Preventive Maintenance	4
DIES	144 Engine Repair I	4
Approved Written Communications Course		3
<b>TOTAL</b>		<b>15</b>

<b>Spring Semester</b>		<b>Hours</b>
DIES	134 Hydraulics	4
DIES	224 Steering and Suspension	4
DIES	294 Engine Repair II	4
Approved Written Communications Course		3
<b>TOTAL</b>		<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
BSAD	115 Computer Concepts	
– OR – BSAD 125		3
COMM	104 Fundamentals of Speech	3
DIES	184 Electrical I	4
DIES	204 Power Trains	4
DIES	234 Air Conditioning	4
<b>TOTAL</b>		<b>18</b>

<b>Spring Semester</b>		<b>Hours</b>
CNS	106 Technical Career Development	1
DIES	164 Brakes	4
DIES	244 Diesel Internship	4
DIES	284 Electrical II	4
HIST	106 US History – OR – PLSC 103	3
<b>TOTAL</b>		<b>16</b>

**TOTAL HOURS REQUIRED 64**

\*Prerequisite required

\*\*Contact an advisor if starting in an odd year

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Drafting & Design Technology

The Drafting and Design program begins with basic drafting and progresses through advanced design and Computer Aided Drafting (CAD). During this study, the different fields of drafting that an employee may be exposed to are covered. Drafting fields such as Architectural Drafting, Welding, Electronics, Plumbing and Structural Drafting are included to give the student some exposure to different areas in the industry. Computer aided drafting is taught in conjunction with all drafting classes to give the student experience in drawing and plotting drawings with the computer.

### 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*	– OR – ENGL 104*
ENGL	203*	
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Humanities</b>		<b>3 hours</b>
ART	101	
ASL	101, 102*	
ENGL	109, 120, 125	
HIST	101*	
MUSC	101	
PHIL	101*, 110*, 121, 201*, 202*	
SPAN	101	
SWK	219	
TA	205	
<b>Mathematics</b>		<b>3 hours</b>
MATH	104*	
<b>Science</b>		<b>5 hours</b>
PHYS	101	
<b>Missouri Constitution</b>		<b>3 hours</b>
HIST	106*	
PLSC	103*, 104*	
<b>Required Technical Courses</b>		<b>30 hours</b>
BSAD	115 Computer Concepts (3)	– OR – BSAD 125
DRFT	101 Engineering Drawing (3)	
DRFT	103* Technical Drawing (3)	
DRFT	105 Architectural Drawing (3)	
DRFT	115 Basic CAD (3)	
DRFT	141* Assembly Drawings (3)	
DRFT	202* Machine Design (3)	
DRFT	203* Tool & Die Design (3)	
DRFT	205* Intermediate CAD (3)	
DRFT	280 Drafting and Design Internship (3)	
<b>Approved Electives</b>		<b>9 hours</b>
CNS	101 Intro to Electronics (3)	
DRFT	102 Descrip Geometry (3)	
DRFT	120* Basic Civil Drafting (3)	
DRFT	215* Advanced CAD (3)	
DRFT	220* Geometric Dimen Toler (3)	
WELD	113 Intro to Welding (3)	– OR – WELD 151
Other Electives Approved by Program Director		

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
DRFT 101 Intro to Engineering Drawing	3
DRFT 115 Basic CAD	3
DRFT 205 Intermediate CAD	3
MATH 104 Technical Math	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
DRFT 103 Technical Drawing	3
DRFT 105 Architectural Drawing	3
PHYS 101 Survey of Physical Science	5
Approved Elective	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
BSAD 115 Computer Concepts – OR – BSAD 125	3
COMM 104 Fundamentals of Speech	3
DRFT 141 Assembly Drawings	3
Approved Elective	3
Approved Humanities 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
DRFT 280 DRFT Internship	3
HIST 106 US History – OR – PLSC 103	3
Approved Elective	3
<b>TOTAL</b>	<b>15</b>

**TOTAL HOURS REQUIRED 63**

\*Prerequisite required

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Energy Efficient Building Technology: Alternative Technologies

The Energy Efficient Building Technology program prepares students for employment in the construction industry or in related occupations. The program is built around National Center for Construction Education and Research (NCCER) standards and is comprised of a core component covering basic employability skills, introductory carpentry, and green building practices coupled with specialty options of general construction, construction management, or alternative technologies. This Program of Study addresses the Alternative Technologies Option.

### 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* – OR – ENGL 104*	
ENGL 203*	
<b>Oral Communications: 3 hours</b>	
COMM 104*	
<b>Missouri Constitution</b>	<b>3 hours</b>
HIST 106*	
PLSC 103*	
<b>Common Support Courses</b>	<b>8 hours</b>
BSAD 115 – OR – BSAD 125	
BSAD 103	
DRFT 105	
<b>Mathematics</b>	<b>3 hours</b>
MATH 111* College Algebra (3)	
<b>Common Construction Courses</b>	<b>15 hours</b>
CONS 103* Sustainable Building Fundamentals (3)	
CONS 105 Introduction to Construction Technology (3)	
CONS 112* Carpentry Fundamentals (3)	
CONS 116* Framing and Finishing (3)	
CONS 290* Construction Internship (3)	
<b>Alternative Technologies Courses</b>	<b>24 hours</b>
<b>Required Courses: 24 hours</b>	
AMT 102* Intro to Industrial Electricity (3)	
CONS 155* Basic HVAC (3)	
CONS 232 Site Layout (3)	
CONS 243* Project Supervision (3)	
CONS 264* Geothermal Heat Pump Systems (3)	
CONS 265* Alternative Energy Technologies (3)	
CONS 268* Energy Usage Auditing (3)	
<b>Electives: Choose 3 hours</b>	
CONS 131 Plumbing (3)	
CONS 141* Electrical I (3)	
CONS 174* Carpentry Forms (3)	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>	<b>Hours</b>
COLL 101 College Orientation	1
COMM 104 Fundamentals of Speech	3
CONS 103 Sustainable Bldg Fundamentals	3
CONS 105 Intro to Construction Technology	3
MATH 111 College Algebra – OR – Math 104	3
Approved Written Communications Course	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
AMT 102 Introduction to Industrial Electricity	3
BSAD 115 Comp Concepts – OR – BSAD 125	3
CONS 112 Carpentry Fundamentals	3
CONS 116 Framing and Finishing	3
DRFT 105 Architectural Drafting	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
CONS 232 Site Layout	3
CONS 265 Alternative Energy Technologies	3
HIST 106 US History – OR – PLSC 103	3
Approved Elective	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
CONS 155 Basic HVAC	3
CONS 243 Project Supervision	3
CONS 264 Geothermal Heat Pump Sys	3
CONS 268 Energy Usage Auditing	3
CONS 290 Construction Internship	3
<b>TOTAL</b>	<b>17</b>

**TOTAL HOURS REQUIRED 63**

\*Prerequisite required

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Fire Science

The Fire Science Program at Crowder College-Webb City prepares the student to enter an exciting career as a firefighter. The degree offers the opportunity for current firefighters to prepare themselves as supervisors and leaders in their own departments. It also prepares students who wish to begin a career in fire fighting.

### 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 203*	
<b>Oral Communications (3 hours)</b>	
COMM 104*	
<b>Mathematics</b>	<b>3 hours</b>
MATH 111*	
BSAD 121*	
<b>Science</b>	<b>5 hours</b>
CHEM 101, 111*	
BIOL 101, 152*	
<b>Missouri Constitution</b>	<b>3 hours</b>
HIST 106*	
PLSC 103*, 104*	
<b>Required Fire Science Courses**</b>	<b>30 hours</b>
FSCI 102* Bldg Construction Related to F/S (3)	
FSCI 107 Fire Service Hydraulics & Pump Ops (3)	
FSCI 108 Fire Protection System (3)	
FSCI 109 Legal Aspects of Emer Services (3)	
FSCI 205* Tactics & Strategies (3)	
FSCI 208* The Company Officer (3)	
FSCI 210* Fire Service Instructor (3)	
FSCI 212 Occup Safe/Health FS (3)	
FSCI 111 Firefighter I & II (6)	
<b>OR</b> Current FF I & II state certification	
<b>Approved Electives</b>	<b>15 hours</b>
EMT 101 Emergency Med Tech (9)	
FSCI 103* Fire Investigation (3)	
FSCI 202 Hazardous Materials (3)	
FSCI 207* Fire Prevention/Code Enforcement (3)	
FSCI 263 Problems in FS (Internship) (3)	

### 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
FSCI 111 Fire Fighter I & II	6
MATH 111 College Algebra	3
<b>TOTAL</b>	<b>16</b>

<b>Spring Semester</b>	<b>Hours</b>
EMT 101 Emergency Medical Tech	9
FSCI 102 Building Construction	3
FSCI 109 Legal Aspects of Emer Services	3
<b>TOTAL</b>	<b>15</b>

#### SECOND YEAR

<b>Fall Semester</b>	<b>Hours</b>
FSCI 107 Fire Service Hydraulics & Fire Pump Op	3
FSCI 108 Fire Protection Systems	3
FSCI 208 The Company Officer	3
Approved Science Course	5
Approved Fire Science Elective	3
<b>TOTAL</b>	<b>17</b>

<b>Spring Semester</b>	<b>Hours</b>
ENGL 203 Technical Report Writing	3
FSCI 205 Tactics & Strategies	3
FSCI 210 Fire Service Instructor	3
FSCI 212 Occ Safety & Health for the Fire Service	3
HIST 106 US History – OR – PLSC 103, 104	3
Approved Fire Science Elective	3
<b>TOTAL</b>	<b>18</b>

**TOTAL HOURS REQUIRED 66**

\*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.

**\*\*Completion of FSCI 111 or FF I & II state certification is required before enrollment in any other Fire Science course.**

# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Health Care Specialist

This AAS degree provides students with the broad range of health, science, and office skills helpful for initial placement and career advancement in front and back office positions in a wide range of medical facilities such as in hospitals, doctor offices, veterinary clinics, pharmacies, and long-term and in-home care facilities.

### 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*	OR	ENGL 104*
ENGL	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
BSAD	121*		
MATH	111*		
<b>Missouri Constitution</b>		<b>3 hours</b>	
PLSC	103*		
HIST	106*		
<b>Biological Sciences</b>		<b>5 hours</b>	
BIOL	101		
BIOL	152		
<b>Chemistry</b>		<b>5 hours</b>	
CHEM	104		
<b>Health Sciences</b>		<b>40 hours</b>	
BIOL	252* (5)	EMT	101* (9)
CNA	101 (5)	EMR	101* (3)
CNA	102 (2)	OTA	199 (1)
CNA	103 (3)	PE	115 (2)
CNA	104 (1)	PE	142 (3)
CNA	106 (3)	PHAR	101* (3)
CNA	107 (3)	PHAR	102* (3)
CNA	110* (2)	PHAR	110 (3)
CNA	111* (1)	PHAR	150 (3)
CNA	120* (4)	PSYC	101 (3)
CNA	130 (3)		

\*Prerequisite requirement

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>		<b>Hours</b>
BIOL	101 Gen Biology – OR – BIOL 151	5
BSAD	121 Business Math	3
COLL	101 College Orientation	1
COMM	104 Fundamentals of Speech	3
ENGL	101 English Composition I	3
Approved Health Science Courses		2
<b>TOTAL</b>		<b>17</b>

<b>Spring Semester</b>		<b>Hours</b>
PLSC	103 – OR – HIST 106	3
CHEM	104 Chemistry for Health Sciences	5
Approved Health Science Courses		6
Approved Written Communication		3
<b>TOTAL</b>		<b>17</b>

#### SECOND YEAR

<b>Fall Semester</b>		<b>Hours</b>
Approved Health Science Courses		16
<b>TOTAL</b>		<b>16</b>

<b>Spring Semester</b>		<b>Hours</b>
Approved Health Science Courses		16
<b>TOTAL</b>		<b>16</b>

**TOTAL HOURS REQUIRED 63**

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Management

This program is designed to help students develop the business prowess and managerial “know-how” to become valuable assets to any company. Crowder’s Associate of Applied Science in Management degree offers specialized instruction in accounting 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 for this test.

### 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	203*		
<b>Oral Communications (3 hours)</b>			
COMM	104*		
<b>Mathematics</b>		<b>3 hours</b>	
BSAD	121*		
<b>Missouri Constitution</b>		<b>3 hours</b>	
HIST	106*		
PLSC	103*, 104*		
<b>Business Core</b>		<b>13 hours</b>	
BMGT	223 (3)		
BMGT	290 (2)		
BSAD	103 (2)		
BSAD	125 (3)		
BSAD	130* (3)		
<b>Management Core</b>		<b>33 hours</b>	
ACCT	201 (3)	BSAD	150 (3)
ACCT	202* (3)	BSAD	218* (3)
BMGT	175 (3)	BSAD	230 (3)
BMGT	200 (3)	ECON	201 (3)
BMGT	285* (3)	OA	115 (3)
BSAD	108 (3)		

\*Prerequisite requirement

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
BMGT	223	Business Ethics	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	Spreadsheets	3
BSAD	230	Business Law	3
COMM	104	Fundamentals of Speech	3
ENGL	203	Technical Report Writing	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
BSAD	108	Personal Finance	3
OA	115	Customer Service	3
PLSC	103	– OR – HIST 106	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 Economics I	3
<b>TOTAL</b>			<b>16</b>

**TOTAL HOURS REQUIRED 62**

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Medical Administrative Assistant

The medical profession is rapidly changing, and with these changes comes the need for highly skilled support personnel. Crowder's Associate of Applied Science Medical Administrative Assistant degree is designed to prepare individuals for employment as office support staff and medical transcriptionists in a variety of health care settings including private medical practices, hospitals, clinics, public health departments, government agencies, or insurance firms. Students develop important career skills in typing/transcription, document filing/processing, medical billing and coding, medical records handling, and medical office procedures. It provides training for both first-time job seekers and experienced employees who wish to advance in their careers.

\*All students pursuing this degree must take and pass the approved Technical Skills Assessment (TSA) prior to graduating. A fee will be charged for this test.

### 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* – OR – ENGL 104*	
ENGL 203*	
<b>Oral Communications (3 hours)</b>	
COMM 104*	
<b>Mathematics</b>	<b>3 hours</b>
BSAD 121*	
<b>Missouri Constitution</b>	<b>3 hours</b>
HIST 106*	
PLSC 103*, 104*	
<b>Business Core</b>	<b>13 hours</b>
BMGT 223 Business Ethics (3)	
BSAD 103 Professional Development (2)	
BSAD 125 Computer Applications (3)	
BSAD 130* Business Communications (3)	
OA 233 Medical Office Internship (2)	
<b>Medical Assistant Core</b>	<b>30 hours</b>
ACCT 101 Practical Accounting (3) – OR – ACCT 201	
BSAD 219* Database Management (3)	
HIT 220* ICD Coding (3)	
HIT 230* CPT Coding (3)	
OA 102 Filing Systems & Records Mgmt (3)	
OA 107 College Keyboarding (3)	
OA 115 Customer Service (3)	
OA 200* Word Processing (3)	
OA 212 Med Office Procedures (3)	
OA 215 Medical Terminology (3)	
<b>Electives</b>	<b>3 hours</b>
Electives can be taken from ACCT, BSAD, BMGT, OA, or ECON	

\*Prerequisite requirement

### Suggested Plan of Study

FIRST YEAR			
Fall Semester			Hours
BMGT 223	Business Ethics		3
BSAD 121	Business Math		3
COLL 101	College Orientation		1
COMM 104	Fundamentals of Speech		3
ENGL 101	Composition		3
OA 107	College Keyboarding (Fall only)		3
<b>TOTAL</b>			<b>16</b>
Spring Semester			Hours
ACCT 101	Pract Acctg – OR – ACCT 201		3
BSAD 125	Computer Applications		3
ENGL 102	– OR – ENGL 104 – OR – 203		3
HIST 106	US History – OR – PLSC 103,104		3
OA 102	Filing Sys & Recs Mgmt (Spring only)		3
<b>TOTAL</b>			<b>15</b>
SECOND YEAR			
Fall Semester			Hours
BSAD 130	Business Communications		3
BSAD 219	Database Management (Fall only)		3
OA 115	Customer Service		3
OA 200	Word Processing (Fall only)		3
OA 215	Medical Terminology		3
<b>TOTAL</b>			<b>15</b>
Spring Semester			Hours
BSAD 103	Professional Development		2
HIT 220	ICD Coding (Spring only)		3
HIT 230	CPT Coding (Spring only)		3
OA 212	Med Office Procedures (Spring only)		3
OA 233	Medical Office Internship		2
Approved Business Elective			3
<b>TOTAL</b>			<b>16</b>
<b>TOTAL HOURS REQUIRED</b>			<b>62</b>

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Paramedical Science

The Paramedical Science degree is designed for the professional paramedic positions in Emergency Medical Services. The accompanying certificate is designed to be offered over two semesters. This program prepares graduates to sit for the Paramedic certification exam. EMT licensure and admission to the program are prerequisites for this degree.

Candidate must earn 65 credit hours in order to successfully complete the requirements of this degree.

### 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*, 203*	OR ENGL 104*
<b>Oral Communications (3 hours)</b>		
COMM	104*	
<b>Mathematics</b>		<b>3 hours</b>
MATH	111*	
<b>Missouri Constitution</b>		<b>3 hours</b>
PLSC	103*, 104*	
HIST	106*	
<b>Science</b>		<b>10 hours</b>
BIOL	101, 152*	
CHEM	101	
CHEM	104 (Recommended)	
<b>Paramedic Courses</b>		<b>36 hours</b>
EMTP	201* (18)	
EMTP	202* (18)	
<b>Office Administration Courses</b>		<b>3 hours</b>
OA	215 (3)	

### Suggested Plan of Study

#### FIRST YEAR

<b>Fall Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
ENGL	101	English Composition I	3
MATH	111	College Algebra	3
BIOL	101	– OR – BIOL 152	5
OA	215	Medical Terminology	3
<b>TOTAL</b>			<b>15</b>
<b>Spring Semester</b>			<b>Hours</b>
ENGL	102	– OR – ENGL 203	3
CHEM	104	Chemistry for Health Sciences	5
COMM	104	Fundamentals of Speech	3
HIST	106	– OR – PLSC 103, 104	3
<b>TOTAL</b>			<b>14</b>

#### SECOND YEAR

<b>Fall Semester</b>			<b>Hours</b>
EMTP	201	Paramedic I	18
<b>TOTAL</b>			<b>18</b>
<b>Spring Semester</b>			<b>Hours</b>
EMTP	202	Paramedic II	18
<b>TOTAL</b>			<b>18</b>
<b>TOTAL HOURS REQUIRED</b>			<b>65</b>

\*Prerequisite requirement

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# ASSOCIATE OF APPLIED SCIENCE DEGREE

## Veterinary Technology

The Crowder College Veterinary Technology Program is a 78 credit hour program which is fully accredited by the American Veterinary Medical Association (AVMA) and prepares students for careers as veterinary technicians. This is a selective admission program. Applications are accepted in April for the class which begins the following August. An ACT test result must accompany the application. Students must complete a minimum of BIOL 101 or BIOL 110, 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	111*			
<b>Missouri Constitution</b>			<b>3 hours</b>	
PLSC	103*, 104*	OR	HIST	106*
<b>Science</b>			<b>15 hours</b>	
BIOL	101 (5)	OR	BIOL	110* (5)
BIOL	220* (5)			
CHEM	104 (5)	OR	CHEM	101, 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)
<b>Total Hourly Requirement</b>			<b>78 hours</b>	

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 111.

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### 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 111	College Algebra	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	5
ENGL 101	English Composition I	3
<b>TOTAL</b>		<b>13</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
HIST 106	– OR – PLSC 103	3
VETC 120	Veterinary Hospital Technology I	3
VETC 130	Clinical Pathology I	3
VETC 285	Vet Tech Clinical Experience I	1
<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 78**

\*Prerequisite requirement

# CERTIFICATES OF STUDY

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.

**Students interested in enrolling in technology classes should be advised through the Crowder Technical Education Center (CTEC). After advisement, the student should be enrolled through the CTEC personnel. For additional information, please contact 417-455-5596.**

## CERTIFICATE

### Active Solar Technician

This certificate provides students with a unique applied foundation in solar technologies and applications. The program emphasizes learning through coursework and applied research projects. The certificate allows students to move directly into the alternative energy workforce installing solar hardware and systems. Students are required to take the entry level NABCEP Solar PV exam given as part of the ENER 260 course. Students must also report their score to the College for completion of this degree program.

Students must earn 23 hours for this certificate.

#### Program of Study

<b>Orientation</b>			<b>1 hour</b>
COLL	101	College Orientation	(1)
<b>Major courses</b>			<b>22 hours</b>
AMT	112	Occupational Safety	(3)
CONS	131	Plumbing*	(3)
CONS	141	Electrical*	(3)
ENER	105	Intro to Energy	(3)
ENER	250	Solar Thermal Systems*	(3)
ENER	251	Solar Thermal Systems Lab*	(2)
ENER	260	Solar Electric Energy*	(3)
ENER	261	Solar Electric Energy Lab*	(2)

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
ENER	105	Introduction to Energy	3
CONS	131	Plumbing	3
CONS	141	Electrical	3
AMT	112	Occupational Safety	3
<b>TOTAL</b>			<b>13</b>
<b>Second Semester</b>			<b>Hours</b>
ENER	250	Solar Thermal Systems	3
ENER	251	Solar Thermal Systems Lab	2
ENER	260	Solar Electric Energy	3
ENER	261	Solar Electric Energy Lab	2
<b>TOTAL</b>			<b>10</b>
<b>TOTAL HOURS REQUIRED</b>			<b>23</b>

## CERTIFICATE

### Advanced Manufacturing Technology: Welding Certificate (Pipe & Plate)

The Pipe & Plate Certificate prepares students for employment as entry level welders using Electric Arc and Pipe & Plate 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.

#### Program of Study

<b>Orientation</b>			<b>1 hour</b>
COLL	101		
<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*	Welding Lab IV Pipe/Plate	(4)

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
WELD	115	Blue Print Reading	2
WELD	151	Welding Theory I	2
WELD	153	Welding Lab I	5
WELD	152	Welding Theory II	2
WELD	154	Welding Lab II	5
<b>TOTAL</b>			<b>17</b>
<b>Second Semester</b>			<b>Hours</b>
WELD	201	Welding Theory III	2
WELD	202	Welding Theory IV	2
WELD	211	Welding Lab III	7
WELD	212	Welding Lab IV (Pipe & Plate)	4
<b>TOTAL</b>			<b>15</b>
<b>TOTAL HOURS REQUIRED</b>			<b>32</b>

## CERTIFICATE

### Advanced Manufacturing Technology: Welding Certificate (Pipe & Plate & Fabrication)

The Pipe & Plate & Fabrication Certificate prepares 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. Students will learn a technical understanding of advanced cutting operations including Numerical Control (NC) programming, and robotic controls.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Major Courses</b>		<b>49 hours</b>
BSAD	103	Professional Development (2)
BSAD	115	Basic Computer Concepts (3)
DRFT	115	Basic Computer Aided Drafting (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*	Welding Lab V Fabrication (4)
WELD	216*	Welding Lab IV Pipe/Plate (4)

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
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
<b>TOTAL</b>		<b>17</b>

<b>Second Semester</b>		<b>Hours</b>
DRFT	115 Basic Computer Aided Drafting	3
WELD	201 Welding Theory III	2
WELD	202 Welding Theory IV	2
WELD	211 Welding Lab III	7
WELD	216 Welding Lab IV (Pipe & Plate)	4
<b>TOTAL</b>		<b>18</b>

<b>Third Semester</b>		<b>Hours</b>
BSAD	115 Basic Computer Concepts	3
BSAD	106 Professional Development	2
WELD	124 Fabrication Methods I	2
WELD	135 Basic Metallurgy	2
WELD	140 Fabrication Methods II	2
WELD	213 Welding Lab V (Fabrication)	4
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 50**

## CERTIFICATE

### Autism Assistant Certificate

This certificate program prepares students to work one-on-one in an educational or health care setting with individuals diagnosed with Autism and/or developmental disabilities. Emphasis will be placed on Applied Behavior Analysis (ABA) theories and techniques. Students must complete the required 19 credit hours of courses. Upon completion of the certificate, students may continue and pursue an AA in Child Development, AA in Psychology, AA in General Studies or an AA in Teaching Degree. Students are required to successfully complete a portfolio in PSYC 290 to complete this certificate program.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	College Orientation
<b>Major Courses</b>		<b>18 hours</b>
EDUC	230*	Educational Psychology (3)
PSYC	101	General Psychology (3)
PSYC	203	Autism Spectrum Disorders (3)
PSYC	204	Applied Behavior Analysis for Educators (3)
PSYC	210*	Child Psychology (3)
PSYC	290*	Clinical I-Supervised Field Experience (3)

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
PSYC	101 General Psychology	3
PSYC	203 Autism Spectrum Disorder	3
PSYC	204 ABA for Educators	3
<b>TOTAL</b>		<b>10</b>

<b>Second Semester</b>		<b>Hours</b>
EDUC	230 Educational Psychology	3
PSYC	210 Child Psychology	3
PSYC	290 Clinical I-Supervised Field Exp	3
<b>TOTAL</b>		<b>9</b>

**TOTAL HOURS REQUIRED 19**

## CERTIFICATE

### Automation/Robotics Technician Certificate

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.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Mathematics</b>		<b>3 hours</b>
MATH	111*	
MATH	104*	
<b>Major Courses</b>		<b>24 hours</b>
AMT	102	Introduction to Industrial Electricity (3)
AMT	104*	Electrical Motor Controls (3)
AMT	182*	Introduction to Automated Robotics (3)
AMT	204*	Programmable Logic Controllers I (3)
AMT	206*	Programmable Logic Controllers II (3)
AMT	284*	Automated Robotic Programming (3)
CNS	101	Introduction to Electronics (3)
AMT	132	Industrial Hydraulics (3)

\*Prerequisite requirement

#### Suggested Plan of Study

<i><b>First Semester</b></i>			<i><b>Hours</b></i>
AMT	102	Intro to Industrial Electricity	3
AMT	104	Electrical Motor Control	3
AMT	132	Industrial Hydraulics	3
CNS	101	Intro to Electronics	3
COLL	101	College Orientation	1
MATH	111	College Algebra	3
<b>TOTAL</b>			<b>16</b>
<i><b>Second Semester</b></i>			<i><b>Hours</b></i>
AMT	182	Intro to Automated Robotics	3
AMT	204	Programmable Logic Controllers I	3
AMT	206	Programmable Logic Controllers II	3
AMT	284	Automated Robotic Programming	3
<b>TOTAL</b>			<b>12</b>
<b>TOTAL HOURS REQUIRED</b>			<b>28</b>

## CERTIFICATE

### Automotive Technology

The Automotive Technology Professional Certificate is aimed at the student who has no requirement for a college degree. The program is designed to give the student a working knowledge and the entry-level skills required to earn a living in this competitive field. Students must complete a total of 46 hours for the certificate. The additional certificates are in addition to the academic certificate.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Major Courses</b>		<b>45 hours</b>
AUTO	114	Auto Fuel Systems (4)
AUTO	115	Engine Repair (5)
AUTO	124	Auto Brake Systems (4)
AUTO	125	Auto Electrical Systems (5)
AUTO	214	Auto Air Conditioning (4)
AUTO	215	Auto Emission Cont Sys (5)
AUTO	223	Auto Power Train Sys (3)
AUTO	224	Computer Engine Cont (4)
AUTO	225	Auto Suspension and Steering (5)
BSAD	115	Computer Concepts (3) – OR – BSAD 125
BSAD	150	Intro to Business (3)

\*Prerequisite requirement

#### Suggested Plan of Study

FIRST YEAR		
<i>Fall Semester</i>		<i>Hours</i>
COLL	101 College Orientation	1
BSAD	150 Intro to Business	3
AUTO	114 Fuel Systems	4
AUTO	115 Engine Repair	5
TOTAL		13
<i>Spring Semester</i>		<i>Hours</i>
BSAD	115 Comp Concepts – OR – BSAD 125	3
AUTO	124 Brakes	4
AUTO	125 Electrical Systems	5
TOTAL		12
SECOND YEAR		
<i>Fall Semester</i>		<i>Hours</i>
AUTO	214 Air Conditioning	4
AUTO	215 Emission Control Systems	5
TOTAL		9
<i>Spring Semester</i>		<i>Hours</i>
AUTO	223 Power Trains	3
AUTO	224 Computer Engine Control	4
AUTO	225 Suspension and Steering	5
TOTAL		12
TOTAL HOURS REQUIRED		46

## CERTIFICATE

### Certified Medical Assistant Certificate

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>Orientation</b>	<b>1 hour</b>
COLL 101	
<b>Certified Nurse Assistant</b>	<b>3 hours</b>
CNA 106 Phlebotomy	
<b>Major Courses</b>	<b>29 hours</b>
MEDA 101 Introduction to Medical Assisting (3)	
MEDA 102* Mathematical 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)	

\*Prerequisite requirement

#### Suggested Plan of Study

FIRST YEAR			Hours
<i>Fall Semester</i>			
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>
<i>Spring Semester</i>			
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>TOTAL HOURS REQUIRED</b>			<b>33</b>

## CERTIFICATE

### Certified Nurse Assistant Specialist Certificate

This certificate program prepares students for employment as a Certified Nurse Assistant with medical skills helpful for initial placement in health care settings such as a hospital, clinic, long term care facility or home health; and students have a career path into the Health Care Specialist AAS. Must be 18 years of age and have a high school diploma.

#### Program of Study

<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 Experience (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 Assistant <b>AND</b> CNA 111 Restorative Nurse Assistant Clinical (3)	
EMR 101 Emergency Medical Responder (3)	
OA 215 Medical Terminology (3)	
<b>Certification Component</b>	
Passing the Missouri certification exam is NOT a requirement for obtaining this certificate from Crowder College; however, the exam must be taken as part of the program. Most medical facilities require Missouri certification for employment so the intent of the program and the student is to pass the certification exam.	

#### Suggested Plan of Study

First Semester			Hours
COLL	101	College Orientation	1
CNA	101	CNA Techniques	5
CNA	102	CNA Clinical Experience	2
<b>TOTAL</b>			<b>8</b>
<b>Must also complete 9 Credit Hours from the following:</b>			
CNA	103	Home Health Aide &	
CNA	104	Home Health Aide Clinical	4
CNA	106	Phlebotomy	3
CNA	107	EKG	3
CNA	110	Restorative Nurse Assistant &	
CNA	111	Restorative Nurse Clinical	3
EMR	101	Emergency Medical Responder	3
OA	215	Medical Terminology	3
<b>TOTAL HOURS REQUIRED</b>			<b>17 or 18</b>

\*Prerequisite requirement

## CERTIFICATE

### Cisco Networking Certificate

This certificate provides an opportunity for students not wishing to complete a full two-year program in computer and network support to acquire the basic computer networking infrastructure skills required for entry-level employment in the information technology/services area. Successful graduates will be able to utilize industry terminology, setup/maintain infrastructure components of both local and wide-area computer networks, and recognize/mitigate common network security threats. The program is built around four basic internetworking courses provided online by Cisco Services and taught in Crowder's classroom by a Cisco-certified instructor. Students successfully completing the program will be qualified to complete and pass Cisco's CCNA (Certified Cisco Network Administrator) exam, although neither taking nor passing the CCNA exam is a formal requirement for obtaining the certificate.

Students must earn a minimum of 19 hours for this certificate.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Required</b>		<b>18 hours</b>
CNS	101	Introduction to Electronics (3)
CNS	111*	PC Basics (3)
CNS	115*	Cisco I (3)
CNS	116*	Cisco II (3)
CNS	217*	Cisco III (3)
CNS	218*	Cisco IV (3)

\*Prerequisite requirement

#### Suggested Plan of Study

<i><b>First Semester</b></i>			<i><b>Hours</b></i>
COLL	101	College Orientation	1
CNS	101	Introduction to Electronics	3
CNS	111	PC Basics I	3
CNS	115	Cisco Networking I	3
CNS	116	Cisco Networking II	3
<b>TOTAL</b>			<b>13</b>
<i><b>Second Semester</b></i>			<i><b>Hours</b></i>
CNS	217	Cisco Networking III	3
CNS	218	Cisco Networking IV	3
<b>TOTAL</b>			<b>6</b>
<b>TOTAL HOURS REQUIRED</b>			<b>19</b>

## CERTIFICATE

### Collision Repair I Technician Certificate

This certificate program trains graduates for entry-level employment in basic collision repair. Applicants must complete Crowder's standard entrance examination to determine placement in all courses having prerequisite requirements.

#### Program of Study

<b>Orientation:</b>		<b>1 hour</b>
COLL	101	
<b>Collision Repair Core Courses</b>		<b>19 hours</b>
CLRP	102	Auto Body Const & Sheet Metal (3)
CLRP	104	Auto Body Plastics & Composites (3)
CLRP	202	Auto Body Welding & Struct Straight (3)
CLRP	204	Auto Body Painting & Refinishing (3)
WELD	151*	Welding Theory I (2) – OR – WELD 113
WELD	153*	Welding Lab I (5) – OR – WELD 145*

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
CLRP	102	AB Const & Sheet Metal	3
CLRP	104	AB Plastics & Composites	3
WELD	151	Welding Theory I	2
WELD	153	Welding Lab I	5
<b>TOTAL</b>			<b>14</b>
<b>Second Semester</b>			<b>Hours</b>
CLRP	202	AB Welding & Struct Straightening	3
CLRP	204	AB Painting & Refinishing	3
<b>TOTAL</b>			<b>6</b>
<b>TOTAL HOURS REQUIRED</b>			<b>20</b>

## CERTIFICATE

### Collision Repair II Technician Certificate

This certificate program trains graduates for entry-level employment in automotive collision repair. Applicants must complete Crowder's standard entrance examination to determine placement in all courses having prerequisite requirements.

#### Program of Study

<b>Orientation:</b>		<b>1 hour</b>
COLL	101	
<b>Collision Repair Core Courses</b>		<b>28 hours</b>
CLRP	102	Auto Body Const & Sheet Metal (3)
CLRP	104	Auto Body Plastics & Composites (3)
CLRP	202	Auto Body Welding & Struct Straight (3)
CLRP	204	Auto Body Painting & Refinishing (3)
WELD	151*	Welding Theory I (2) – OR – WELD 113
WELD	153*	Welding Lab I (5) – OR – WELD 145*
AUTO	214	Automotive Air Conditioning (4)
AUTO	225	Automotive Steering/Suspension (5)

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
AUTO	214 Automotive Air Conditioning*	4
COLL	101 College Orientation	1
CLRP	102 AB Const & Sheet Metal	3
CLRP	104 AB Plastics & Composites	3
WELD	151 Welding Theory I	2
WELD	153 Welding Lab I	5
<b>TOTAL</b>		<b>18</b>
<b>Second Semester</b>		<b>Hours</b>
AUTO	225 Auto Steering & Suspension	5
CLRP	202 AB Welding & Struct Straightening	3
CLRP	204 AB Painting & Refinishing	3
<b>TOTAL</b>		<b>11</b>
<b>TOTAL HOURS REQUIRED</b>		<b>29</b>

## CERTIFICATE

### Computer Aided Drafting (CAD) Technician

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>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Support Courses</b>		<b>3 hours</b>
BSAD	125	Computer Applications (3)
<b>Specialty Electives</b>		<b>17 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* (2)
DRFT	205	Intermediate Computer Aided Drafting* (3)
DRFT	215	Advanced Computer Aided Drafting* (3)

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
DRFT	101 Intro to Eng Drawing & Print Reading	3
DRFT	115 Basic Computer Aided Drafting	3
DRFT	103 Technical Drawing	3
<b>TOTAL</b>		<b>10</b>
<b>Second Semester</b>		<b>Hours</b>
BSAD	125 Computer Applications	3
DRFT	141 Assembly Drawings	2
DRFT	205 Intermediate CAD	3
DRFT	215 Advanced CAD	3
<b>TOTAL</b>		<b>11</b>
<b>TOTAL HOURS REQUIRED</b>		<b>21</b>

## CERTIFICATE

### Construction Technology

This certificate prepares students for entry-level employment in the construction industry with a skill set that will include construction safety, common hand/power tools, and basic carpentry, with additional specialty courses in framing/finishing, plumbing, residential wiring, or masonry. All courses are approved by NCCER (National Council for Construction Education and Research) and students will receive NCCER registration in each program module successfully completed.

Students must earn a minimum\* of 16 hours for this certificate.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Major Courses</b>		<b>9 hours</b>
CONS	105	Introduction to Construction Technology (3)
CONS	112	Carpentry Fundamentals (3)
CONS	116*	Framing & Finishing (3)
<b>Specialty Electives</b>		<b>6 hours</b>
CONS	121	Masonry (3)
CONS	131	Plumbing (3)
CONS	141*	Electrical (3)

\*Prerequisite requirement

#### Suggested Plan of Study

<i><b>First Semester</b></i>			<i><b>Hours</b></i>
COLL	101	College Orientation	1
CONS	105	Intro to Construction Technology	3
CONS	131	Plumbing	3
CONS	141	Electrical	3
<b>TOTAL</b>			<b>10</b>
<i><b>Second Semester</b></i>			<i><b>Hours</b></i>
CONS	112	Carpentry Fundamentals	3
CONS	116	Framing and Finishing	3
<b>TOTAL</b>			<b>6</b>
<b>TOTAL HOURS REQUIRED</b>			<b>16</b>

## CERTIFICATE

### Criminal Justice

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>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Major Courses</b>		<b>21 hours</b>
CJ	101	Introduction to Criminal Justice (3)
CJ	102	Crime Scene Processing (3)
CJ	190	Patrol Operations (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>3 hours</b>
CJ	270	Drug Investigation (3)
CJ	275	The Juvenile Justice System (3)
CJ	290	Police Supervision and Management (3)

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>			<b>Hours</b>
COLL	101	College Orientation	1
CJ	101	Introduction to Criminal Justice	3
CJ	102	Crime Scene Processing	3
CJ	210	Criminal Procedures	3
CJ	250	Criminal Law	3
<b>TOTAL</b>			<b>13</b>
<b>Second Semester</b>			<b>Hours</b>
CJ	190	Patrol Operations	3
CJ	265	Ethics in Criminal Justice	3
CJ	280	Report Writing	3
Elective Course			3
<b>TOTAL</b>			<b>12</b>
<b>TOTAL HOURS REQUIRED</b>			<b>25</b>

## CERTIFICATE

### Diesel Technology

Interesting and challenging career opportunities are offered by the transportation and agricultural industries in the area of diesel technology. Jobs available to graduates include technicians, equipment managers, mechanics, service center supervisors, parts personnel, and salesmen.

Students must complete 48 hours for the Diesel Technology certificate.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Major Courses</b>		<b>44 hours</b>
DIES	124	Prevent Maintenance (4)
DIES	134	Diesel Hydraulics (4)
DIES	144	Diesel Engines I (4)
DIES	164	Diesel Brake Systems (4)
DIES	184	Electricity/Electronics (4)
DIES	204	Diesel Powertrains (4)
DIES	224	Diesel Steering & Suspension (4)
DIES	234	Air Conditioning (4)
DIES	244*	Internship (4)
DIES	284	Diesel Electrical/Electronics (4)
DIES	294*	Diesel Engines II (4)
<b>Elective</b>		<b>3 hours</b>
BSAD	115	Computer Concepts (3) – OR – BSAD 125

\*Prerequisite requirement

#### Suggested Plan of Study

FIRST YEAR		Hours
<b>Fall Semester</b>		
BSAD	115 Comp Concepts – OR – BSAD 125	3
COLL	101 College Orientation	1
DIES	184 Electrical I	4
DIES	204 Power Trains	4
<b>TOTAL</b>		<b>12</b>
<b>Spring Semester</b>		
DIES	134 Hydraulics	4
DIES	164 Brakes	4
DIES	284 Electrical II	4
<b>TOTAL</b>		<b>12</b>
SECOND YEAR		Hours
<b>Fall Semester</b>		
DIES	124 Preventive Maintenance	4
DIES	144 Engine Repair I	4
DIES	234 Air Conditioning	4
<b>TOTAL</b>		<b>12</b>
<b>Spring Semester</b>		
DIES	224 Steering and Suspension	4
DIES	244 Diesel Internship	4
DIES	294 Engine Repair II	4
<b>TOTAL</b>		<b>12</b>
<b>TOTAL HOURS REQUIRED</b>		<b>48</b>

## CERTIFICATE

### Electric Arc Welding Certificate

This certificate program prepares students for employment as entry-level welders using any one or all of the three basic types of Electric Arc Welding Technology: Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW) and/or Shielded Metal Arc Welding (SMAW). Students successfully completing this certificate program will be able to perform basic GMAW, GTAW, and SMAW tasks, read/interpret blueprints, complete basic math calculations, demonstrate basic computer/Internet skills, and communicate effectively.

#### Suggested Plan of Study

#### 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

First Semester		Hours
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>
Second Semester		Hours
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

### Industrial Maintenance Technician

This certificate prepares students to enter a career in industrial maintenance with a skill set that will provide entry level knowledge of basic construction, welding, print reading, and industrial electricity. The electrical courses will include the use of electrical testing devices, troubleshooting techniques, and programmable logic controllers.

Students must earn a minimum\* of 26 hours for this certificate.

#### Program of Study

<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	104* Electrical Motor Control (3)	
AMT	111 Introduction to Industrial Safety (1)	
AMT	204* Programmable Logic Controllers I (3)	
<b>Support Courses</b>		<b>8-9 hours</b>
BSAD	115 Computer Concepts (3) – OR – BSAD 125	
DRFT	101 Introduction to Engineering Drawing (3)	
WELD	151 Welding Theory I (2) – OR – WELD 113	
<b>Approved Electives</b>		<b>6 hours</b>
AMT	122 Basic Machining (3)	
AMT	132* Industrial Hydraulics (3)	
AMT	142* Mechanical Power Transmission (3)	
AMT	206* Programmable Logic Controllers II (3)	
CONS	131 Plumbing (3)	
CONS	155* Basic HVAC (3)	
WELD	152* Welding Theory II (2) – OR – WELD 145*	
WELD	153* Welding Lab I (5) – OR – WELD 150*	
WELD	154* Welding Lab II (5) – OR – WELD 155*	

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
AMT	102 Intro to Industrial Electricity	3
AMT	104 Electrical Motor Control	3
AMT	111 Intro to Industrial Safety	1
COLL	101 College Orientation	1
WELD	151 Welding Theory I	2
<b>TOTAL</b>		<b>10</b>

<b>Second Semester</b>		<b>Hours</b>
AMT	204 PLC I	3
BSAD	115 Comp Concepts – OR – BSAD 125	3
DRFT	101 Intro to Engineering Drawing	3
Approved Elective		3
Approved Elective		3
<b>TOTAL</b>		<b>15</b>

**TOTAL HOURS REQUIRED 25**

## CERTIFICATE

### Information Technology

This 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.

#### Program of Study

<b>Major Courses</b>		<b>18 hours</b>
CNS	111 PC Basics I (3)	
CNS	112 PC Basics II* (3)	
CNS	260 MS Network Administration* (3)	
CNS	265 MS Exchange Administration* (3)	
CNS	270 Network Security* (3)	
CNS	275 Advanced MS Server* (3)	

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
CNS	111 PC Basics I	3
CNS	112 PC Basics II	3
CNS	260 Microsoft Network Administration	3
<b>TOTAL</b>		<b>9</b>

<b>Second Semester</b>		<b>Hours</b>
CNS	265 Microsoft Exchange Administration	3
CNS	270 Network Security	3
CNS	275 Advanced Microsoft Server	3
<b>TOTAL</b>		<b>9</b>

**TOTAL HOURS REQUIRED 18**

## CERTIFICATE

### Paramedic

The Paramedic certificate is designed for the professional paramedic positions in Emergency Medical Services. The certificate is designed to be offered over two semesters. This program prepares graduates to sit for the Paramedic certification exam.

EMT licensure, EMPT 299, and admission to the program are prerequisites for this program.

#### Program of Study

<b>Paramedic Courses</b>		<b>36 hours</b>
EMTP	201 Paramedic I* (18)	
EMTP	202 Paramedic II* (18)	

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
EMPT	201 Paramedic I	18
<b>TOTAL</b>		<b>18</b>
<b>Second Semester</b>		<b>Hours</b>
EMPT	202 Paramedic II	18
<b>TOTAL</b>		<b>18</b>
<b>TOTAL HOURS REQUIRED</b>		<b>36</b>

## CERTIFICATE

### PC Repair Certificate

This certificate provides an opportunity for students not wishing to complete a full two-year program in computer and network support to acquire the basic computer assembly/maintenance/setup skills required for entry-level employment in the information technology/services area. Successful graduates will be able to utilize industry terminology, assemble, setup, and maintain Intel-based ("IBM compatible") personal computers, and perform basic computer networking tasks. The program is based around two PC basics courses taught in a strong "hands-on" environment in the classroom. Students successfully completing the program will be qualified to complete and pass CompTIA's A+ PC repair exams; although neither taking nor passing the exam is a formal requirement for obtaining the certificate.

Students must earn a minimum\* of 16 hours for this certificate.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101	
<b>Required</b>		<b>15 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)	
CNS	125 Programming for CNS Technicians (3)	

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
CNS	101 Introduction to Electronics	3
CNS	111 PC Basics I	3
<b>TOTAL</b>		<b>7</b>
<b>Second Semester</b>		<b>Hours</b>
CNS	112 PC Basics II	3
CNS	115 Cisco Networking I	3
CNS	125 Programming for CNS Technician	3
<b>TOTAL</b>		<b>9</b>
<b>TOTAL HOURS REQUIRED</b>		<b>16</b>

## CERTIFICATE

### Pharmacy Technician Certificate

This certificate program prepares students for employment as Pharmacy Technicians with medical and office skills helpful for initial placement in pharmacy settings and other related occupations; and students have a career path into the Health Care Specialist AAS. Basic communication, computer/Internet skills, ethics and core courses in pharmacy will be completed.

Students must earn 16 hours for this certificate.

#### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101 College Orientation	
<b>Major Courses</b>		<b>15 hours</b>
BSAD	125 Bus Computer Applications (3) – OR – BSAD 115	
PHAR	101* Pharmacy Techniques I (3)	
PHAR	102* Pharmacy Techniques II (3)	
PHAR	110 Pharmacology Concepts (3)	
PHAR	150 Pharmacy Tech Internship* (3)	
<b>Certification Component</b>		
Passing a national certification exam is <b>not</b> a requirement for obtaining this certificate or for job placement. However, a national certification exam must be taken as part of the program.		

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
COLL	101 College Orientation	1
PHAR	101 Pharmacy Techniques I	3
PHAR	102 Pharmacy Techniques II	3
PHAR	110 Pharmacy Concepts	3
PHAR	150 Pharmacy Tech Internship	3
BSAD	125 – OR – BSAD 115	3
<b>TOTAL HOURS REQUIRED</b>		<b>16</b>

## CERTIFICATE

### Programmable Logic Controller (PLC) Technician

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>Major 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 (PLC) I (3)	
AMT	206* Programmable Logic Controllers (PLC) II (3)	

\*Prerequisite requirement

#### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
AMT	102 Introduction to Industrial Electricity	3
AMT	104 Electrical Motor Controls	3
AMT	111 Introduction to Industrial Safety	1
<b>TOTAL</b>		<b>7</b>
<b>Second Semester</b>		<b>Hours</b>
AMT	142 Manufacturing Mechanics	3
AMT	204 Programmable Logic Controllers I	3
AMT	206 Programmable Logic Controllers II	3
<b>TOTAL</b>		<b>9</b>
<b>TOTAL HOURS REQUIRED</b>		<b>16</b>

# CERTIFICATE

## Wind Energy Technician

The Wind Energy Technician certificate provides students with a unique applied foundation in wind energy technology. The curriculum is designed to prepare students for entry level employment or further study in the area. Students are required to take a certification exam given as part of the ENER 232 course and report their score to the College for completion of this degree program. Students are strongly encouraged to contact the Wind Instructor for advisement before beginning this program.

Students must earn 22 hours for this certificate.

### Program of Study

<b>Orientation</b>		<b>1 hour</b>
COLL	101 College Orientation	
<b>Mathematics</b>		<b>3 hours</b>
MATH	104* Technical Mathematics	
<b>Major Courses</b>		<b>18 hours</b>
AMT	102 Introduction to Industrial Electricity (3)	
AMT	112 Occupational Safety (3)	
CNS	101 Introduction to Electronics (3)	
ENER	132 Introduction to Wind (3)	
ENER	134* Wind Turbine Troubleshooting (3)	
ENER	232* Wind Turbine Internship (3)	

\*Prerequisite requirement

Notes: NCCER Registration is available with the addition of CONS 105

### Suggested Plan of Study

<b>First Semester</b>		<b>Hours</b>
AMT	102 Introduction to Industrial Electricity	3
AMT	112 Occupational Safety	3
COLL	101 College Orientation	1
ENER	132 Intro to Wind	3
<b>TOTAL</b>		<b>10</b>
<b>Second Semester</b>		<b>Hours</b>
CNS	101 Introduction to Electronics	3
ENER	134 Wind Turbine Troubleshooting	3
MATH	104 Technical Mathematics (Spring only)	3
<b>TOTAL</b>		<b>9</b>
<b>Third Semester</b>		<b>Hours</b>
ENER	232 Wind Turbine Internship	3
<b>TOTAL</b>		<b>3</b>
<b>TOTAL HOURS REQUIRED</b>		<b>22</b>

# Program of Study Index

<b>ASSOCIATE OF ARTS DEGREES.....</b>	<b>61</b>
Agriculture – Ag Business Option .....	62
Agriculture – Ag Education Option .....	63
Agriculture - Agronomy Option .....	64
Agriculture - Animal Science Option .....	65
Agriculture - Poultry Science Option .....	66
Alternative Energy – Solar .....	67
Alternative Energy – Wind.....	68
Art and Design .....	69
Biology .....	70
Business Administration .....	71
Chemistry.....	72
Computer Science.....	73
Criminal Justice.....	74
Fire Science.....	75
General Studies .....	76
Graphic Design.....	77
History .....	78
Information Science.....	79
Journalism and Public Relations .....	80
Mathematics.....	81
Photography .....	82
Physical Education .....	83
Physical Sciences .....	84
Physics .....	85
Pre-Medicine .....	86
Preschool Teacher/Paraprofessional.....	87
Pre-Veterinary Medicine .....	88
Psychology: Autism Option.....	89
General Psychology .....	90
Social Work.....	91
Spanish .....	92

Teaching (AAT).....	93
Theatre .....	94
<b>ASSOCIATE OF SCIENCE DEGREES</b> .....	95
Nursing .....	96
Occupational Therapy Assistant .....	97
Pre-Engineering .....	98
Pre-Engineering – Alternative Energy Option .....	99
<b>ASSOCIATE OF APPLIED SCIENCE DEGREES</b> .....	100
Accounting.....	101
Administrative Assistant.....	102
Advanced Manufacturing Technology: Automation/Robotics Option.....	103
Advanced Manufacturing Technology: Manufacturing Maintenance Option .....	104
Advanced Manufacturing Technology: Welding Option .....	105
Agri-Business Technology: Agronomy Option .....	106
Agri-Business Technology: Horticulture Option .....	107
Agri-Business Technology: Livestock Production Option .....	108
Agri-Business Technology: Marketing and Management Option .....	109
Alternative Energy - Solar .....	110
Alternative Energy - Wind .....	111
Auto Technology.....	112
Auto Technology – Parts Management Option .....	113
Certified Medical Assistant.....	114
Collision Repair Technology .....	115
Computer and Network Support Technology .....	116
Construction Management .....	117
General Construction .....	118
Criminal Justice.....	119
Diesel Technology.....	120
Drafting & Design Technology .....	121
Energy Efficient Building Technology: Alternative Technologies .....	122
Fire Science.....	123
Health Care Specialist.....	124
Management .....	125
Medical Administrative Assistant .....	126
Paramedical Science .....	127

Veterinary Technology .....	128
<b>CERTIFICATES OF STUDY</b> .....	129
Active Solar Technician .....	130
Advanced Manufacturing Technology: Welding Certificate (Pipe & Plate) .....	130
Advanced Manufacturing Technology: Welding Certificate (Pipe & Plate & Fabrication) .....	131
Autism Assistant Certificate .....	131
Automation/Robotics Technician Certificate .....	132
Automotive Technology .....	132
Certified Medical Assistant Certificate .....	133
Certified Nurse Assistant Specialist Certificate .....	133
Cisco Networking Certificate .....	134
Collision Repair I Technician Certificate .....	134
Collision Repair II Technician Certificate .....	135
Computer Aided Drafting (CAD) Technician .....	135
Construction Technology .....	136
Criminal Justice .....	136
Diesel Technology .....	137
Electric Arc Welding Certificate .....	137
Industrial Maintenance Technician .....	138
Information Technology .....	138
Paramedic .....	139
PC Repair Certificate .....	139
Pharmacy Technician Certificate .....	140
Programmable Logic Controller (PLC) Technician .....	140
Wind Energy Technician .....	141