



**2016-2017
Program & Course
Catalog**

Hawkeye Community College Accreditation

Academic Affairs

Hawkeye Center 106

319-296-4015

Email us

The Higher Learning Commission

230 South LaSalle Street, Suite 7-500

Chicago, IL 60604

800-621-7440 or 312-263-0456

2011 Reports

- [Systems Portfolio \[pdf\]](#)
- [Systems Appraisal Feedback Report \[pdf\]](#)

2006 Reports

- [Systems Portfolio \[pdf\]](#)
- [Systems Appraisal Feedback Report \[pdf\]](#)



Iowa Department of Education

Grimes State Office Building

400 E. 14th and Grand

Des Moines, IA 50319-0146

On-Site Visit

- [Iowa Department of Education Accreditation Evaluation \[pdf\]](#)

Interim Accreditation Visit

- [Approval Letter \[pdf\]](#)
- [Report \[pdf\]](#)

National Alliance of Concurrent Enrollment Partnership (NACEP)

126 Mallette Street

Chapel Hill, NC 27516

919-593-5205

877-572-8693 (fax)

Individual programs are recognized as follows:

Dental Assisting and Dental Hygiene

Accredited by the Commission on Dental Accreditation

American Dental Association

211 East Chicago Ave.

Chicago, IL 60611

Emergency Medical Services

CoAEMSP

Committee on Accreditation of Education Programs for the Emergency Medical Services

Professions

8301 Lakeview Parkway, Suite 111-312

Rowlett, TX 75088

214-703-8445

www.coaemsp.org

Iowa Department of Public Health
321 E. 12th Street
Des Moines, IA 50319-0075
515-281-7689
idph.iowa.gov

Medical Laboratory Technology

Accredited by the National Accrediting Agency for Clinical Laboratory Sciences
8410 West Bryn Mawr Ave.
Chicago, IL 60631

Natural Resource Management

North American Wildlife Technology Association

Occupational Therapy Assistant

Accredited by the Accreditation Council for Occupational Therapy Education (ACOTE)
ACOTE
c/o Accreditation Department
American Occupational Therapy Association (AOTA)
4720 Montgomery Lane, Suite 200
Bethesda, MD 20814-3449
301-652-AOTA
www.acoteonline.org

Physical Therapist Assistant Program

The Physical Therapist Assistant program at Hawkeye Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245; email: accreditation@apta.org; website: www.capteonline.org.

Practical Nursing and Associate Degree Nursing

Approved by the Iowa Board of Nursing
State Capitol Complex
1223 E. Court Ave.
Des Moines, IA 50319

Respiratory Therapy

Accredited by the Commission on Accreditation for Respiratory Care
1248 Harwood Road
Bedford, TX 76021-4244
817-283-2835

[Student Handbook](#) | [Next Page >](#)

Liberal Arts AA and AS Degrees

The Liberal Arts transfer degrees at Hawkeye Community College allows students to complete the first two years of a bachelor's degree. A variety of liberal arts core, general education, and elective courses from a wide range of disciplines prepare students to transfer to a public or private four-year college or university.

Students may choose an emphasis area to help guide them in selection of electives and may also help students determine if a major or career track is the right choice.

Associate of Arts (AA) Degree

The Associate of Arts (AA) degree in Liberal Arts to a four-year college. enables a student to meet most general education requirements and be admitted as a junior at most four-year colleges and universities.

Students can complete their AA entirely online, in the evening, during the day, or with a combination of these options.

Associate of Science (AS) Degree

The Associate of Science in Liberal Arts degree enables a student to focus their education on the fields of math or science, meet most general education requirements, and be admitted as a junior at most four-year colleges and universities.

Due to the nature of sequential courses, students must work with a Hawkeye academic advisor for major-specific transfer information and to register for classes.

Transfer Information

Hawkeye has established articulation agreements with many four-year public and private colleges within Iowa. Students should work closely with a Hawkeye academic advisor to ensure that courses transfer to a specific major. During their first year, students should contact the admissions office at the college to which they plan to transfer to and obtain specific program and transfer requirements.

Liberal Arts Core

I. Natural Science and Mathematics

A. Biological Sciences – Establishes a framework of key concepts that deal with health issues, ethical controversies, social responsibility, and environmental quality. The laboratory experience allows the you to be introduced to the process of science.

B. Physical Sciences – Explores the chemical and physical nature of our universe. The laboratory experience introduces the student to the world of scientific technology.

C. Mathematics – Establishes an understanding of various mathematical concepts, such as finances, statistics, algebra, and geometry so that students can use them effectively in their lives.

Program Contacts

Advisor

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319-296-2329 ext.1727
Email me

Dean of Communications, Humanities, Education, and Fine Arts

Catharine Freeman
Black Hawk Hall 258B
319-296-4041
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Dean of Math, Natural and Social Sciences

Cynthia Bottrell
Grundy Hall 266
319-296-4470
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II. Humanities

A. Western Civilization – Provides the framework for the common origins and meaning of European and American ways of life by studying their development throughout history.

B1. Humanities – Literature and Fine Arts – Introduces dynamic and holistic ways of viewing the human condition.

B2. Humanities – Philosophy and Religion – Provides a basis of concepts and values that have influenced numerous cultures around the world.

B3. Humanities – Non-Western Cultures– Raises awareness of other cultures, including their diverse economic, political, family, and religious structures.

III. Social Sciences

A. People and Their Relationships – Provides a foundation for understanding mental processes, individual behavior, and social interaction.

B. American Society – Explores the evolution of U.S. government and society and the meaning of these developments to today's world.

C. Other Social Sciences – Examines the impact of time, place, and major life events on individual behavior and social interaction.

IV. Communications

A. Written Communications – Enhances student ability to study and scrutinize issues while also broadening their reading and writing skills.

B. Oral Communications 3 – Explores ways to improve critical thinking, idea articulation, public speaking, and attentive listening in order to increase understanding and productivity.

V. Social Diversity

Considers ideas of difference and inequality in contemporary U.S. society.

VI. Elective Courses

Courses beyond general education requirements. May include courses from any Category I, II, III or V. Up to 16 technical credit hours may be used as electives.

Philosophy Statement

The Liberal Arts curriculum challenges students with the rigors of classical liberal arts educational opportunities and the current theoretical, technological, and scientific advancements. Students are prepared to take an active role in shaping the evolving standards and practices of today's society and employment environment.

Program Outcomes

Students taking liberal arts courses at Hawkeye are not only equipped with a strong foundation for most programs offered by four-year colleges or universities, but they are also able to develop attitudes, values, and skills that will allow them to become constructive adults, both individually and within their communities.

Students receiving an Associate of Arts degree from Hawkeye will have developed the following skills:

- **Communication:** Students will develop speaking, writing, reading, and listening skills.
- **Critical Thinking and Problem Solving:** Students will acquire, evaluate, and analyze information; develop sound reasoning skills; and apply the principles of the scientific method.
- **Quantitative Reasoning:** Students will develop skills in problem-solving, logical thinking, and application of mathematical processes.
- **Community and Global Awareness:** Students will recognize and appreciate diversity, historical viewpoints, and the global perspective.
- **Individual Development:** Students will cultivate ethical values, personal wellness, and personal learning strategies.
- **Artistic Expression:** Students will acquire a global and cultural understanding of the role of the arts, instilling the personal curiosity and skills for creative expression and endeavors.
- **Information Management:** Students will apply technological methods to retrieve, process, and communicate information.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Liberal Arts Transfer - AA](#)
- [Liberal Arts Transfer - AS](#)

Liberal Arts AA and AS Degrees Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

Program Contacts

Advisor

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Liberal Arts – AA Degree Requirements

Award: Associate of Arts (AA)

Program Start: Fall, Spring, Summer

Printable Tracking Sheets

[2014-2015 \[pdf\]](#)

[2015-2017 \[pdf\]](#)

Flexible Scheduling

We know you're busy balancing family and work responsibilities. That's why we've created flexible course options to help you fit your education into the mix.

Students can complete the Associate of Arts degree in Liberal Arts entirely online, in the evening, during the day, or with a combination of online, evening, daytime, and hybrid courses (courses that meet partially face to face and partially online).

You can also arrange your schedule with courses with varying start dates and course lengths so you can focus on fewer classes at one time while completing the same number of credits per semester.

The courses listed below are marked to show you at a glance some of the different formats the course may be offered, however, **course offerings change semester by semester**.

[Search My Hawkeye for specific course offerings.](#)

- **O = Online courses** meet 100% online.
- **E = Evening courses** meet face to face after 5:00pm.
- **A = Accelerated courses** meet face to face after 5:00pm and partially online in an accelerated 5-week or 10-week format designed for working adults. It's recommended that students in accelerated courses take only one course at a time due to the intensity of the course format. [View the accelerated course schedule](#)

Planning Your Class Schedule

Students should work with a Hawkeye program advisor to select courses, make a transfer plan, and review their progress.

You are also encouraged to contact the admissions office at the college to which you plan to transfer during your first year at Hawkeye in order to obtain specific program and transfer requirements.

2016–2017 Suggested Sequence of Study and Course Cost

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

► **Course has a prerequisite and/or corequisite.** See the course description for more details.

I. Natural Science and Mathematics

10 credits (minimum)

Requires one course each from A, B, and C, including one 4-hour science laboratory course. Total of 7 hours from A and B.

Program Contacts

Academic Advisors

Student Services

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A. Biological Sciences **3-4 credits (minimum)**

BIO105	Introductory Biology	<u>E</u>	4	◆
BIO112	General Biology I		4	◆
BIO113	General Biology II		4	◆
BIO154	Human Biology	<u>OE</u>	3	◆
BIO163	Essentials of Anatomy and Physiology	<u>E</u>	4	◆
BIO168	Human Anatomy and Physiology I	<u>E</u>	4	◆
BIO186	Microbiology		4	◆
CNS121	Environmental Conservation <u>***</u>	<u>O</u>	3	◆

[View Course Descriptions](#)

B. Physical Sciences **3-4 credits (minimum)**

CHM122	Introduction to General Chemistry ▶	<u>E</u>	4	◆
CHM165	General Chemistry I ▶		4	◆
ENV115	Environmental Science <u>***</u>	<u>OE</u>	3	◆
ENV116	Environmental Science Lab ▶ <u>***</u>	<u>O</u>	1	◆
GEO131	Physical Geography	<u>OE</u>	3	◆
GEO132	Physical Geography Lab ▶	<u>E</u>	1	◆
PHS120	Exploring Physical Science ▶	<u>E</u>	4	◆
PHS142	Principles of Astronomy ▶	<u>E</u>	3	◆
PHS152	Astronomy ▶	<u>O</u>	4	◆
PHY162	College Physics I ▶		4	◆
PHY212	Classical Physics I ▶		5	◆

[View Course Descriptions](#)

C. Mathematics **3 credits (minimum)****Assessment required**

MAT110	Math for Liberal Arts ▶	<u>OE</u>	3	◆
MAT122	College Algebra ▶		5	◆
MAT128	Precalculus ▶		4	◆
MAT134	Trigonometry and Analytic Geometry ▶		3	◆
MAT156	Statistics ▶	<u>OE</u>	3	◆
MAT210	Calculus I ▶		4	◆

[View Course Descriptions](#)

II. Humanities **9 credits (minimum)**

Requires one course from Humanities A and two courses from Humanities B in two different areas 1, 2, or 3.

Humanities A – Western Civilization **3 credits (minimum)**

HIS117	Western Civilization I: Ancient and Medieval	<u>Q</u> 3	◆
HIS118	Western Civilization II: Early Modern	<u>Q</u> 3	◆
HIS119	Western Civilization III: The Modern Period	<u>OE</u> 3	◆

[View Course Descriptions](#)

Humanities B **6 credits (minimum)****1. Literature and Fine Arts**

ART101	Art Appreciation	<u>Q</u> 3	◆
ART203	Art History I	<u>Q</u> 3	◆
ART204	Art History II	<u>Q</u> 3	◆
DRA107	Theatrical Arts and Society	3	◆
LIT101	Introduction to Literature ►	<u>Q</u> 3	◆
MUS100	Music Appreciation	<u>Q</u> 3	◆

[View Course Descriptions](#)

2. Philosophy and Religion

PHI101	Introduction to Philosophy	<u>OE</u> 3	◆
PHI105	Introduction to Ethics	<u>OE</u> 3	◆
REL101	Survey of World Religions	<u>Q</u> 3	◆
REL130	Intro to Religions of the East	3	◆

[View Course Descriptions](#)

3. Non-Western Cultures

CLS130	African Cultures *	<u>Q</u> 3	◆
CLS141	Middle Eastern History and Culture *	3	◆
CLS150	Latin American History and Culture *	<u>Q</u> 3	◆
CLS160	East Asian Cultures *	<u>Q</u> 3	◆
CLS164	Japanese History and Culture *	3	◆
CLS172	Russian Civilization *	3	◆

[View Course Descriptions](#)

III. Social Sciences **9 credits (minimum)**

Requires one course each from A, B, and C.

A. People and Their Relationships

PSY111	Introduction to Psychology	<u>OE</u> 3	◆
SOC110	Introduction to Sociology	<u>OE</u> 3	◆

[View Course Descriptions](#)

B. American Society

HIS151	U.S. History to 1877	<u>OE</u>	3	◆
HIS152	U.S. History Since 1877	<u>OE</u>	3	◆
POL111	American National Government	<u>O</u>	3	◆

[View Course Descriptions](#)

C. Topics in Social Sciences

GEO121	World Regional Geography	<u>O</u>	3	◆
POL121	International Relations	<u>E</u>	3	◆
POL125	Comparative Government and Politics	<u>O</u>	3	◆
PSY121	Developmental Psychology	<u>O</u>	3	◆
PSY251	Social Psychology ▶		3	◆
SOC115	Social Problems	<u>O</u>	3	◆
SOC120	Marriage and Family	<u>O</u>	3	◆
SOC135	Death and Dying	<u>OE</u>	3	◆
SOC208	Cultural Anthropology		3	◆
SOC220	Sociology of Aging	<u>O</u>	3	◆

[View Course Descriptions](#)

IV. Communications **9 credits (minimum)****Written Communications** **6 credits (minimum)**
Assessment required

ENG105	Composition I ▶	<u>OE</u>	3	◆
ENG106	Composition II ▶	<u>OE</u>	3	◆

[View Course Descriptions](#)

Oral Communications **3 credits (minimum)**

SPC101	Fundamentals of Oral Communication	<u>OE</u>	3	◆
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[View Course Descriptions](#)

V. Social Diversity **3 credits (minimum)**

COM148	Diversity and the Media		3	◆
EDU223	Multicultural Education (For Education Emphasis Only)		3	◆
LIT133	Minority Voices in U.S. Literature ▶		3	◆
PSY262	Psychology of Gender ▶	<u>O</u>	3	◆
SOC200	Minority Group Relations	<u>O</u>	3	◆

SOC205	Diversity in America	<u>OE</u>	3	◆
WST101	Women's Studies	<u>E</u>	3	◆

[View Course Descriptions](#)

VI. Elective Courses **22 credits (minimum)**

Courses beyond general education requirements. May include courses from Categories I, II, III, IV, or V.

Choosing an emphasis area will help guide your choice of electives. It may also help you determine if the career track is the right choice for you.

A. Required Elective Course **1 credit (minimum)**

SDV108	The College Experience	<u>OE</u>	1	◆
SDV109	College 101		3	◆

[View Course Descriptions](#)

B. Suggested Elective Courses for the Liberal Arts AA Degree **21 credits (minimum)**

ACC131	Principles of Accounting I ▶	<u>OE</u>	4	◆
ACC132	Principles of Accounting II ▶	<u>OE</u>	4	◆
ART120	2-D Design		3	◆
ART123	3-D Design		3	◆
ART133	Drawing		3	◆
ART134	Drawing II		3	◆
ART143	Painting		3	◆
ART144	Painting II ▶		3	◆
ART173	Ceramics		3	◆
ART184	Photography		3	◆
BCA201	Introduction to Information Systems ▶	<u>OE</u>	3	◆
BIO151	Nutrition	<u>OE</u>	3	◆
BIO173	Human Anatomy and Physiology II w/Lab ▶	<u>E</u>	4	◆
BUS102	Introduction to Business	<u>OE</u>	3	◆
BUS180	Business Ethics	<u>E</u>	3	◆
BUS183	Business Law	<u>O</u>	3	◆
BUS210	Business Statistics ▶	<u>E</u>	3	◆
BUS230	Quantitative Methods for Business Decision Making ▶	<u>E</u>	3	◆
CHM132	Introduction to Organic and Biochemistry ▶		4	◆
CHM175	General Chemistry II ▶		4	◆
CHM260	Organic Chemistry I ▶		3	◆
CHM270	Organic Chemistry II ▶		3	◆
COM140	Introduction to Mass Media		3	◆

CRJ100	Introduction to Criminal Justice	<u>OE</u>	3	◆
CRJ120	Introduction to Corrections	<u>O</u>	3	◆
CRJ200	Criminology	<u>OE</u>	3	◆
CRJ201	Juvenile Delinquency	<u>OE</u>	3	
CRJ233	Probation, Parole, Community-Based Corrections ▶		3	◆
CRJ316	Juvenile Justice ▶		3	◆
CRJ317	White Collar Crime ▶		3	◆
CRJ318	Crime Analysis ▶		3	◆
CRJ320	Criminal Justice Ethics		3	◆
CSC110	Introduction to Computers ▶	<u>OE</u>	3	◆
DRA110	Introduction to Film		3	◆
DRA130	Acting I		3	◆
ECN110	Introduction to Economics ***		3	◆
ECN120	Principles of Macroeconomics ▶	<u>OE</u>	3	◆
ECN130	Principles of Microeconomics ▶	<u>E</u>	3	◆
EDU214	Exploring PK-12 Education	<u>E</u>	2	◆
EDU216	Introduction to Teaching		3	◆
EDU235	Children's Literature	<u>O</u>	3	◆
EDU240	Educational Psychology ▶	<u>O</u>	3	◆
EDU246	Including Diverse Learners	<u>OE</u>	3	◆
EDU255	Technology in the Classroom ▶	<u>E</u>	3	◆
EDU901	Academic Service Learning Experience **		1	◆
EDU920	Field Experience		1	◆
ENG221	Creative Writing		3	◆
ENG235	Playwriting and Screenwriting		3	◆
FLS151	Elementary Spanish I		5	◆
FLS152	Elementary Spanish II ▶	<u>E</u>	5	◆
FLS241	Intermediate Spanish I ▶		4	◆
FLS242	Intermediate Spanish II ▶		4	◆
HIS201	Iowa History		3	◆
HIS251	U.S. History 1945 to Present ▶		3	◆
HIS257	African American History	<u>O</u>	3	◆
HIS277	History of Women in the U.S. ▶		3	◆
HUM140	Shakespeare: Dramatist, Psychologist, Historian		3	◆
LIT189	Women and Literature	<u>O</u>	3	◆
LIT949	Special Topics in Literature (1-3 credits)		1	◆
MAT102	Intermediate Algebra ▶		4	◆
MAT151	Math Reasoning for Teachers I ▶		3	◆
MAT216	Calculus II ▶		4	◆

MAT219	Calculus III ►	4	◆
MGT101	Principles of Management	<u>Q</u> 3	◆
MIL103	Military Survival Skills	2	◆
MIL110	Leadership and Personal Development	1	◆
MIL115	Foundations of Tactical Leadership	1	◆
MIL120	Innovative Team Leadership	2	◆
MIL122	Leadership in Changing Environment	2	◆
MKT110	Principles of Marketing	<u>Q</u> 3	◆
MUA106	Class Voice	1	◆
MUA120	Applied Piano **	1	◆
MUA121	Applied Piano II	2	◆
MUA319	Applied Voice II **	1	◆
MUS102	Music Fundamentals	3	◆
MUS154	Chorus	1	◆
PEA102	Aerobic Fitness I **	1	◆
PEA117	Bowling I **	1	◆
PEA123	Circuit Training **	1	◆
PEA125	Indoor Cycling **	1	◆
PEA150	Powerwalking **	1	◆
PEA176	Volleyball I **	1	◆
PEA187	Weight Training I **	1	◆
PEA191	Pilates **	<u>Q</u> 1	◆
PEA194	Vinyasa Yoga **	<u>Q</u> 1	◆
PEA196	Iron Yoga-Pilates Infusion **	1	◆
PEC110	Coaching Ethics, Techniques, and Theory	1	◆
PEC115	Athletic Development and Human Growth	1	◆
PEC123	Anatomy for Coaching	1	◆
PEC127	Care and Prevention of Athletic Injuries	2	◆
PEH111	Personal Wellness	<u>Q</u> 3	◆
PEH141	First Aid	2	◆
PEH266	Leadership Techniques for Fitness Programs ►	3	◆
PHI121	Classical/Medieval Philosophy	3	◆
PHY100	Physics in Everyday Life	3	◆
PHY172	College Physics II ►	4	◆
PHY222	Classical Physics II ►	5	◆
PSY241	Abnormal Psychology ►	<u>Q</u> 3	◆
PSY261	Human Sexuality	3	◆
SDV127	Study Strategies	1	◆
SDV131	Career Exploration	<u>Q</u> 2	◆

SOC160	Introduction to Social Work	<u>Q</u> 3 ♦
SOC195	Urban Studies ▶	<u>Q</u> 3 ♦
SOC850	Cultural Immersion Field Experience <u>**</u>	1 ♦
SPC120	Intercultural Communications	3 ♦
SPC122	Interpersonal Communication	<u>Q</u> 3 ♦
SPC132	Group Communication ▶	3 ♦
SPC140	Oral Interpretation	3 ♦
XXX924	Honors Project (1-3 credits)	1 ♦
XXX926	Honors Seminar	3 ♦

[View Course Descriptions](#)

* Meets the Non-Western Cultures requirement at UNI.

** Repeatable: see course description for number of times.

*** CNS121 or ENV115/116 – only one can be taken toward your 7 hours of science.

**** No credit if ECN120 or ECN130 earned

Liberal Arts – AS Degree Requirements

Award: Associate of Science (AS)

Program Start: Fall, Spring, Summer

Printable Tracking Sheets

[2014-2015 \[PDF\]](#)

[2015-2017 \[PDF\]](#)

Flexible Scheduling

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You can also arrange your schedule with courses with varying start dates and course lengths so you can focus on fewer classes at one time while completing the same number of credits per semester.

The courses listed below are marked to show you at a glance some of the different formats the course may be offered, however, **course offerings change semester by semester**.

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Planning Your Class Schedule

Students should work with a Hawkeye program advisor to select courses, make a transfer plan, and review their progress.

You are also encouraged to contact the admissions office at the college to which you plan to transfer before or during your first year at Hawkeye in order to obtain specific program and transfer requirements.

2016–2017 Suggested Sequence of Study and Course Cost

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

I. Natural Science and Mathematics 20 credits (minimum)

Requires one course from each area A, B, and C. Need 7 hours from A and B, including one 4-hour science laboratory courses.



Students must work with their advisor to determine the math and science sequences needed to transfer to the program and university of their choice.

A. Biological Sciences 3 credits (minimum)

BIO105	Introductory Biology	E 4 ◆
BIO112	General Biology I	4 ◆

Program Contacts

Department Secretary

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BIO113	General Biology II	4	◆
BIO154	Human Biology	<u>OEA</u> 3	◆
BIO163	Essentials of Anatomy and Physiology	<u>E</u> 4	◆
BIO168	Human Anatomy and Physiology I	<u>E</u> 4	◆
BIO173	Human Anatomy and Physiology II w/Lab ▶ <u>(P)</u>	<u>E</u> 4	◆
BIO186	Microbiology	4	◆
CNS121	Environmental Conservation <u>***</u>	<u>O</u> 3	◆

[View Course Descriptions](#)

B. Physical Sciences **3 credits (minimum)**

CHM122	Introduction to General Chemistry ▶	<u>E</u> 4	◆
CHM132	Introduction to Organic and Biochemistry ▶ <u>(P)</u>	4	◆
CHM165	General Chemistry I ▶ <u>(P)</u>	4	◆
CHM175	General Chemistry II ▶ <u>(P)</u>	4	◆
ENV115	Environmental Science <u>***</u>	<u>OEA</u> 3	◆
ENV116	Environmental Science Lab ▶ <u>*** (C)</u>	<u>O</u> 1	◆
GEO131	Physical Geography	<u>OE</u> 3	◆
GEO132	Physical Geography Lab ▶ <u>(C)</u>	<u>E</u> 1	◆
PHS120	Exploring Physical Science ▶ <u>(P)</u>	<u>E</u> 4	◆
PHS142	Principles of Astronomy ▶	<u>E</u> 3	◆
PHS152	Astronomy ▶ <u>(P)</u>	<u>O</u> 4	◆
PHY162	College Physics I ▶ <u>(P)</u>	4	◆
PHY172	College Physics II ▶ <u>(P)</u>	4	◆
PHY212	Classical Physics I ▶ <u>(P)</u>	5	◆
PHY222	Classical Physics II ▶ <u>(P)</u>	5	◆

[View Course Descriptions](#)

C. Mathematics **3 credits (minimum)**

MAT110	Math for Liberal Arts ▶ <u>(P)</u>	<u>OE</u> 3	◆
MAT122	College Algebra ▶ <u>(P)</u>	5	◆
MAT128	Precalculus ▶ <u>(P)</u>	4	◆
MAT134	Trigonometry and Analytic Geometry ▶ <u>(P)</u>	3	◆
MAT156	Statistics ▶ <u>(P)</u>	<u>OE</u> 3	◆
MAT210	Calculus I ▶ <u>(P)</u>	4	◆
MAT216	Calculus II ▶ <u>(P)</u>	4	◆
MAT219	Calculus III ▶ <u>(P)</u>	4	◆

[View Course Descriptions](#)

II. Humanities **3 credits (minimum)**

Requires one course from A, B, C, or D.

A. Western Civilization

HIS117	Western Civilization I: Ancient and Medieval	<u>OA</u>	3	◆
HIS118	Western Civilization II: Early Modern	<u>O</u>	3	◆
HIS119	Western Civilization III: The Modern Period	<u>OE</u>	3	◆

[View Course Descriptions](#)

B. Literature and Fine Arts

ART101	Art Appreciation	<u>O</u>	3	◆
ART203	Art History I	<u>O</u>	3	◆
ART204	Art History II	<u>O</u>	3	◆
DRA107	Theatrical Arts and Society		3	◆
LIT101	Introduction to Literature ► (P)	<u>O</u>	3	◆
MUS100	Music Appreciation	<u>O</u>	3	◆

[View Course Descriptions](#)

C. Philosophy and Religion

PHI101	Introduction to Philosophy	<u>OE A</u>	3	◆
PHI105	Introduction to Ethics	<u>OE</u>	3	◆
REL101	Survey of World Religions	<u>O</u>	3	◆
REL130	Intro to Religions of the East		3	◆

[View Course Descriptions](#)

D. Non-Western Cultures

CLS130	African Cultures	<u>O</u>	3	◆
CLS141	Middle Eastern History and Culture		3	◆
CLS150	Latin American History and Culture	<u>OA</u>	3	◆
CLS160	East Asian Cultures	<u>O</u>	3	◆
CLS164	Japanese History and Culture		3	◆
CLS172	Russian Civilization		3	◆

[View Course Descriptions](#)

III. Social Sciences **6 credits (minimum)**

Requires one course from each area A and B.

A. People and Their Relationships

3 credits (minimum)

PSY111	Introduction to Psychology	<u>OE</u>	3	◆
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[View Course Descriptions](#)**B. American Society** **3 credits (minimum)**HIS151 U.S. History to 1877 OE 3 ◆HIS152 U.S. History Since 1877 OE A 3 ◆POL111 American National Government O 3 ◆[View Course Descriptions](#)**IV. Communications** **9 credits (minimum)****A. Written Communications** **6 credits (minimum)**
Assessment requiredENG105 Composition I ► (P) OE A 3 ◆ENG106 Composition II ► (P) OE A 3 ◆[View Course Descriptions](#)**B. Oral Communications** **3 credits (minimum)**SPC101 Fundamentals of Oral Communication OE 3 ◆[View Course Descriptions](#)**V. Social Diversity** **3 credits (minimum)**

COM148 Diversity and the Media 3 ◆

LIT133 Minority Voices in U.S. Literature ► (P) A 3 ◆PSY262 Psychology of Gender ► (P) O 3 ◆SOC200 Minority Group Relations O 3 ◆SOC205 Diversity in America OE 3 ◆WST101 Women's Studies E 3 ◆[View Course Descriptions](#)**VI. Distributed Requirement** **4 credits (minimum)**

Select 4 credits from categories I, II, III, IV, or V.

VII. Elective Courses **17 credits (minimum)**

Courses beyond general education requirements. May include courses from Categories I, II, III, IV, or V. Up to 16 technical credits may be used as electives. Additional classes may be available. For more information, contact a program advisor.

A. Required Elective Course		1 credit (minimum)
SDV108	The College Experience	<u>OE</u> 1 ◆
SDV109	College 101	3 ◆
View Course Descriptions		

B. Suggested Elective Courses for the Liberal Arts AS Degree		16 credits (minimum)
ACC131	Principles of Accounting I ► <u>(P)</u>	<u>OE</u> 4 ◆
ACC132	Principles of Accounting II ► <u>(P)</u>	<u>OE</u> 4 ◆
AGA114	Principles of Agronomy	3
AGA154	Fundamentals of Soil Science	3
AGA214	Cash Grains	3
AGA284	Pesticide Application Certification	3
AGA376	Integrated Pest Management	3
AGB101	Agricultural Economics	3
AGB235	Introduction to Agriculture Markets	3
AGB303	Agriculture Leadership	3
AGB331	Entrepreneurship in Agriculture	3
AGB336	Agricultural Selling °	3
AGC103	Ag Computers °	3
AGH112	Introduction to Turfgrass Management	3
AGH119	Herbaceous Plant Materials °	2
AGH161	Irrigation Systems °	3
AGH211	Advanced Turfgrass Management °	3
AGH221	Principles of Horticulture °	3
AGH280	Botany for Horticulture °	3
AGP333	Precision Farming Systems °	3
AGP401	Introduction to GIS Software ► ° <u>(P)</u>	1 ◆
AGP450	Fundamentals of GIS	3
AGS113	Survey of the Animal Industry °	3
AGS211	Issues Facing Animal Science °	2
AGS218	Domestic Animal Physiology ► <u>(P)</u>	4
AGS272	Foods of Animal Origin ► ° <u>(P)</u>	5
AGS305	Livestock Evaluation °	3
AGS319	Animal Nutrition °	3
AGT805	Employment Experience °	5
AGV123	Companion Animal °	3
ART120	2-D Design	3 ◆
ART123	3-D Design	3 ◆

ART133	Drawing	3	◆
ART134	Drawing II (P)	3	◆
ART143	Painting	3	◆
ART144	Painting II ▶	3	◆
ART173	Ceramics	3	◆
ART184	Photography	3	◆
BCA201	Introduction to Information Systems ▶	<u>OE</u> 3	◆
BIO151	Nutrition	<u>OE</u> 3	◆
BUS102	Introduction to Business	<u>OE</u> 3	◆
BUS180	Business Ethics	<u>E</u> 3	◆
BUS183	Business Law	<u>OA</u> 3	◆
BUS210	Business Statistics ▶ (P)	<u>E</u> 3	◆
BUS230	Quantitative Methods for Business Decision Making ▶ (P)	<u>E</u> 3	◆
CHM260	Organic Chemistry I ▶	3	◆
CHM270	Organic Chemistry II ▶	3	◆
COM140	Introduction to Mass Media **	3	◆
CSC110	Introduction to Computers ▶ (P)	<u>OE</u> 3	◆
DRA110	Introduction to Film	3	◆
ECN110	Introduction to Economics	3	◆
	No credit if ECN120 or ECN130 earned.		
ECN120	Principles of Macroeconomics ▶	<u>OE A</u> 3	◆
ECN130	Principles of Microeconomics ▶	<u>E A</u> 3	◆
ENG221	Creative Writing (C)	3	◆
FLS151	Elementary Spanish I	5	◆
FLS152	Elementary Spanish II ▶ (P)	<u>E</u> 5	◆
FLS241	Intermediate Spanish I ▶	4	◆
FLS242	Intermediate Spanish II ▶	4	◆
HIS201	Iowa History	3	◆
HIS251	U.S. History 1945 to Present ▶ (P)	3	◆
HIS257	African American History	<u>Q</u> 3	◆
HIS277	History of Women in the U.S. ▶ (P)	3	◆
HUM140	Shakespeare: Dramatist, Psychologist, Historian **	3	◆
LIT189	Women and Literature	<u>Q</u> 3	◆
LIT949	Special Topics in Literature **	1	◆
MAT102	Intermediate Algebra ▶ (P)	4	◆
MGT101	Principles of Management	<u>OA</u> 3	◆
MIL103	Military Survival Skills **	2	◆
MIL110	Leadership and Personal Development **	1	◆
MIL115	Foundations of Tactical Leadership	1	◆

MIL120	Innovative Team Leadership	2	◆
MIL122	Leadership in Changing Environment	2	◆
MKT110	Principles of Marketing	<u>Q</u> 3	◆
PEA102	Aerobic Fitness I <u>**</u>	1	◆
PEA117	Bowling I <u>**</u>	1	◆
PEA123	Circuit Training <u>**</u>	1	◆
PEA125	Indoor Cycling <u>**</u>	1	◆
PEA150	Powerwalking <u>**</u>	1	◆
PEA176	Volleyball I <u>**</u>	1	◆
PEA187	Weight Training I <u>**</u>	1	◆
PEA191	Pilates <u>**</u>	<u>Q</u> 1	◆
PEA194	Vinyasa Yoga <u>**</u>	<u>Q</u> 1	◆
PEA196	Iron Yoga-Pilates Infusion	1	◆
PEC110	Coaching Ethics, Techniques, and Theory	1	◆
PEC115	Athletic Development and Human Growth	1	◆
PEC123	Anatomy for Coaching	1	◆
PEC127	Care and Prevention of Athletic Injuries	2	◆
PEH111	Personal Wellness	<u>Q</u> 3	◆
PEH141	First Aid <u>**</u>	2	◆
PHI121	Classical/Medieval Philosophy	3	◆
PHY100	Physics in Everyday Life	3	◆
POL121	International Relations	<u>E</u> 3	◆
POL125	Comparative Government and Politics	<u>Q</u> 3	◆
PSY121	Developmental Psychology	<u>Q</u> 3	◆
PSY241	Abnormal Psychology ► <u>(P)</u>	<u>Q</u> 3	◆
PSY251	Social Psychology ► <u>(P)</u>	3	◆
PSY261	Human Sexuality	3	◆
SDV127	Study Strategies	1	◆
SDV131	Career Exploration	<u>Q</u> 2	◆
SOC115	Social Problems	<u>Q</u> 3	◆
SOC120	Marriage and Family	<u>OA</u> 3	◆
SOC135	Death and Dying	<u>OE</u> 3	◆
SOC160	Introduction to Social Work	<u>Q</u> 3	◆
SOC195	Urban Studies ► <u>(P)</u>	<u>Q</u> 3	◆
SOC208	Cultural Anthropology	3	◆
SOC220	Sociology of Aging	<u>Q</u> 3	◆
SOC850	Cultural Immersion Field Experience <u>**</u>	1	◆
SPC120	Intercultural Communications	3	◆
SPC122	Interpersonal Communication	<u>Q</u> 3	◆

SPC132	Group Communication ►	3	◆
XXX924	Honors Project	1	◆
XXX926	Honors Seminar	3	◆

[View Course Descriptions](#)

- ** Repeatable: see course description for number of times.
- *** CNS121 or ENV115/116 – only one can be taken toward your 20 hours of science.
- P Must complete a prerequisite.
- C Must take a corequisite.

Agricultural Science Transfer Program

The Agriculture Science program is designed to allow students to complete the first two years of a four-year bachelor's degree program. A variety of agricultural, mathematics, science, and liberal arts courses are offered to prepare students to transfer to public or private four-year colleges and universities.

The Associate of Science in Agricultural Science allows graduates to enter four-year colleges or universities with 63 credits and/or junior standing. The courses in this program also allow for entry-level employment for graduates who decide to postpone transferring to a four-year college.

Transfer Information

Students wishing to transfer, especially with a junior standing, must work closely with a Hawkeye program advisor. Specific bachelor's degree program requirements vary. For more information, contact a program advisor.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Agricultural Science](#)

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Agricultural Science Admissions Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Agricultural Science Courses

Award: Associate of Science (AS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Agricultural Science program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGA114	Principles of Agronomy	3
AGS113	Survey of the Animal Industry	3
BIO112	General Biology I	4 ◆
SOC115	Social Problems	3 ◆
	<u>Social Diversity</u>	3
<u>View Course Descriptions</u>		Total Credits 16

Semester 2		
AGA154	Fundamentals of Soil Science	3
BIO113	General Biology II	4 ◆
ENG105	Composition I ▶	3 ◆
MAT156	Statistics ▶	3 ◆
	<u>Humanities (Literature and Fine Arts) -OR-</u>	3
	<u>Humanities (Philosophy and Religion)</u>	3
<u>View Course Descriptions</u>		Total Credits 16

Semester 3		
AGP333	Precision Farming Systems	3

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CHM165	General Chemistry I ▶	4	◆
HIS117	Western Civilization I: Ancient and Medieval	3	◆
HIS151	U.S. History to 1877 -OR-	3	◆
HIS152	U.S. History Since 1877	3	◆
SPC101	Fundamentals of Oral Communication	3	◆
View Course Descriptions			Total Credits 16

Semester 4

ACC131	Principles of Accounting I ▶	4	◆
AGB235	Introduction to Agriculture Markets	3	
BUS230	Quantitative Methods for Business Decision Making ▶	3	◆
CNS121	Environmental Conservation	3	◆
ENG106	Composition II ▶	3	◆
View Course Descriptions			Total Credits 16

Business Administration Transfer Program

The Associate of Arts in Business Administration degree is designed to allow students to complete the first two years of a four-year bachelor's degree program and transfer to a public or private four-year college or university. A variety of courses from a wide range of disciplines are offered to students.

Transfer Information

The Business Administration program is designed for students who plan to continue their studies toward a bachelor's degree in Business Administration, Accounting, Marketing, Management, Information Systems, or Finance at the University of Northern Iowa. Students can also transfer to Iowa State University, the University of Iowa, or the private college or university of their choice. To ensure a smooth transfer, students should work with a program advisor for approved business courses and general education requirements for the college or university of choice.

Adult Accelerated Evening Program

Hawkeye Community College and Mount Mercy University have partnered to offer a degree program designed for working adults, with evening courses delivered in an accelerated format. With the Hawkeye/ Mount Mercy Accelerated program, students can:

- Complete their associate degree and continue on to earn their bachelor's degree from Mount Mercy on Hawkeye's campus.
- Focus on one class at a time, with classes meeting once a week in the evening for 5-10 weeks.
- Transfer up to 75 credits from Hawkeye towards their bachelor's degree from Mount Mercy.

[Learn more about the Mount Mercy at Hawkeye partnership program.](#)

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Business Administration](#)

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Business Administration Transfer Program Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
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Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Business Administration Transfer Program Courses

Award: Associate of Arts (AA)

Required number of credits: 63

Program Start: Fall, Spring, Summer

Planning Your Class Schedule

Students should work with a Hawkeye program advisor to select courses, make a transfer plan, and review their progress.

You are also encouraged to contact the admissions office at the college to which you plan to transfer during your first year at Hawkeye in order to obtain specific program and transfer requirements.

The following courses are designed to transfer to the University of Northern Iowa's College of Business Administration. Students planning to transfer to a college other than UNI, should work with their advisor for approved business courses.

* UNI specific courses.

2016–2017 Suggested Sequence of Study and Course Cost

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
BCA201	Introduction to Information Systems ▶ *	3 ◆
ECN120	Principles of Macroeconomics ▶	3 ◆
ENG105	Composition I ▶	3 ◆
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
<u>View Course Descriptions</u>		Total Credits 15

Semester 2		
ECN130	Principles of Microeconomics ▶	3 ◆
ENG106	Composition II ▶	3 ◆
HIS117	Western Civilization I: Ancient and Medieval -OR-	3 ◆
HIS118	Western Civilization II: Early Modern -OR-	3 ◆

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HIS119	Western Civilization III: The Modern Period	3	◆
MAT156	Statistics ► * -OR-	3	◆
MAT110	Math for Liberal Arts ► -OR-	3	◆
MAT122	College Algebra ► -OR-	5	◆
MAT128	Precalculus ► -OR-	4	◆
MAT134	Trigonometry and Analytic Geometry ► -OR-	3	◆
MAT210	Calculus I ►	4	◆
<u>Social Diversity Course</u>		3	
View Course Descriptions		Total Credits 15	

Semester 3

ACC131	Principles of Accounting I ►	4	◆
BUS210	Business Statistics ► *	3	◆
HIS151	U.S. History to 1877 -OR-	3	◆
HIS152	U.S. History Since 1877 -OR-	3	◆
POL111	American National Government	3	◆
<u>Biological Science Course</u> -OR-		4	
<u>Physical Science Course</u>		4	
<u>Humanities B: Non-Western Cultures Course</u>		3	
View Course Descriptions		Total Credits 17	

Semester 4

ACC132	Principles of Accounting II ►	4	◆
BUS230	Quantitative Methods for Business Decision Making ► *	3	◆
<u>Biological Science Course</u> -OR-		3	
<u>Physical Science Course</u>		3	
<u>Social Science: Topics in Social Science</u>		3	
<u>Humanities B: Literature and Fine Arts Course</u> -OR-		3	
<u>Humanities B: Philosophy and Religion Course</u>		3	
View Course Descriptions		Total Credits 16	

Criminal Justice Transfer Program

The Criminal Justice program is designed to allow students to complete the first two years of a four-year bachelor's degree program. A variety of courses from a wide range of disciplines are offered to prepare students to transfer to public or private four-year colleges and universities. This degree offers a balanced distribution of criminal justice courses and liberal arts electives.

Students majoring in Criminal Justice need to complete the 40 credits of general education requirements for the Associate of Arts degree and complete a minimum of 22 credits of the criminal justice courses.

The Associate of Arts in Criminal Justice degree enables graduates to enter four-year institutions with junior standing in criminal justice. If graduates decide to postpone their transfer, the courses in the program could prepare the associate degree graduate for entry-level employment in the criminal justice career field, including positions in corrections.

After completing a four-year degree, graduates can find careers with the court system, state and federal law enforcement, juvenile court services, probation and parole systems, and more.

Transfer Information

This degree provides all the necessary general education and specific course requirements to allow graduates to transfer to any four-year institution and to pursue degrees in criminal justice related majors such as corrections, criminology, or social work. For more information, contact a program advisor.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Criminal Justice](#)

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Criminal History Matters

As a future criminal justice professional, students need to use good judgment in all areas of their personal, professional, and scholastic interactions and activities; and must keep their records clean. Criminal justice organizations require background checks for internships, volunteer placements, and employment; which will include adult and juvenile civil and criminal issues, official and informal contacts with police, and character references. Employment will also hinge on the successful completion of a polygraph, credit check, and psychological evaluation.

Be aware that character counts and your behavior can sabotage your ability to graduate from this program and your ability to work in the field. Consider what your actions and criminal history says about you...i.e. an OWI conviction indicates that you demonstrate poor judgment by drinking to excess and deciding to drive, which may kill or injure you or another person. Remember your personal behaviors (what you didn't get caught for) will be revealed during the polygraph, and what you do privately (when no one is watching or supervising) speaks volumes as to the true content of one's character.

If you want to work in criminal justice avoid these issues:

- Acquiring speeding tickets or safety violation citations.
- Acquiring a suspended driver's license or citations for driving with a suspended license.
- Participating in underage drinking, using fake ID's, or buying alcohol for underage persons.
- Use or abuse of prescription drugs, street drugs, club drugs (ecstasy), marijuana, or synthetic drugs.
- Engaging in theft of property, goods, or services.

You will not be employable in criminal justice if you have:

- Felony convictions.
- Domestic abuse convictions.
- Placement on an abuse registry (Sex offender, child/elder abuse).
- Drug convictions, or history of drug use or abuse (methamphetamine, cocaine, heroin, etc.) Each agency (city, county, state, or federal) sets their own limits on marijuana use from zero tolerance to a limited amount of use, and factors in how recent the use was.
- Weapons violations.

Ultimately, criminal justice employers will rationalize your behavior by this criteria: If you know or reasonably believe an action is illegal or will cause harm then the best candidate will take responsibility, demonstrate self-control, and not do it.

Lastly, employers will ask our faculty for references. Students need to know that full time faculty and adjunct faculty members are constantly formally and informally assessing students in terms of academic performance, attendance, honesty, professionalism, social skills, maturity, and appearance so that we can make objective assessments when asked. Your interactions count, and we are here to mentor you.

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Criminal Justice Transfer Program Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Criminal Justice Transfer Program Courses

Award: Associate of Arts (AA)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Criminal Justice transfer program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CRJ100	Introduction to Criminal Justice	3 ◆
ENG105	Composition I ▶	3 ◆
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT122	College Algebra ▶ -OR-	5 ◆
MAT128	Precalculus ▶ -OR-	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶ -OR-	3 ◆
MAT156	Statistics ▶ * -OR-	3 ◆
MAT210	Calculus I ▶	4 ◆
SOC205	Diversity in America	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 15

* Preferred UNI transfer course.

Semester 2		
CRJ120	Introduction to Corrections	3 ◆
CRJ320	Criminal Justice Ethics	3 ◆
ENG106	Composition II ▶	3 ◆
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
		3

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Humanities B: Literature and Fine Arts Course -OR-
Humanities B: Philosophy and Religion Course -OR-
Humanities B: Non-Western Cultures

Two courses from Humanities B in two different areas.

[View Course Descriptions](#)

Total Credits 15

Semester 3

CRJ200	Criminology	3	◆
CRJ233	Probation, Parole, Community-Based Corrections ▶	3	◆
HIS117	Western Civilization I: Ancient and Medieval -OR-	3	◆
HIS118	Western Civilization II: Early Modern -OR-	3	◆
HIS119	Western Civilization III: The Modern Period	3	◆
<u>Social Sciences: Topics in Social Sciences Course</u>		3	
<u>Biological Science Course</u>		4	

[View Course Descriptions](#)

Total Credits 16

Semester 4

CRJ201	Juvenile Delinquency	3	
CRJ316	Juvenile Justice ▶ -OR-	3	◆
CRJ317	White Collar Crime ▶ -OR-	3	◆
CRJ318	Crime Analysis ▶	3	◆
CRJ316	Juvenile Justice ▶ -OR-	3	◆
CRJ317	White Collar Crime ▶ -OR-	3	◆
CRJ318	Crime Analysis ▶	3	◆
<u>Social Sciences: American Society Course</u>		3	
<u>Humanities B: Literature and Fine Arts Course</u> -OR- <u>Humanities B: Philosophy and Religion Course</u> -OR- <u>Humanities B: Non-Western Cultures</u>		3	
<i>Two courses from Humanities B in two different areas.</i>			
<u>Physical Science Course</u>		3	

[View Course Descriptions](#)

Total Credits 18

Agricultural Business Management

The Agricultural Business Management program prepares students for careers in sales, service, production, management, marketing, and research. Hawkeye's 400-acre Farm Lab utilizes new and up-to-date facilities and equipment to provide students with hands-on experience in the latest production and management techniques.

Transfer Information

Hawkeye's Agriculture and Natural Resources programs have articulation agreements with Iowa State University, Upper Iowa University, and Northwest Missouri State University to transfer general education and technical credits. Many other state and private colleges accept up to 65 credits. For more information, contact a program advisor.

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Agricultural Business Management Careers

The changing face of agriculture has resulted in new and challenging career opportunities. Agricultural employees work in fields and offices dealing with individuals, corporations, plants, animals, and equipment in the agriculture production cycle. Students are prepared for technical careers using GPS, data collection systems, and geospatial mapping software. Emphasis is placed on the application of these technologies in agriculture production.

Graduates find employment working as:

- agronomy specialists
- crop scouts
- equipment/parts assistants
- grain merchandisers
- farm and business managers
- GPS/GIS technologists
- research assistants

Graduates may work in:

- agriculture production
- agriculture sales and marketing
- agriculture finance

Starting Wages: \$30,800 – \$54,500 per year*

*Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Agricultural Business Management](#)
- [General Agriculture - Diploma](#)
- [Precision Agriculture - Certificate](#)

Employers

Ag Leader Technology	Ames, IA
AgVantage FS	Waverly, IA
MaxYield Cooperative	Emmetsburg, IA
Pioneer Hi-Bred	Johnston and Reinbeck, IA
United Agri Products, Inc.	Winthrop, IA

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Agricultural Business Management Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Agricultural Business Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Agricultural Business Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGA114	Principles of Agronomy -OR-	3
BIO105	Introductory Biology -OR-	4 ◆
BIO112	General Biology I -OR-	4 ◆
BIO113	General Biology II -OR-	4 ◆
AGH280	Botany for Horticulture	3
AGC103	Ag Computers -OR-	3
CSC110	Introduction to Computers ▶ -OR-	3 ◆
BCA201	Introduction to Information Systems ▶ -OR-	3 ◆
ELT192	Introduction to Computer Science	3
AGS113	Survey of the Animal Industry -OR-	3
	<u>Agriculture Electives</u> (<i>Agronomy, Farm Management, or Comprehensive–Miscellaneous</i>)	3
CNS121	Environmental Conservation * -OR-	3 ◆
	<u>Science Elective</u>	3
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3

[View Course Descriptions](#)

Total Credits 18

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* If you are interested in transferring, please see an advisor.

Semester 2		
AGA154	Fundamentals of Soil Science	3
AGA376	Integrated Pest Management -OR- <u>Electives</u> (<i>Agriculture, Biology, Business, Economics, Management, Marketing, or Welding</i>)	3
AGP450	Fundamentals of GIS -OR-	3
AGP340	Foundations of GIS and GPS -OR-	3
AGP436	Advanced Precision Farming Hardware	3
AGS319	Animal Nutrition -OR- <u>Agriculture Electives</u> (<i>Animal Science</i>)	3
SOC115	Social Problems -OR-	3 ◆
PSY111	Introduction to Psychology -OR-	3 ◆
PSY102	Human and Work Relations -OR-	3 □
SOC110	Introduction to Sociology	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
<u>View Course Descriptions</u>		Total Credits 18

Semester 3		
ACC131	Principles of Accounting I ► -OR-	4 ◆
ACC115	Introduction to Accounting -OR-	4
ACC111	Introduction to Accounting	3
AGA214	Cash Grains -OR-	3
BIO105	Introductory Biology -OR-	4 ◆
BIO112	General Biology I -OR-	4 ◆
BIO113	General Biology II	4 ◆
AGB101	Agricultural Economics -OR-	3
ECN110	Introduction to Economics -OR-	3 ◆
ECN120	Principles of Macroeconomics ► -OR-	3 ◆
ECN130	Principles of Microeconomics ►	3 ◆
AGB235	Introduction to Agriculture Markets -OR-	3
MKT110	Principles of Marketing	3 ◆
AGB303	Agriculture Leadership -OR-	3
AGP436	Advanced Precision Farming Hardware -OR-	3
AGH292	Garden Center Management -OR- <u>Electives</u> (<i>Agriculture-Technology or Welding</i>)	3
AGP333	Precision Farming Systems -OR-	3

CET233	Fundamentals of GPS and GIS ► -OR-	3
AGP340	Foundations of GIS and GPS	3
View Course Descriptions		Total Credits 19

Semester 4

AGB330	Farm Business Management -OR-	3	◆
FIN121	Personal Finance	3	
AGB331	Entrepreneurship in Agriculture -OR-	3	
BUS102	Introduction to Business -OR-	3	◆
BUS183	Business Law -OR-	3	◆
MGT101	Principles of Management -OR-	3	◆
MGT110	Small Business Management -OR-	3	
MGT170	Human Resource Management	3	
AGB336	Agricultural Selling -OR-	3	
MKT110	Principles of Marketing -OR-	3	◆
MKT152	Advertising and Visual Merchandising -OR-	3	
MKT160	Principles of Retailing	3	
AGT805	Employment Experience	5	
View Course Descriptions		Total Credits 14	

Agriculture Electives (Agronomy, Farm Management, or Comprehensive –Miscellaneous)

AGA114	Principles of Agronomy	3	
AGA376	Integrated Pest Management	3	
AGB101	Agricultural Economics	3	
AGB303	Agriculture Leadership	3	
AGB336	Agricultural Selling	3	
AGC999	Study Abroad	1	◆
View Course Descriptions			

Electives (Agriculture, Biology, Business, Economics, Management, Marketing, or Welding)

AGA214	Cash Grains	3	
AGA376	Integrated Pest Management	3	
AGB101	Agricultural Economics	3	
AGB303	Agriculture Leadership	3	

AGB331	Entrepreneurship in Agriculture	3
AGB336	Agricultural Selling	3
AGC999	Study Abroad	1 ♦
AGH292	Garden Center Management	3
AGP340	Foundations of GIS and GPS	3
AGP436	Advanced Precision Farming Hardware	3
AGP450	Fundamentals of GIS	3
AGS113	Survey of the Animal Industry	3
AGS216	Equine Science	3
AGS218	Domestic Animal Physiology ▶	4
AGS225	Swine Science	3
AGS226	Beef Cattle Science	3
AGS272	Foods of Animal Origin ▶	5
AGS305	Livestock Evaluation	3
AGS319	Animal Nutrition	3
AGT700	Special Topics: Agriculture Education ▶	1
AGT928	Independent Study	1
AGT928	Independent Study	1
BIO105	Introductory Biology	4 ♦
BIO112	General Biology I	4 ♦
BIO113	General Biology II	4 ♦
BUS102	Introduction to Business	3 ♦
BUS183	Business Law	3 ♦
ECN110	Introduction to Economics	3 ♦
ECN120	Principles of Macroeconomics ▶	3 ♦
ECN130	Principles of Microeconomics ▶	3 ♦
MGT101	Principles of Management	3 ♦
MGT110	Small Business Management	3
MGT170	Human Resource Management	3
MKT140	Principles of Selling	3
MKT152	Advertising and Visual Merchandising	3
MKT160	Principles of Retailing	3
WEL104	Introduction to MIG Welding	2
WEL134	Cutting Processes	2
WEL155	Arc Welding I (SMAW)	4

[View Course Descriptions](#)

Agriculture Electives (*Animal Science*)

AGS113	Survey of the Animal Industry	3
AGS216	Equine Science	3
AGS218	Domestic Animal Physiology ▶	4
AGS225	Swine Science	3
AGS226	Beef Cattle Science	3
AGS272	Foods of Animal Origin ▶	5
AGS305	Livestock Evaluation	3

[View Course Descriptions](#)

Electives (*Agriculture-Technology or Welding*)

AGT700	Special Topics: Agriculture Education ▶	1
AGT928	Independent Study	1
WEL104	Introduction to MIG Welding	2
WEL134	Cutting Processes	2
WEL155	Arc Welding I (SMAW)	4

[View Course Descriptions](#)

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Science Electives

BIO105	Introductory Biology	4	◆
BIO112	General Biology I	4	◆
BIO113	General Biology II	4	◆
CHM122	Introduction to General Chemistry ▶	4	◆
CHM165	General Chemistry I ▶	4	◆
ENV115	Environmental Science	3	◆

[View Course Descriptions](#)

Agricultural Business Management – General Agriculture Courses

Award: Diploma

Required number of credits: 36

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The General Agriculture program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGA114	Principles of Agronomy	3
AGC103	Ag Computers	3
AGS113	Survey of the Animal Industry	3
CNS121	Environmental Conservation	3 ◆
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 18

Semester 2		
AGA154	Fundamentals of Soil Science	3
AGA376	Integrated Pest Management	3
AGP450	Fundamentals of GIS	3
AGS319	Animal Nutrition	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆

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SPC101	Fundamentals of Oral Communication	3	◆
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[View Course Descriptions](#)

Total Credits 18

Math Electives

MAT122	College Algebra ▶	5	◆
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MAT128	Precalculus ▶	4	◆
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MAT134	Trigonometry and Analytic Geometry ▶	3	◆
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MAT210	Calculus I ▶	4	◆
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MAT216	Calculus II ▶	4	◆
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MAT219	Calculus III ▶	4	◆
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[View Course Descriptions](#)

Precision Agriculture Certificate Courses

Award: Certificate

Required number of credits: 15

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Precision Agriculture program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

► **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1	
AGA114 Principles of Agronomy	3
View Course Descriptions	Total Credits 3

Semester 2	
AGA154 Fundamentals of Soil Science	3
AGP450 Fundamentals of GIS	3
View Course Descriptions	Total Credits 6

Semester 3	
AGP333 Precision Farming Systems	3
AGP436 Advanced Precision Farming Hardware	3
View Course Descriptions	Total Credits 6

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Animal Science

The Animal Science program provides students with opportunities to develop skills and knowledge required for entering a career in animal science and transferring to the university level.

Students gain hands-on training on Hawkeye's 400-acre Farm Lab in the latest production and management techniques. Students participate in livestock judging teams, field trips, and presentations from industry representatives.

Veterinary Assisting is a three-semester, diploma option of the Animal Science program.

Experience and Training

The Animal Science eight-week Employment Experience allows students to gain real work experience at an employment site. This ensures that students acquire the skills they need to succeed on the job.

Transfer Information

Many state and private colleges and universities accept up to 65 credits. For more information, contact a program advisor.

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Animal Science Careers

Graduates find employment working in:

- livestock production
- livestock sales and marketing
- livestock processing
- animal genetics

Starting Wages: \$23,300 - \$33,600 per year*

*Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Animal Science](#)
- [General Agriculture - Diploma](#)

Employers

ADM Alliance Nutrition	Quincy, IL
Heartland Co-op	West Des Moines, IA
JBS USA	Marshalltown, IA
Tyson Foods, Inc.	Waterloo, IA
USDA Food Safety Inspection Service	

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Animal Science Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Animal Science Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Animal Science program requires a mix of general education and hands-on courses.

The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGA114	Principles of Agronomy -OR-	3
	<u>Natural Science Elective</u>	3
AGC103	Ag Computers	3
AGS113	Survey of the Animal Industry	3
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology -OR-	3 ◆
SOC115	Social Problems -OR-	3 ◆
PSY102	Human and Work Relations	3 ▣
SPC101	Fundamentals of Oral Communication	3 ◆
	<u>Animal Science or Agriculture Elective</u>	3
<u>View Course Descriptions</u>		Total Credits 18

Semester 2		
AGA154	Fundamentals of Soil Science -OR-	3
	<u>Natural Science Elective</u>	3
AGS216	Equine Science -OR-	3
AGS225	Swine Science -OR-	3
AGS226	Beef Cattle Science	3
	<i>Must complete 6 credits total.</i>	
AGS319	Animal Nutrition	3
ENG105	Composition I ▶ -OR-	3 ◆

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COM781	Written Communication in the Workplace ►	3	▣
MAT772	Applied Math -OR-	3	▣
MAT110	Math for Liberal Arts ► -OR-	3	◆
MAT156	Statistics ► -OR-	3	◆
	<u>Math Electives</u>	3	
<u>View Course Descriptions</u>		Total Credits 15	

Semester 3

ACC131	Principles of Accounting I ► -OR-	4	◆
ACC115	Introduction to Accounting	4	▣
AGB235	Introduction to Agriculture Markets -OR-	3	
	<u>Animal Science or Agriculture Elective</u>	3	
AGB303	Agriculture Leadership -OR-	3	
	<u>Animal Science or Agriculture Elective</u>	3	
AGS211	Issues Facing Animal Science	2	
AGS218	Domestic Animal Physiology ►	4	
	<u>Natural Science Elective</u>	4	
<u>View Course Descriptions</u>		Total Credits 20	

Semester 4

AGB336	Agricultural Selling -OR-	3	
	<u>Animal Science or Agriculture Elective</u>	3	
AGS216	Equine Science -OR-	3	
AGS225	Swine Science -OR-	3	
AGS226	Beef Cattle Science	3	
	<i>Must complete 6 credits total.</i>		
AGS272	Foods of Animal Origin ► -OR-	5	
AGC999	Study Abroad -OR-	1	◆
	<u>Animal Science or Agriculture Elective</u>	3	
AGT805	Employment Experience	5	
<u>View Course Descriptions</u>		Total Credits 16	

Animal and Agriculture Electives

AGA214	Cash Grains	3	
AGA284	Pesticide Application Certification	3	
AGA376	Integrated Pest Management	3	

AGB101	Agricultural Economics	3
AGB330	Farm Business Management	3 ♦
AGP333	Precision Farming Systems	3
AGP450	Fundamentals of GIS	3
AGS216	Equine Science	3
AGS225	Swine Science	3
AGS226	Beef Cattle Science	3
AGS275	Food Safety and Analysis	3
AGS305	Livestock Evaluation	3
AGV101	Veterinary Assisting ▶	3
AGV121	Veterinary Medical Terminology	2
AGV123	Companion Animal	3
AGV140	Veterinary Pharmacology ▶	3
AGV154	Veterinary Reception and Administration Skills	4

[View Course Descriptions](#)

Math Electives

MAT122	College Algebra ▶	5 ♦
MAT128	Precalculus ▶	4 ♦
MAT134	Trigonometry and Analytic Geometry ▶	3 ♦
MAT210	Calculus I ▶	4 ♦
MAT216	Calculus II ▶	4 ♦
MAT219	Calculus III ▶	4 ♦

[View Course Descriptions](#)

Natural Science Electives

BIO105	Introductory Biology	4 ♦
BIO112	General Biology I	4 ♦
BIO113	General Biology II	4 ♦
BIO151	Nutrition	3 ♦
BIO163	Essentials of Anatomy and Physiology	4 ♦
BIO168	Human Anatomy and Physiology I	4 ♦
BIO185	Microbiology w/Lab	3 ♦
BIO247	Applications of Biotechnology ▶	3 ♦
CHM122	Introduction to General Chemistry ▶	4 ♦
CHM132	Introduction to Organic and Biochemistry ▶	4 ♦
CHM165	General Chemistry I ▶	4 ♦

CHM175	General Chemistry II ▶	4	◆
CNS121	Environmental Conservation	3	◆
ENV115	Environmental Science	3	◆
GEO131	Physical Geography	3	◆
PHS120	Exploring Physical Science ▶	4	◆
PHS142	Principles of Astronomy ▶	3	◆
PHY172	College Physics II ▶	4	◆
PHY212	Classical Physics I ▶	5	◆
PHY222	Classical Physics II ▶	5	◆

[View Course Descriptions](#)

Animal Science – General Agriculture Courses

Award: Diploma

Required number of credits: 38

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Animal Science General Agriculture program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGC103	Ag Computers	3
AGS113	Survey of the Animal Industry	3
AGS305	Livestock Evaluation	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
	<u>Natural Science Elective</u>	4
<u>View Course Descriptions</u>		Total Credits 19

Semester 2		
ACC131	Principles of Accounting I ▶ -OR-	4 ◆
ACC115	Introduction to Accounting	4
AGA114	Principles of Agronomy -OR-	3
	<u>Natural Science Elective</u>	3
AGA154	Fundamentals of Soil Science	3
AGS319	Animal Nutrition	3
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT772	Applied Math -OR-	3 ▣

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MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
	<u>Math Electives</u>	3	
View Course Descriptions		Total Credits 19	

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Natural Science Electives

BIO105	Introductory Biology	4	◆
BIO112	General Biology I	4	◆
BIO113	General Biology II	4	◆
BIO163	Essentials of Anatomy and Physiology	4	◆
BIO168	Human Anatomy and Physiology I	4	◆
BIO185	Microbiology w/Lab	3	◆
CHM122	Introduction to General Chemistry ▶	4	◆
CHM132	Introduction to Organic and Biochemistry ▶	4	◆
CHM165	General Chemistry I ▶	4	◆
CHM175	General Chemistry II ▶	4	◆
CNS121	Environmental Conservation	3	◆
ENV115	Environmental Science	3	◆
GEO131	Physical Geography	3	◆
PHS120	Exploring Physical Science ▶	4	◆
PHS142	Principles of Astronomy ▶	3	◆
PHY172	College Physics II ▶	4	◆
PHY212	Classical Physics I ▶	5	◆
PHY222	Classical Physics II ▶	5	◆

[View Course Descriptions](#)

Landscape and Turf Management

The Landscape and Turf Management (formerly Horticulture Science) program provides students with the knowledge and skills to enter into various professional careers: golf course turf management, sports turf management, landscape design, landscape installation, grounds maintenance, lawn care, garden center manager, and greenhouse production with safety as a major focus. Educational diversity creates an added advantage for students learning Landscape and Turf Management. As a member of the PLANET organization, the program offers students an opportunity to travel and compete nationally in Student Career Days.

Experience and Training

The eight-week Employment Experience allows students to gain real work experience at an employment site. This ensures that students gain the skills they need to succeed on the job.

Transfer Information

Hawkeye's Agriculture and Natural Resources programs have articulation agreements with Iowa State University, Upper Iowa University, Mount Mercy University, and Northwest Missouri State University to transfer both general education and technical credits. Many other state and private colleges and universities accept up to 65 credits. For more information, contact a program advisor.

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Landscape and Turf Management Careers

Careers in Landscape and Turf Management include:

- golf course management
- sports turf manager
- landscape design
- landscape installation
- grounds maintenance
- lawn care
- garden center manager
- greenhouse production

Starting Wages: \$16,900 - \$26,500 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Landscape and Turf Management](#)
- [Grounds Maintenance - Diploma](#)

Employers

Bear Creek Landscapes	Cedar Falls, IA
Beaver Hills Country Club	Cedar Falls, IA
City of Cedar Falls	Cedar Falls, IA
Elmcrest Country Club	Cedar Rapids, IA
Iowa Cubs	Des Moines, IA
Matthias Landscaping Co.	Cedar Falls, IA
Minnesota Vikings	Minneapolis, MN
Sunnyside Country Club	Waterloo, IA
Wapsie Pines Lawn Care & Landscaping	Dunkerton, IA
Waterloo Leisure Services	Waterloo, IA

Many graduates have become self-employed and own successful businesses.

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Landscape and Turf Management Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Landscape and Turf Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 71

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Landscape and Turf Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGA154	Fundamentals of Soil Science	3
AGC103	Ag Computers -OR-	3
CSC110	Introduction to Computers ▶	3 ◆
AGH112	Introduction to Turfgrass Management	3
AGH221	Principles of Horticulture	3
AGH280	Botany for Horticulture	3
CON108	Construction Safety	1
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
View Course Descriptions		Total Credits 19

Semester 2		
AGA284	Pesticide Application Certification	3
AGA376	Integrated Pest Management	3
AGH233	Plant Propagation I	3
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT122	College Algebra ▶ -OR-	5 ◆
MAT156	Statistics ▶	3 ◆
PSY102	Human and Work Relations -OR-	3 ▣

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PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
<u>Electives—Group 1</u>		3	
View Course Descriptions		Total Credits 18	

Semester 3 – Summer (optional)			
AGT805	Employment Experience * -OR-	5	
<u>Heavy Equipment Electives</u> (Offered Summer Only)		6	
<i>* Required course. May be taken during Semester 3 or 5.</i>			
View Course Descriptions		Total Credits 5	

Semester 4			
AGH123	Woody Plant Materials	3	
AGH142	Landscape Construction	3	
AGH161	Irrigation Systems	3	
AGH200	Landscape Estimating and Bidding	2	
SPC101	Fundamentals of Oral Communication	3	◆
<u>Electives—Group 2</u>		3	
View Course Descriptions		Total Credits 17	

Semester 5			
AGB331	Entrepreneurship in Agriculture	3	
AGH211	Advanced Turfgrass Management -OR-	3	
AGH292	Garden Center Management	3	
<u>Electives—Group 1</u>		6	
View Course Descriptions		Total Credits 12	

Electives—Group 1			
AGH107	Horticulture Lab	1	
AGH119	Herbaceous Plant Materials	2	
AGH140	Equipment Operations	2	
AGH143	Equipment Repair	3	
AGH152	Landscape Design Techniques	3	
AGH159	Landscape Graphics ►	2	

AGH270	Nursery Production	2
AGH425	Grounds Maintenance	3
AGP340	Foundations of GIS and GPS	3
AGT805	Employment Experience	5

Required course. May be taken during Semester 3 or 5.

[View Course Descriptions](#)

Electives—Group 2

AGH107	Horticulture Lab	1
AGH134	Greenhouse Production	3
AGH161	Irrigation Systems	3
AGH273	Nursery Management	3
AGH400	Athletic Field Maintenance	3

[View Course Descriptions](#)

Heavy Equipment Electives

HEQ100	Introduction to Construction Equipment Operation	1
HEQ104	Equipment Maintenance I	2
HEQ105	Skid Steer Operation	3
HEQ106	Compact Excavator Operation	3
HEQ107	Wheel Loader Operation	2

[View Course Descriptions](#)

Grounds Maintenance Diploma Courses

Award: Diploma

Required number of credits: 31

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Grounds Maintenance Diploma program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGC103	Ag Computers -OR-	3
CSC110	Introduction to Computers ▶	3 ◆
AGH112	Introduction to Turfgrass Management	3
AGH140	Equipment Operations	2
AGH280	Botany for Horticulture	3
CON108	Construction Safety	1
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
View Course Descriptions		Total Credits 15

Semester 2		
AGA284	Pesticide Application Certification	3
AGA376	Integrated Pest Management	3
AGH119	Herbaceous Plant Materials	2
AGH233	Plant Propagation I	3
AGH270	Nursery Production	2
AGH425	Grounds Maintenance	3
View Course Descriptions		Total Credits 16

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Natural Resources Management

The Natural Resources Management program enables students to learn about the physical aspects of managing natural areas as well as the theory behind the procedures. Students develop the necessary skills and certifications for entering careers as natural resources technicians through a combination of classroom instruction, laboratory activities, and an eight-week cooperative work experience.

A trademark of the program is the Advanced Outdoor Recreation Techniques class in which students travel to the Boundary Waters Canoe Wilderness Area or to the Bighorn Mountains in Wyoming for wilderness experiences.

Transfer Information

Hawkeye's Agriculture and Natural Resources programs have articulation agreements with Iowa State University and Upper Iowa University to transfer both general education and technical credits. Many other state and private colleges and universities accept up to 65 credits. For more information, contact a program advisor.

Natural Resources Activities

As a Natural Resources Management student you will have many opportunities to experience a variety of natural resources activities throughout the year, both on and off campus.

August	Wyoming Wilderness Trip Boundary Waters Wilderness Trip
September	Canoe Trip and Campout for Outdoor Rec Natural Resources Club Service Project: Assist with Black Hawk County Conservation Board Electronic Waste Recycling Stihl Chain Saw Safety Clinic
October	Natural Resources Club Service Project: Assist with Black Hawk County Conservation Board Panic Park
November	Natural Resources Club Potluck National River Museum and Aquarium trip
December	Chronic Wasting Disease testing with the Iowa Department of Natural Resources at Sweet Marsh Natural Resources Club Potluck and White Elephant Gift Exchange
January	Iowa County Conservation Board Conference: Winterfest Collegiate Day Iowa Women in Natural Resources Annual Conference
February	Necropsy of bobcats and river otters with the Iowa Department of Natural Resources Winter Campout: Winter Camping, Snowshoeing, Jerky Making, Paracord Bracelets Ice Fishing

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March Deer Classic
Omaha Zoo Trip and Sandhill Crane Migration Viewing

April Trumpeter Swan Banding and Relocation
Envirothon
Leave No Trace certification
Jug Fishing
Mushroom Hunting

Accreditation

The Natural Resources Management program at Hawkeye Community College is accredited by the North American Wildlife Technology Association. Hawkeye is the only college in Iowa to be accredited through the North American Wildlife Technology Association.

North American Wildlife Technology Association accreditation provides assurance of the context and quality of the education offered. The Natural Resource Management program is reviewed every five years to maintain our accreditation status, to ensure curriculum standards are met; and to recognize specific knowledge, skill sets, and aptitudes.

The North American Wildlife Technology Association also provides an opportunity for exchanging ideas and educational materials in addition to providing opportunities for faculty professional development. For example, each June Hawkeye faculty travel to the professional development conference to learn about wildlife management techniques.

Natural Resources Management Careers

Careers in Natural Resources Management include:

- roadside management
- vegetation management
- wildlife technician
- wildlife management
- environmental education
- native plant nurseries
- parks and recreation
- naturalist
- soil conservation technician

Starting Wages: \$29,800 - \$51,000 per year*

*Source: Iowa Workforce Development

Employers

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Natural Resources Management](#)
- [Natural Resources Management Transfer](#)
- [Natural Resources Management - Certificate](#)

Black Hawk County Conservation Board	Waterloo, IA
Bremer County Conservation Board	Tripoli, IA
Buchanan County Secondary Roads	Independence, IA
Feder's Prairie Seed Co.	Blue Earth, MN
Grundy County Conservation Board	Grundy Center, IA
Iowa Department of Natural Resources	Boone, Lake Rathbun, Wapello, and other Iowa locations
Montana Fish, Wildlife, and Parks	Libby, MT
National Forest Service/LBL National Recreation Area	Kentucky and Tennessee
Waterloo/Lost Island Waterpark KOA	Waterloo, IA
Western Ecosystems Technology, Inc.	Cheyenne, WY

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Natural Resources Management Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Natural Resources Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 65

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Natural Resources Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CNS107	Outdoor Recreation Techniques	1
CNS110	Equipment Operation and Safety (Offered Fall Only) -OR- <i>May take CNS110 and CNS143, or CHM122, or CHM165.</i>	2
CHM122	Introduction to General Chemistry ▶ -OR-	4 ◆
CHM165	General Chemistry I ▶	4 ◆
CNS121	Environmental Conservation	3 ◆
CNS204	Native Vegetation	3
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT102	Intermediate Algebra ▶ -OR-	4 ◆
MAT772	Applied Math * -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 16

* Preferred Math course.

Semester 2		
AGA154	Fundamentals of Soil Science -OR-	3
BIO113	General Biology II	4 ◆

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AGA284	Pesticide Application Certification -OR-	3
BIO112	General Biology I	4 ◆
AGP340	Foundations of GIS and GPS	3
CNS104	Outdoor Recreation II ▶	1
CNS108	Wildlife Identification	3
CNS143	Fire Management ▶ (Offered Spring Only) -OR- <i>May take CNS110 and CNS143, or CHM122, or CHM165.</i>	3
CHM122	Introduction to General Chemistry ▶ -OR-	4 ◆
CHM165	General Chemistry I ▶	4 ◆
CNS180	Principles of Interpretation ▶	2
View Course Descriptions		Total Credits 18

Semester 3

CNS136	Aquatic Management ▶ -OR-	3
CNS138	Woodland Management -OR-	3
ENG106	Composition II ▶	3 ◆
CNS138	Woodland Management -OR-	3
CNS136	Aquatic Management ▶ -OR-	3
ENG106	Composition II ▶	3 ◆
CNS205	Advanced Outdoor Recreation Techniques ▶	1
CNS228	Natural Areas Management	3
SOC110	Introduction to Sociology -OR-	3 ◆
PSY111	Introduction to Psychology -OR-	3 ◆
PSY102	Human and Work Relations	3 □
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 16

Semester 4

AGT805	Employment Experience	5
CNS109	Wildlife Ecology ▶	3
CNS134	Wildlife Management ▶ -OR-	4
CNS929	Individual Projects ▶	1
CNS200	Conservation Biology ▶	3
View Course Descriptions		Total Credits 15

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Natural Resources Management – Transfer Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 65

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Natural Resources Management transfer program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CNS107	Outdoor Recreation Techniques	1
CNS110	Equipment Operation and Safety (Offered Fall Only) -OR-	2
CHM122	Introduction to General Chemistry ▶ -OR-	4 ◆
CHM165	General Chemistry I ▶ * <i>May take CNS110 and CNS143, or CHM122, or CHM165.</i>	4 ◆
CNS121	Environmental Conservation	3 ◆
CNS204	Native Vegetation	3
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT102	Intermediate Algebra ▶ -OR-	4 ◆
MAT156	Statistics ▶ * -OR-	3 ◆
MAT122	College Algebra ▶ * -OR-	5 ◆
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT772	Applied Math -OR-	3 ▣
<u>Math Electives</u>		
<u>View Course Descriptions</u>		Total Credits 16

* Preferred transfer course.

Semester 2

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AGA154	Fundamentals of Soil Science -OR-	3
BIO113	General Biology II	4 ◆
AGA284	Pesticide Application Certification -OR-	3
BIO112	General Biology I *	4 ◆
AGP340	Foundations of GIS and GPS	3
CNS104	Outdoor Recreation II ►	1
CNS108	Wildlife Identification	3
CNS143	Fire Management ► (Offered Spring Only) -OR-	3
CHM165	General Chemistry I ► -OR-	4 ◆
CHM122	Introduction to General Chemistry ► <i>May take CNS110 and CNS143, or CHM122, or CHM165.</i>	4 ◆
CNS180	Principles of Interpretation ►	2
<u>View Course Descriptions</u>		Total Credits 18

* Preferred transfer course.

Semester 3

CNS136	Aquatic Management ► -OR-	3
CNS138	Woodland Management -OR-	3
ENG106	Composition II ►	3 ◆
CNS205	Advanced Outdoor Recreation Techniques ►	1
CNS228	Natural Areas Management	3
ENG106	Composition II ► * -OR-	3 ◆
CNS136	Aquatic Management ► -OR-	3
CNS138	Woodland Management	3
SOC110	Introduction to Sociology -OR-	3 ◆
PSY111	Introduction to Psychology	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
<u>View Course Descriptions</u>		Total Credits 16

* Preferred transfer course.

Semester 4

AGT805	Employment Experience -OR- <u>Math Electives</u>	5
CNS109	Wildlife Ecology ►	3
CNS134	Wildlife Management ► -OR-	4
CNS929	Individual Projects ► -OR-	1
PHI105	Introduction to Ethics	3 ◆
CNS200	Conservation Biology ►	3

[View Course Descriptions](#)

Total Credits 15

Math Electives

MAT102	Intermediate Algebra ▶	4	◆
MAT110	Math for Liberal Arts ▶	3	◆
MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT156	Statistics ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Natural Resources Management – Certificate Courses

Award: Certificate

Required number of credits: 9

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Natural Resources Management certificate option program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CNS107	Outdoor Recreation Techniques -OR-	1
CNS104	Outdoor Recreation II ▶	1
CNS110	Equipment Operation and Safety -OR-	2
CNS143	Fire Management ▶	3
CNS121	Environmental Conservation	3 ◆
CNS204	Native Vegetation -OR-	3
CNS108	Wildlife Identification	3
<u>View Course Descriptions</u>		Total Credits 9

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Veterinary Assisting

This Veterinary Assisting program provides students with opportunities to develop skills and knowledge required for entering a career as a veterinary assistant.

Students develop knowledge and understanding of livestock production and companion animals through classroom instruction, hands-on labs, employment experience, field trips, and industry speakers. Students receive instruction in companion animals and domesticated livestock, as well as anatomy and physiology, nutrition, and veterinary terminology.

Hawkeye's 400-acre Farm Lab utilizes new and up-to-date facilities and equipment to provide students with hands-on experience in the latest production and management techniques. Included on this site is a laboratory for veterinary assisting courses.

Veterinary Assisting is a three-semester, diploma option of the [Animal Science program](#).

Experience and Training

The Veterinary Assisting eight-week Employment Experience allows students to gain real work experience at an employment site. This ensures that students acquire the skills they need to succeed on the job.

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Veterinary Assisting Careers

Starting wages - \$16,700 - \$21,000 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Veterinary Assisting](#)

Employers

Brookside Veterinary Hospital	Cedar Falls, IA
Cedar Bend Humane Society	Waterloo, IA
Den Herder Veterinary Hospital	Waterloo, IA
Hudson Veterinary Clinic	Hudson, IA
PetSmart	Waterloo, IA

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Veterinary Assisting Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Veterinary Assisting Courses

Award: Diploma

Required number of credits: 41

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Veterinary Assisting program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGS113	Survey of the Animal Industry -OR-	3
	<u>Agriculture Elective</u>	3
AGS211	Issues Facing Animal Science	2
AGS218	Domestic Animal Physiology ▶	4
AGS319	Animal Nutrition	3
AGV154	Veterinary Reception and Administration Skills	4
<u>View Course Descriptions</u>		Total Credits 16

Semester 2		
AGV121	Veterinary Medical Terminology	2
AGV123	Companion Animal -OR-	3
AGS216	Equine Science -OR-	3
AGS225	Swine Science -OR-	3
AGS226	Beef Cattle Science	3
AGV140	Veterinary Pharmacology ▶	3
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆

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<u>Math Electives</u>		3
PSY102	Human and Work Relations -OR-	3 <input type="checkbox"/>
PSY111	Introduction to Psychology -OR-	3 <input checked="" type="checkbox"/>
SOC110	Introduction to Sociology	3 <input checked="" type="checkbox"/>
<u>View Course Descriptions</u>		Total Credits 17

Semester 3 – Summer		
AGT805	Employment Experience	5
AGV101	Veterinary Assisting ▶	3
<u>View Course Descriptions</u>		Total Credits 8

Math Electives		
MAT122	College Algebra ▶	5 <input checked="" type="checkbox"/>
MAT128	Precalculus ▶	4 <input checked="" type="checkbox"/>
MAT134	Trigonometry and Analytic Geometry ▶	3 <input checked="" type="checkbox"/>
MAT210	Calculus I ▶	4 <input checked="" type="checkbox"/>
MAT216	Calculus II ▶	4 <input checked="" type="checkbox"/>
MAT219	Calculus III ▶	4 <input checked="" type="checkbox"/>
<u>View Course Descriptions</u>		

Agriculture Electives		
AGA214	Cash Grains	3
AGA376	Integrated Pest Management	3
AGB101	Agricultural Economics	3
AGB235	Introduction to Agriculture Markets	3
AGB303	Agriculture Leadership	3
AGB330	Farm Business Management	3 <input checked="" type="checkbox"/>
AGB331	Entrepreneurship in Agriculture	3
AGB336	Agricultural Selling	3
AGP333	Precision Farming Systems	3
AGP450	Fundamentals of GIS	3
AGS216	Equine Science	3
AGS225	Swine Science	3
AGS226	Beef Cattle Science	3
AGS272	Foods of Animal Origin ▶	5

AGS275 Food Safety and Analysis 3

AGS305 Livestock Evaluation 3

[View Course Descriptions](#)

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Digital Mass Media

The Digital Mass Media program provides students with an in-depth knowledge of the digital media industry and the entry-level skills to enter into a variety of jobs within mass media and production communication fields. This program is for students who want to be on the cutting edge of digital media technology and are interested in creating and delivering multimedia content.

Through hands-on experience, students learn the skills to shoot digital video and still photos, record digital audio, and customize images, videos, podcasts, and social media. They will learn to plan, create, and manage digital content. They will also learn to craft stories and messages, record music for production, and broadcast over a variety of media including the Internet, social media, and television. Additionally, instruction will include desktop publishing, ethics and media law, media writing, marketing, and how technology and media affect society.

Transfer Information

Many four-year colleges and universities accept a limited number of transfer and elective credits. For more information, contact a program advisor.

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Digital Mass Media Careers

Graduates will meet the rapidly increasing demand for a new type of interactive technologist: one with a broad range of skills and one who can conceptualize, create, and deliver.

Emerging job opportunities include:

- multimedia specialists
- video journalists
- music video producers
- digital content specialists
- independent filmmakers
- social media marketers and specialists
- digital advertising specialists
- digital media producers
- multimedia designers

They may also find jobs as:

- web designers
- graphic artists
- sound technicians
- camera operators
- videographers
- photojournalists

Graduates may find employment in:

- large corporate public relations departments
- advertising agencies
- media outlets
- colleges and universities
- web design companies
- health organizations
- non-profit organizations

Starting Wages: \$17,300 - \$32,200 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Digital Mass Media](#)

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Digital Mass Media Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Digital Mass Media Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 60

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Digital Mass Media program requires a mix of general education and hands-on courses.

The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ENG105	Composition I ▶	3 ◆
MMS103	Basic Digital Photography	3
MMS105	Audio Production	3
MMS111	Video Production I	3
MMS128	Digital Print Production	3
View Course Descriptions		Total Credits 15

Semester 2		
MMS134	Media Writing	3
MMS138	Introduction to Website Dynamics	3
MMS208	Sound for Film and Video ▶ -OR-	3
MMS213	Video Production II ▶ -OR-	3
MMS214	Audio Production II ▶ -OR-	3
MMS233	Intermediate Digital Photography ▶ -OR-	3
	Digital Mass Media Elective - All Terms	3
MMS208	Sound for Film and Video ▶ -OR-	3
MMS213	Video Production II ▶ -OR-	3
MMS214	Audio Production II ▶ -OR-	3
MMS233	Intermediate Digital Photography ▶ -OR-	3
	Digital Mass Media Elective - All Terms	3
SPC101	Fundamentals of Oral Communication	3 ◆

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[View Course Descriptions](#)

Total Credits 15

Semester 3

MMS117	Social Media for Business	3
SOC110	Introduction to Sociology -OR-	3 ◆
PSY111	Introduction to Psychology	3 ◆
	Digital Mass Media Elective -Term 3 -OR-	3
	Digital Mass Media Elective - All Terms	3
	Digital Mass Media Elective - Term 3 -OR-	3
	Digital Mass Media Elective - All Terms	3
	Digital Mass Media Elective - Term 3 -OR-	3
	Digital Mass Media Elective - All Terms	3

[View Course Descriptions](#)

Total Credits 15

Semester 4

MAT772	Applied Math -OR-	3 □
MAT110	Math for Liberal Arts ▶	3 ◆
MMS265	Mass Communications Law	3
MMS901	Portfolio Production	3
	Digital Mass Media Elective - Term 4 -OR-	3
	Digital Mass Media Elective - All Terms	3
	Digital Mass Media Elective - Term 4 -OR-	3
	Digital Mass Media Elective - All Terms	3

[View Course Descriptions](#)

Total Credits 15

Digital Mass Media Electives - Term 3

MMS124	Survey of Commercial Video ▶	3
MMS300	Cinematography ▶	3
MMS302	Solo Video Journalism ▶	3
MMS320	Recording Studio I ▶	3
MMS330	Motion Graphics for Video ▶	3
MMS410	Film Editing ▶	3
MMS420	Recording Studio II ▶	3
MMS905	Digital Mass Media Internship ▶	1
MMS949	Special Topics ▶	3
MUA120	Applied Piano	1 ◆
MUA319	Applied Voice II	1 ◆

MUS100	Music Appreciation	3	◆
MUS102	Music Fundamentals	3	◆

[View Course Descriptions](#)

Digital Mass Media Electives - Term 4

MMS303	Scriptwriting	3	
MMS310	Independent Film Production ▶	3	
MMS420	Recording Studio II ▶	3	
MMS430	Documentary Film ▶	3	
MMS905	Digital Mass Media Internship ▶	1	
MMS949	Special Topics ▶	3	

[View Course Descriptions](#)

Digital Mass Media Electives - All Terms

ART101	Art Appreciation	3	◆
COM140	Introduction to Mass Media	3	◆
COM148	Diversity and the Media	3	◆
ENG221	Creative Writing	3	◆
MKT110	Principles of Marketing	3	◆
MKT140	Principles of Selling	3	
MKT142	Consumer Behavior	3	
MKT152	Advertising and Visual Merchandising	3	
MKT198	Sports Marketing	3	
PHT210	Visual Communication	3	
PHT242	Audio Visual Presentations ▶	3	

[View Course Descriptions](#)

Graphic Communications

The Graphic Communications program allows students to pursue a career in graphic design for print or web design and interactive media. Students learn to plan, design, and develop visual elements that effectively communicate a clear message through printed publications or online presences.

Students are provided with experience in design and layout, typography, desktop publishing, illustration, image editing, web design and development, motion graphics and animation for web, video production, digital photography, and pre-press production processes.

Graphic Design: Students learn to design and publish ads, brochures, logos, magazine covers, newsletters, packaging, posters, vehicle wraps, and much more.

Web Design: Students learn to design and develop responsive and interactive websites displayed on mobile, tablet, and desktop devices.

Transfer Information

Hawkeye Community College has articulation agreements with Iowa State University, the University of Iowa, the University of Northern Iowa, Central College, Mount Mercy University, Upper Iowa University, Loras College, Simpson College, and Wartburg College. Some of these colleges have articulation agreements with the Graphic Communications program and will accept complete or partial degrees, while other colleges evaluate transfer equivalency on a course-by-course basis. For more information, contact a program advisor.

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Graphic Communications Careers

A graphic designer uses visual elements to communicate messages through print and electronic media. Designers may design magazines and newspapers, websites, packaging, promotional displays and marketing materials.

The following are positions or titles held by Graphic Communication program graduates.

- advertising designer
- art director
- brand identity designer
- creative director
- freelance designer
- illustrator
- layout artist
- logo designer
- multimedia designer
- package designer
- photo editing / Photoshop artist
- pre-press technician
- publication designer
- web designer

Graphic Design Starting Wages: \$24,800 - \$38,000 per year*

Web Design Starting Wages: \$34,300 - \$60,000 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Graphic Communications](#)

Employers

The following is a partial list of employers who have hired or employ program graduates.

Almon, Inc.	Dubuque, IA
AMPERAGE Marketing	Cedar Falls, IA
Jack Henry & Associates, Inc.	Cedar Falls, IA
John Deere	Moline, IL
J.W. Morton & Associates	Cedar Rapids, IA
McCullough Creative	Dubuque, IA
Mudd Advertising	Cedar Falls, IA
North Forty	Hiawatha, IA

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Scientific Games Interactive/Williams Interactive SoCaMo	Cedar Falls, IA
Spinutech	Cedar Falls, IA
VGM Forbin & VGM Creative	Waterloo, IA

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Graphic Communications Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic
16 - Reading	69 - Reading	34 - Reading	62 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT045 Fundamentals of Math

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 54-60 students and 20 alternates each Fall Semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Graphic Communications Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 64

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Graphic Communications program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
GRA105	Drawing and Composition -OR-	4
ART133	Drawing -AND-	3 ◆
ART134	Drawing II	3 ◆
GRA133	Desktop Publishing	4
GRA196	Design and Layout I ▶	4
View Course Descriptions		Total Credits 15

Semester 2		
GRA124	Electronic Illustration ▶	4
GRA150	Introduction to Web Design	3
GRA197	Design and Layout II ▶	4
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
	<u>Graphic Communications Elective - All Terms</u>	2
View Course Descriptions		Total Credits 16

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Semester 3		
GRA142	Graphic Imaging ▶	4
GRA200	Applications of Color ▶	3
PSY102	Human and Work Relations -OR-	3 ◻
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
	<u>Graphic Communications Elective - Terms 3 or 4 -OR-</u>	3
	<u>Graphic Communications Elective - All Terms</u>	3
	<u>Graphic Communications Elective - Terms 3 or 4 -OR-</u>	3
	<u>Graphic Communications Elective - All Terms</u>	3
View Course Descriptions		Total Credits 16

Semester 4		
GRA206	Advanced Design and Layout ▶ (Offered Spring Only) -OR-	4
GRA238	Web Design and Layout ▶ -OR-	4
	<u>Graphic Communications Elective - Terms 3 or 4 -OR-</u>	4
	<u>Graphic Communications Elective - All Terms</u>	4
GRA206	Advanced Design and Layout ▶ (Offered Spring Only) -OR-	4
GRA238	Web Design and Layout ▶ -OR-	4
	<u>Graphic Communications Elective - Terms 3 or 4 -OR-</u>	4
	<u>Graphic Communications Elective - All Terms</u>	4
GRA290	Portfolio Preparation ▶	3
SPC101	Fundamentals of Oral Communication	3 ◆
	<u>Graphic Communications Elective - Terms 3 or 4 -OR-</u>	3
	<u>Graphic Communications Elective - All Terms</u>	3
View Course Descriptions		Total Credits 17

Graphics Communication Electives - Terms 3 or 4		
GRA162	Web Page Graphics ▶	3
GRA205	Design and Layout III ▶ (Offered Fall Only)	4
GRA285	Production Processes ▶	3
View Course Descriptions		

Graphics Communication Electives - All Terms		
GRA221	Principles of Illustration	3

GRA227	Interactive Multimedia ▶	4
GRA231	Photo Direction	2
GRA239	CMS Web Design ▶ (Offered Fall Only)	3
MGT101	Principles of Management	3 ◆
MKT110	Principles of Marketing	3 ◆
MKT140	Principles of Selling	3
MKT152	Advertising and Visual Merchandising	3
MMS103	Basic Digital Photography	3
MMS111	Video Production I	3

[View Course Descriptions](#)

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆

[View Course Descriptions](#)

Professional Photography

The Professional Photography program provides students with a working knowledge of the photography industry. Students are trained for entry-level positions in the fields of commercial, digital technician, and portraiture photography.

Students learn through classroom activities, live demonstrations, and hands-on experience in Hawkeye's photography studios, black-and-white processing lab, and in the computer imaging lab. Instruction in traditional analog and digital technologies provides students with a broad range of skills for employment.

Hawkeye's Professional Photography program is recognized as one of the best in the Midwest.

Accreditation

This program is recognized by the [Professional Photographers of America](#).

Transfer Information

Hawkeye has articulation agreements with Upper Iowa University and Mount Mercy University allowing graduates to enter with junior standing. The Iowa Regent universities accept a limited number of transfer and elective credits. Articulation agreements may assist graduates in transferring additional credits. For more information, contact a program advisor.

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Professional Photography Careers

Our graduates can be employed in many photographic career areas, including:

- professional photographic studios
- professional photographic color labs
- corporate industrial photography departments
- advertising agencies

Starting Wages: \$16,900 - \$30,000 per year*

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Professional Photography - Commercial](#)
- [Professional Photography - Portrait](#)
- [Professional Photography - Digital](#)

*Source: Iowa Workforce Development

Employers

Deere and Company	Moline, IL
DC Shoes, Inc.	Huntington Beach, CA
John Deere	Moline, IL
Meredith Corporation	Des Moines, IA
Read Photography	Cedar Rapids, IA
Stalzer Photography	Marshalltown, IA

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Professional Photography Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Professional Photography – Portrait Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 67

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Professional Photography Portrait emphasis program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
MAT772	Applied Math -OR-	3	▣
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
	<u>Math Electives</u>	3	
PHT102	Photo Design I	3	
PHT106	Introduction to Image Editing	3	
PHT108	Camera I ▶	3	
PHT109	Print I ▶	3	
PSY102	Human and Work Relations -OR-	3	▣
PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
<u>View Course Descriptions</u>		Total Credits 18	

Semester 2			
COM781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG105	Composition I ▶	3	◆
PHT110	Camera II ▶	3	
PHT111	Print II ▶	3	
PHT132	Photo Design II ▶	3	
PHT202	Basic Portraiture ▶	3	

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PHT204	Basic Commercial Photography ▶	3
View Course Descriptions		Total Credits 18

Semester 3

PHT215	Portrait Image Editing ▶	3
PHT220	Intermediate Portraiture ▶	3
PHT241	Portrait Business ▶	3
SPC101	Fundamentals of Oral Communication	3 ♦
	Portrait Emphasis Elective - Term 3 -OR-	3
	Portrait Emphasis Elective - Terms 3 or 4	3
	Portrait Emphasis Elective - Term 3 -OR-	3
	Portrait Emphasis Elective - Terms 3 or 4	3

View Course Descriptions		Total Credits 18
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Semester 4

PHT217	Advanced Portrait Image Editing ▶	3
PHT240	Portrait Production and Portfolio ▶	3
PHT244	Wedding Photography ▶	4
	Portrait Emphasis Elective - Term 4 -OR-	3
	Portrait Emphasis Elective - Terms 3 or 4	3

View Course Descriptions		Total Credits 13
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Portrait Emphasis Electives - Term 3

PHT208	Basic Photojournalism (Offered Fall Only)	3
PHT210	Visual Communication (Offered Fall Only)	3
PHT216	Commercial Image Editing ▶ (Offered Fall Only)	3
PHT227	Intermediate Commercial ▶ (Offered Fall Only)	3
PHT235	Tech. for Studio Promotion ▶ (Offered Fall Only)	3
PHT248	Commercial Business ▶ (Offered Fall Only)	3

[View Course Descriptions](#)

Portrait Emphasis Electives - Term 4

GRA133	Desktop Publishing	4
PHT218	Advanced Commercial Image Editing ▶ (Offered Spring Only)	3

PHT229	Intermediate Photojournalism ► (Offered Spring Only)	3
PHT245	History of Photography (Offered Spring Only)	3
PHT247	Commercial Production and Portfolio ► (Offered Spring Only)	3
PHT249	Advanced Commercial Lighting ► (Offered Spring Only)	3
PHT251	Fine Art Photography ► (Offered Spring Only)	3
PHT252	Film and Print Scanning ► (Offered Spring Only)	3
PHT253	Art Direction ► (Offered Fall Only)	3

[View Course Descriptions](#)

Portrait Emphasis Electives - Terms 3 or 4

BUS102	Introduction to Business	3	◆
MGT110	Small Business Management	3	
MKT110	Principles of Marketing	3	◆
MKT140	Principles of Selling	3	
NET109	A+ Certification Prep Course	4	
PHT242	Audio Visual Presentations ► (Offered Spring Only)	3	

[View Course Descriptions](#)

Math Electives

MAT122	College Algebra ►	5	◆
MAT128	Precalculus ►	4	◆
MAT134	Trigonometry and Analytic Geometry ►	3	◆
MAT210	Calculus I ►	4	◆
MAT216	Calculus II ►	4	◆

[View Course Descriptions](#)

Professional Photography – Commercial Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 66

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Professional Photography Commercial emphasis program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
MAT772	Applied Math -OR-	3	▣
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
	<u>Math Electives</u>	3	
PHT102	Photo Design I	3	
PHT106	Introduction to Image Editing	3	
PHT108	Camera I ▶	3	
PHT109	Print I ▶	3	
PSY102	Human and Work Relations -OR-	3	▣
PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
<u>View Course Descriptions</u>		Total Credits 18	

Semester 2			
COM781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG105	Composition I ▶	3	◆
PHT110	Camera II ▶	3	
PHT111	Print II ▶	3	
PHT132	Photo Design II ▶	3	
PHT202	Basic Portraiture ▶	3	

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PHT204	Basic Commercial Photography ▶	3
View Course Descriptions		Total Credits 18

Semester 3

PHT216	Commercial Image Editing ▶	3
PHT227	Intermediate Commercial ▶	3
PHT248	Commercial Business ▶	3
SPC101	Fundamentals of Oral Communication	3 ♦
	<u>Commercial Emphasis Elective - Term 3 -OR-</u>	3
	<u>Commercial Emphasis Elective - Terms 3 or 4</u>	3
View Course Descriptions		Total Credits 15

Semester 4

PHT218	Advanced Commercial Image Editing ▶	3
PHT247	Commercial Production and Portfolio ▶	3
PHT253	Art Direction ▶	3
	<u>Commercial Emphasis Elective - Term 4 -OR-</u>	3
	<u>Commercial Emphasis Elective - Terms 3 or 4</u>	3
	<u>Commercial Emphasis Elective - Term 4 -OR-</u>	3
	<u>Commercial Emphasis Elective - Terms 3 or 4</u>	3
View Course Descriptions		Total Credits 15

Commercial Emphasis Electives - Term 3

PHT208	Basic Photojournalism (Offered Fall Only)	3
PHT210	Visual Communication (Offered Fall Only)	3
PHT215	Portrait Image Editing ▶ (Offered Fall Only)	3
PHT220	Intermediate Portraiture ▶ (Offered Fall Only)	3
PHT235	Tech. for Studio Promotion ▶ (Offered Fall Only)	3
PHT241	Portrait Business ▶ (Offered Fall Only)	3
View Course Descriptions		

Commercial Emphasis Electives - Term 4

GRA133	Desktop Publishing	4
PHT217	Advanced Portrait Image Editing ▶ (Offered Spring Only)	3

PHT229	Intermediate Photojournalism ► (Offered Spring Only)	3
PHT240	Portrait Production and Portfolio ► (Offered Spring Only)	3
PHT244	Wedding Photography ► (Offered Spring Only)	4
PHT245	History of Photography (Offered Spring Only)	3
PHT249	Advanced Commercial Lighting ► (Offered Spring Only)	3
PHT251	Fine Art Photography ► (Offered Spring Only)	3
PHT252	Film and Print Scanning ► (Offered Spring Only)	3

[View Course Descriptions](#)

Commercial Emphasis Electives - Terms 3 or 4

BUS102	Introduction to Business	3	◆
MGT110	Small Business Management	3	
MKT110	Principles of Marketing	3	◆
MKT140	Principles of Selling	3	
NET109	A+ Certification Prep Course	4	
PHT242	Audio Visual Presentations ► (Offered Spring Only)	3	

[View Course Descriptions](#)

Math Electives

MAT122	College Algebra ►	5	◆
MAT128	Precalculus ►	4	◆
MAT134	Trigonometry and Analytic Geometry ►	3	◆
MAT210	Calculus I ►	4	◆
MAT216	Calculus II ►	4	◆

[View Course Descriptions](#)

Professional Photography – Digital Courses

Award: Associate of Applied Arts (AAA)

Required number of credits: 63

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Professional Photography Digital emphasis program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PHT102	Photo Design I	3
PHT106	Introduction to Image Editing	3
PHT108	Camera I ▶	3
PHT109	Print I ▶	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 18

Semester 2		
PHT110	Camera II ▶	3
PHT111	Print II ▶	3
PHT132	Photo Design II ▶	3
PHT202	Basic Portraiture ▶	3
PHT204	Basic Commercial Photography ▶	3
<u>View Course Descriptions</u>		Total Credits 15

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Semester 3		
PHT215	Portrait Image Editing ▶	3
PHT216	Commercial Image Editing ▶	3
SPC101	Fundamentals of Oral Communication	3 ◆
	<u>Digital Emphasis Elective - Term 3 -OR-</u>	3
	<u>Digital Emphasis Elective - Terms 3 or 4</u>	3
	<u>Digital Emphasis Elective - Term 3 -OR-</u>	3
	<u>Digital Emphasis Elective - Terms 3 or 4</u>	3
	<u>Digital Emphasis Elective - Term 3 -OR-</u>	3
	<u>Digital Emphasis Elective - Terms 3 or 4</u>	3
View Course Descriptions		Total Credits 18

Semester 4		
COM781	Written Communication in the Workplace ▶ -OR-	3 □
ENG105	Composition I ▶	3 ◆
PHT217	Advanced Portrait Image Editing ▶	3
PHT218	Advanced Commercial Image Editing ▶	3
PHT249	Advanced Commercial Lighting ▶ (Offered Spring Only) -OR-	3
GRA133	Desktop Publishing -OR-	4
PHT252	Film and Print Scanning ▶ (Offered Spring Only) -OR-	3
PHT253	Art Direction ▶ (Offered Fall Only) -OR-	3
	<u>Digital Emphasis Elective - Terms 3 or 4</u>	3
View Course Descriptions		Total Credits 12

Digital Emphasis Electives - Term 3		
PHT208	Basic Photojournalism (Offered Fall Only)	3
PHT210	Visual Communication (Offered Fall Only)	3
PHT220	Intermediate Portraiture ▶ (Offered Fall Only)	3
PHT227	Intermediate Commercial ▶ (Offered Fall Only)	3
PHT235	Tech. for Studio Promotion ▶ (Offered Spring Only)	3
PHT241	Portrait Business ▶ (Offered Fall Only)	3
PHT242	Audio Visual Presentations ▶ (Offered Spring Only)	3
PHT248	Commercial Business ▶ (Offered Fall Only)	3
View Course Descriptions		

Digital Emphasis Electives - Term 3 or 4

BUS102	Introduction to Business	3	◆
MGT110	Small Business Management	3	
MKT110	Principles of Marketing	3	◆
MKT140	Principles of Selling	3	
NET109	A+ Certification Prep Course	4	

[View Course Descriptions](#)

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆

[View Course Descriptions](#)

Accounting

The Accounting program provides students with a systematic approach to preparing, analyzing, and tracking financial information through the accounts and records of a business. Students gain hands-on experience in Microsoft Excel, Word, and Access; Peachtree Accounting; and QuickBooks Pro.

Certification

Graduates may take the national standardized accounting exam to qualify to receive their Licensed Public Accountant (LPA) certification.

Transfer Information

Students completing the Accounting program may transfer to Wartburg College, Upper Iowa University, or Mount Mercy University to complete a bachelor's degree in accounting. For more information, contact a program advisor.

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Accounting Careers

Graduates find employment in public, private, or governmental accounting or related occupations such as office management and positions with financial institutions. They attain positions working with financial statement preparation, payroll, income taxes, budgeting, and cost accounting.

Starting Wages: \$21,600 - \$32,300 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Accounting](#)
- [Accounting Technician - Diploma](#)

Employers

Advanced Systems, Inc.	Waterloo, IA
Gray Transportation	Waterloo, IA
Harrison Truck Centers	Waterloo, IA
Hellman	Waterloo, IA
Isle Casino Hotel Waterloo	Waterloo, IA
McGladrey LLP	Waterloo, IA
Paul R. Nielsen Co., PC	Cedar Falls, IA
The Principal Financial Group	Waterloo, IA

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Accounting Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

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Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

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Accounting Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Accounting program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ◆
ADM131	Office Calculators	1
BCA134	Word Processing ▶	3
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
ACC116	Introduction to Accounting II ▶ -OR-	4
ACC132	Principles of Accounting II ▶	4 ◆
ACC265	Income Tax Accounting	4
ACC311	Computer Accounting ▶	3
ACC801	Payroll Accounting ▶	1
ACC803	Accounting Simulations ▶	1

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BCA205 Database/Spreadsheets ▶ 3

[View Course Descriptions](#) **Total Credits 16**

Semester 3

ACC222	Cost Accounting ▶	4
ACC231	Intermediate Accounting I ▶	4
BUS102	Introduction to Business -OR-	3 ◆
BUS180	Business Ethics -OR-	3 ◆
BUS183	Business Law	3 ◆
ECN120	Principles of Macroeconomics ▶ -OR-	3 ◆
ECN110	Introduction to Economics	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆

[View Course Descriptions](#) **Total Credits 17**

Semester 4

ACC190	Financial Analysis ▶	2
ACC232	Intermediate Accounting II ▶	4
ACC250	Review for the LPA Exam ▶	3
ACC360	Accounting Spreadsheets ▶	2
ADM222	Career Capstone ▶	3

[View Course Descriptions](#) **Total Credits 14**

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT156	Statistics ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆

[View Course Descriptions](#)

Accounting Technician Diploma Courses

Award: Diploma

Required number of credits: 33

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Accounting Technician program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ◆
ADM131	Office Calculators	1
BCA134	Word Processing ▶	3
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
ACC116	Introduction to Accounting II ▶ -OR-	4
ACC132	Principles of Accounting II ▶	4 ◆
ACC265	Income Tax Accounting	4
ACC311	Computer Accounting ▶	3
ACC801	Payroll Accounting ▶	1

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ACC803	Accounting Simulations ▶	1
BCA205	Database/Spreadsheets ▶	3
<u>View Course Descriptions</u>		Total Credits 16

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT156	Statistics ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Executive Assistant

The Executive Assistant program provides students with the knowledge and skills of an executive assistant. These responsibilities include coordinating, expediting, and facilitating functions of the office.

Students gain on-the-job training at local businesses and organizations, ensuring that students possess the skills necessary to successfully obtain a job as an executive assistant.

Legal Office Assistant is an Associate of Applied Science option of the Executive Assistant program.

Transfer Information

Office technology programs offer flexibility. Many courses are also required in other business programs, allowing a student to double major or transfer into a different program. For more information, contact a program advisor.

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Executive Assistant Careers

Graduates are prepared for employment in various organizations such as legal offices, brokerage firms, insurance companies, and banking institutions.

Starting Wages: \$29,700 - \$42,000 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Executive Assistant](#)
- [Administrative Assistant - Diploma](#)
- [Office Assistant - Certificate](#)

Employers

CUNA Mutual	Waverly, IA
CBE Group	Waterloo, IA
CUNA Mutual Group	Waverly, IA
Kirkwood Community College	Cedar Rapids, IA
Veridian Credit Union	Waterloo, IA
Waterloo-Cedar Falls Courier	Waterloo, IA

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Executive Assistant Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Executive Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Executive Assistant program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADM105	Introduction to Keyboarding	1
ADM159	Proofreading and Editing	3
BCA134	Word Processing ▶	3
BUS102	Introduction to Business	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 16

Semester 2		
ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ◆
ADM108	Keyboarding Skill Development ▶	1
ADM148	Transcription ▶	2
BCA205	Database/Spreadsheets ▶	3
ENG105	Composition I ▶	3 ◆

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[View Course Descriptions](#)**Total Credits 16****Semester 3**

ACC311	Computer Accounting ▶ -OR-	3
ECN110	Introduction to Economics -OR-	3 ◆
ECN120	Principles of Macroeconomics ▶	3 ◆
ACC801	Payroll Accounting ▶	1
ADM162	Office Procedures ▶	3
BCA132	Electronic Communications ▶	3
BCA213	Intermediate Computer Business Applications ▶	3
BUS180	Business Ethics	3 ◆

[View Course Descriptions](#)**Total Credits 16****Semester 4**

ADM131	Office Calculators	1
ADM180	Administrative Management	3
ADM203	Legal Office Concepts and Procedures ▶ -OR-	3
ADM208	Legal Terminology -OR-	3
ADM200	Legal Document Processing ▶	3
ADM222	Career Capstone ▶	3
BUS183	Business Law	3 ◆
BUS903	Business Field Experience ▶	3

[View Course Descriptions](#)**Total Credits 16****Math Electives**

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆

[View Course Descriptions](#)

Administrative Assistant Diploma Courses

Award: Diploma

Required number of credits: 42

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Administrative Assistant program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADM105	Introduction to Keyboarding	1
ADM131	Office Calculators	1
ADM159	Proofreading and Editing	3
BCA134	Word Processing ▶	3
BCA205	Database/Spreadsheets ▶	3
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 17

Semester 2

ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ◆
ADM108	Keyboarding Skill Development ▶	1
ADM162	Office Procedures ▶	3
ADM180	Administrative Management	3

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ADM222	Career Capstone ▶	3
BCA132	Electronic Communications ▶ -OR-	3
BCA213	Intermediate Computer Business Applications ▶	3
<u>View Course Descriptions</u>		Total Credits 17

Semester 3

ADM148	Transcription ▶	2
BUS903	Business Field Experience ▶	3
ENG105	Composition I ▶ -OR-	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
<u>View Course Descriptions</u>		Total Credits 8

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆
<u>View Course Descriptions</u>		

Office Assistant Certificate Courses

Award: Certificate

Required number of credits: 29

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Office Assistant program requires a mix of general education and hands-on courses.

The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADM105	Introduction to Keyboarding	1
ADM131	Office Calculators	1
ADM159	Proofreading and Editing	3
BCA134	Word Processing ▶	3
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 14

Semester 2

ACC111	Introduction to Accounting -OR-	3
ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ◆
ADM162	Office Procedures ▶	3
BCA132	Electronic Communications ▶	3
BCA205	Database/Spreadsheets ▶	3
ENG105	Composition I ▶ -OR-	3 ◆

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[View Course Descriptions](#)**Total Credits 15**

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Golf Course and Country Club Management

The Golf Course and Country Club Management program provides students with the knowledge and skills to enter into careers in the golf course and country club industry as course managers, club managers, assistant course managers, and assistant club managers at public and private golf courses and country clubs. Students will learn inside operations including event planning, personnel and training, finance and budgeting, marketing, hospitality management, and food and bar operations. They will also learn outside operations including turfgrass, grounds maintenance, pest management, and equipment operation and repair.

Experience and Training

The Golf Course and Country Club Management program provides eight-week and 12-week golf course internships. These internships allow students to gain real work experience on site at golf courses and country clubs. This ensures students develop the skills they need to succeed on the job.

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Golf Course and Country Club Management Careers

Graduates may find employment in public and private golf courses and country clubs working as:

- assistant superintendents
- superintendents
- assistant managers
- managers
- event planners

They may also find jobs as golf industry representatives.

Starting Wages: \$28,200 - \$42,100 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Golf Course and Country Club Management](#)

Potential Employers

This program's advisory committee members and other golf course and country clubs may hire graduates.

Ballard Golf and County Club	Huxley, IA
Beaver Hills Country Club	Cedar Falls, IA
City of Cedar Falls	Cedar Falls, IA
La Porte City Golf Club	La Porte City, IA
River Bend Golf Course	Story City, IA
Waterloo Leisure Services	Waterloo, IA
Waverly Golf Course	Waverly, IA

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Golf Course and Country Club Management Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Golf Course and Country Club Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 66

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Golf Course and Country Club Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGH112	Introduction to Turfgrass Management	3
HCM608	Introduction to Hospitality	3
MAT772	Applied Math -OR-	3 <input type="checkbox"/>
MAT156	Statistics ▶ -OR-	3 ◆
MAT110	Math for Liberal Arts ▶	3 ◆
MGT101	Principles of Management	3 ◆
MGT222	Golf Club Operations	3
View Course Descriptions		Total Credits 15

Semester 2		
AGA284	Pesticide Application Certification *	3
AGH425	Grounds Maintenance **	3
BUS905	Golf Course Internship ▶ **	1
HCM242	Event Planning and Customer Service *	2
HCM309	Hospitality Safety and Sanitation	3
HCM602	Introduction to Food and Bar Operations *	3
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 18

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* Meets first 8 weeks.

** Meets second 8 weeks.

Semester 3 – Summer

BUS905	Golf Course Internship ▶	3
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[View Course Descriptions](#)

Total Credits 3

The Golf Course Internship will meet for 12 weeks.

Semester 4

AGH161	Irrigation Systems	3
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COM781	Written Communication in the Workplace ▶ -OR-	3	▣
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ENG105	Composition I ▶	3	◆
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MKT110	Principles of Marketing -OR-	3	◆
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MKT198	Sports Marketing	3
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<u>Golf Course Management Electives</u>		5
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[View Course Descriptions](#)

Total Credits 14

Semester 5

ACC131	Principles of Accounting I ▶ -OR-	4	◆
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ACC115	Introduction to Accounting	4
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MGT170	Human Resource Management	3
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PSY111	Introduction to Psychology -OR-	3	◆
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SOC110	Introduction to Sociology -OR-	3	◆
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PSY102	Human and Work Relations	3	▣
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<u>Golf Course Management Electives</u>		3
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<u>Golf Course Management Electives</u>		3
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[View Course Descriptions](#)

Total Credits 16

Golf Course Management Electives

AGA376	Integrated Pest Management	3
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AGH140	Equipment Operations	2
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AGH142	Landscape Construction	3
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AGH143	Equipment Repair	3
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AGH211	Advanced Turfgrass Management	3
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BUS102	Introduction to Business	3	◆
BUS180	Business Ethics	3	◆
BUS183	Business Law	3	◆
MGT110	Small Business Management	3	
MGT210	Management Decision Making	3	
MKT140	Principles of Selling	3	
MKT142	Consumer Behavior	3	
MKT152	Advertising and Visual Merchandising	3	
MMS117	Social Media for Business	3	

[View Course Descriptions](#)

Hospitality Management

The Hospitality Management program prepares students for supervisory and managerial positions in hotels, resorts, restaurants, institutions, and clubs. Students learn to understand and apply the administrative and practical skills to manage food and lodging operations. The program includes instruction in hospitality principles, operations, management, human resources, marketing, sales, and accounting.

Experience and Training

The Hospitality Management program provides summer internships. These internships allow students to gain real work experience on site to develop the skills they need to succeed on the job.

Transfer Information

Many of the business courses are designed to allow students easy transfer from one business program to another. For more information, contact a program advisor.

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Hospitality Management Careers

Graduates may find employment for supervisory and managerial positions in hotels, restaurants, institutions, and clubs.

Starting Wages: \$24,500 – \$40,800 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Hospitality Management](#)

Potential Employers

This program's advisory committee members may hire graduates.

Barmuda Companies	Cedar Falls and Waterloo, IA
Beaver Hills Country Club	Cedar Falls, IA
Isle Casino Hotel Waterloo	Waterloo, IA
La Calle	Cedar Falls, IA
Perkins Restaurant and Bakery	Waterloo, IA
Wingate by Wyndham	Cedar Falls, IA

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Hospitality Management Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Hospitality Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Hospitality Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
HCM138	Food Fundamentals	3
HCM608	Introduction to Hospitality	3
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶	3 ◆
MGT170	Human Resource Management	3
MKT110	Principles of Marketing	3 ◆
<u>View Course Descriptions</u>		Total Credits 15

Semester 2		
HCM242	Event Planning and Customer Service	2
HCM309	Hospitality Safety and Sanitation	3
HCM589	Introduction to Restaurant Management	3
HCM602	Introduction to Food and Bar Operations	3
HCM605	Hotel Administration	2
SPC101	Fundamentals of Oral Communication	3 ◆
<u>View Course Descriptions</u>		Total Credits 16

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Semester 3 – Summer

HCM905 Hospitality Internship ► 3

[View Course Descriptions](#)

Total Credits 3

Semester 4

COM781 Written Communication in the Workplace ► -OR- 3 ◻

ENG105 Composition I ► 3 ◆

HCM240 Menu Planning and Design 2

MGT210 Management Decision Making 3

MKT142 Consumer Behavior 3

MMS117 Social Media for Business 3

[View Course Descriptions](#)

Total Credits 14

Semester 5

ACC115 Introduction to Accounting -OR- 4

ACC131 Principles of Accounting I ► 4 ◆

BUS183 Business Law 3 ◆

HCM200 Dining Room Service 2

HCM251 Purchasing, Receiving, and Inventory 2

PSY102 Human and Work Relations -OR- 3 ◻

PSY111 Introduction to Psychology -OR- 3 ◆

SOC110 Introduction to Sociology 3 ◆

[View Course Descriptions](#)

Total Credits 14

Human Resource Management

The Human Resource Management program prepares graduates to start in entry-level positions in the growing field of human resource management to meet the demands of business and service organizations. Students learn the essentials of human resources by studying management, interviewing, job placement, business and labor laws, needs assessment, strategic planning, compensation and benefits, and training techniques.

Transfer Information

Graduates may transfer with junior standing to Wartburg College, Mount Mercy University, or Upper Iowa University. For more information, contact a program advisor.

Program Contacts

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Human Resource Management Careers

Graduates of the Human Resource Management program work as:

- assistants
- generalists
- benefit coordinators
- recruiters
- job analysts
- training and development specialists
- compensation and benefits administrators
- employment welfare coordinators
- managers
- assistant managers
- supervisors

Starting Wages: \$26,200 - \$36,700 per year*

*Source: Iowa Workforce Development

The demand for trained individuals in human resources increases as employment, compensation, and benefit laws continue to change and become increasingly complex.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Human Resource Management](#)

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Human Resource Management Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Human Resource Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Human Resource Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
BUS102	Introduction to Business	3 ◆
ENG105	Composition I ▶	3 ◆
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
MGT101	Principles of Management	3 ◆
PSY111	Introduction to Psychology	3 ◆
<u>View Course Descriptions</u>		Total Credits 15

Semester 2		
ACC131	Principles of Accounting I ▶	4 ◆
BUS180	Business Ethics	3 ◆
CSC110	Introduction to Computers ▶	3 ◆
MGT170	Human Resource Management	3
SPC101	Fundamentals of Oral Communication	3 ◆
<u>View Course Descriptions</u>		Total Credits 16

Semester 3		
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BUS183	Business Law	3	◆
BUS903	Business Field Experience ▶	3	
MGT174	Training and Employee Development	3	
MGT177	Staffing	3	
MGT180	Management and Labor Relations	3	
	<u>Electives</u>	3	
<u>View Course Descriptions</u>		Total Credits 18	

Semester 4			
MGT142	Problems and Issues in Supervision and Management	3	
MGT178	Employment Law	3	
MGT190	Employee Compensation and Benefits Management	3	
	<u>Electives</u>	3	
	<u>Electives</u>	3	
<u>View Course Descriptions</u>		Total Credits 15	

Electives			
ACC132	Principles of Accounting II ▶	4	◆
ACC311	Computer Accounting ▶	3	
ACC801	Payroll Accounting ▶	1	
ACC803	Accounting Simulations ▶	1	
ADM159	Proofreading and Editing	3	
BCA132	Electronic Communications ▶	3	
BCA134	Word Processing ▶	3	
BUS220	Introduction to International Business	3	
ECN120	Principles of Macroeconomics ▶	3	◆
ECN130	Principles of Microeconomics ▶	3	◆
ENG106	Composition II ▶	3	◆
FIN121	Personal Finance	3	
HCM242	Event Planning and Customer Service	2	
MGT110	Small Business Management	3	
MKT110	Principles of Marketing	3	◆
MMS117	Social Media for Business	3	
<u>View Course Descriptions</u>			

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Legal Office Assistant

The Legal Office Assistant program is designed to prepare students to support the legal divisions of businesses and law firms. Students learn most of the skills and knowledge required of the Executive Assistant program, as well as how to prepare correspondence and legal papers under the supervision of an attorney or paralegal. Students learn legal office procedures, legal transcription, legal terminology, and legal document production.

Legal Office Assistant is an Associate of Applied Science option of the Executive Assistant program.

Experience and Training

Students gain on-the-job experience at local businesses and organizations, ensuring that students possess the skills necessary to successfully obtain a job as a legal office assistant.

Transfer Information

Many of the business courses are designed to allow students easy transfer from one business program to another. For more information, contact a program advisor.

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Legal Office Assistant Careers

Graduates find employment in law firms, legal divisions of large businesses, and federal and state government offices.

Starting Wages: \$25,400 - \$36,500 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Legal Office Assistant](#)

Employers

Beecher, Field, Walker, Morris, Hoffman, & Johnson, P.C.	Waterloo, IA
Iowa Workforce Development Center	Waterloo, IA
Redfern, Mason, Larsen, and Moore, PLC	Cedar Falls, IA
Swisher and Cohrt, PLC	Waterloo, IA

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Legal Office Assistant Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Legal Office Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 63

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Legal Office Assistant program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADM105	Introduction to Keyboarding	1
ADM159	Proofreading and Editing	3
BCA134	Word Processing ▶	3
CRJ100	Introduction to Criminal Justice	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 16

Semester 2		
ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ◆
ADM108	Keyboarding Skill Development ▶	1
ADM148	Transcription ▶	2
ADM208	Legal Terminology	3
BCA205	Database/Spreadsheets ▶	3

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ENG105 Composition I ►

3 ◆

[View Course Descriptions](#)

Total Credits 16

Semester 3

ADM131	Office Calculators	1
ADM200	Legal Document Processing ►	3
BCA132	Electronic Communications ►	3
BCA213	Intermediate Computer Business Applications ►	3
BUS180	Business Ethics	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆

[View Course Descriptions](#)

Total Credits 16

Semester 4

ADM180	Administrative Management	3
ADM203	Legal Office Concepts and Procedures ►	3
ADM222	Career Capstone ►	3
BUS183	Business Law	3 ◆
BUS903	Business Field Experience ►	3

[View Course Descriptions](#)

Total Credits 15

Math Electives

MAT122	College Algebra ►	5 ◆
MAT128	Precalculus ►	4 ◆
MAT134	Trigonometry and Analytic Geometry ►	3 ◆
MAT210	Calculus I ►	4 ◆
MAT216	Calculus II ►	4 ◆
MAT219	Calculus III ►	4 ◆

[View Course Descriptions](#)

Marketing Management

The Marketing Management program equips students with the competencies to enter mid-management marketing positions. Students learn essential skills for a successful career in today's fast-paced business environment and study marketing activities, management functions, decision-making skills, sales, merchandising, human resources, and promotions management. Courses feature an emphasis on the application of computer technology and communication.

Transfer Information

Transfer between Marketing Management and Business Administration is common. Graduates may transfer with junior standing to Wartburg College, Mount Mercy University, Upper Iowa University, or other private academic institutions. For more information, contact a program advisor.

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Marketing Management Careers

Graduates work as assistant managers or managers in marketing, sales, promotion, distribution services, and procurement positions in wholesale, manufacturing, retail, service, and financial businesses.

Graduates may work in small companies, utilizing a broad range of skills and doing a wide variety of tasks, or in large companies in specialized positions.

Starting Wages: \$24,000 - \$37,100 per year*

*Source: Iowa Workforce Development

Iowa Workforce Development forecasts more than 655 job openings each year for entry-level managers through 2022. Graduates may earn a salary, work on commission, or earn a combination of salary and commission.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Marketing Management](#)

Employers

VGM Group	Waterloo, IA
Hy-Vee, Inc.	West Des Moines, IA
GEICO	Coralville, IA
John Deere	Waterloo, IA
PDCM Insurance	Waterloo, IA
CBE Group	Waterloo, IA

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Marketing Management Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Marketing Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Marketing Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
BUS102	Introduction to Business	3	◆
ENG105	Composition I ▶ -OR-	3	◆
COM781	Written Communication in the Workplace ▶	3	▣
MAT772	Applied Math -OR-	3	▣
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
	<u>Math Electives</u>	3	
MKT110	Principles of Marketing	3	◆
PSY102	Human and Work Relations -OR-	3	▣
PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
<u>View Course Descriptions</u>		Total Credits 15	

Semester 2

CSC110	Introduction to Computers ▶	3	◆
MKT140	Principles of Selling	3	
MKT160	Principles of Retailing	3	
SPC101	Fundamentals of Oral Communication	3	◆
	<u>Business Elective</u>	3	
	<u>Economics Elective</u>	3	

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[View Course Descriptions](#)

Total Credits 18

Semester 3

ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ♦
BUS183	Business Law	3 ♦
MGT101	Principles of Management	3 ♦
	<u>Business Elective</u> -OR-	3
	<u>Marketing Elective</u>	3
	<u>Economics Elective</u>	3

[View Course Descriptions](#)

Total Credits 16

Semester 4

ADM222	Career Capstone ▶	3
MGT170	Human Resource Management	3
MKT152	Advertising and Visual Merchandising	3
	<u>Business Elective</u> -OR-	3
	<u>Marketing Elective</u>	3
	<u>Business Elective</u> -OR-	3
	<u>Marketing Elective</u>	3

[View Course Descriptions](#)

Total Credits 15

Economics Electives

ECN110	Introduction to Economics	3 ♦
ECN120	Principles of Macroeconomics ▶	3 ♦
ECN130	Principles of Microeconomics ▶	3 ♦

[View Course Descriptions](#)

Business Electives

ACC116	Introduction to Accounting II ▶	4
ACC132	Principles of Accounting II ▶	4 ♦
ADM105	Introduction to Keyboarding	1
BCA132	Electronic Communications ▶	3
BCA134	Word Processing ▶	3

BUS180	Business Ethics	3	◆
BUS903	Business Field Experience ▶	3	
ENG106	Composition II ▶	3	◆
MGT110	Small Business Management	3	
MGT210	Management Decision Making	3	
MKT142	Consumer Behavior	3	

[View Course Descriptions](#)

Marketing Electives

ADM131	Office Calculators	1	
BUS220	Introduction to International Business	3	
FIN121	Personal Finance	3	

[View Course Descriptions](#)

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Medical Administrative Assistant

The Medical Administrative Assistant program is designed to prepare students with entry-level competencies to begin a career in the medical administrative field. Students gain the skills and knowledge in secretarial functions of coordinating, expediting, and facilitating the daily operations of a medical office.

Experience and Training

Students gain on-the-job experience at local businesses and organizations, ensuring that students possess the skills necessary to successfully obtain a job as a medical administrative assistant.

Transfer Information

Programs in the office technology area are designed to allow students to transfer from one office technology program to another. For more information, contact a program advisor.

Program Contacts

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Medical Administrative Assistant Careers

Graduates are prepared for employment in various health-related organizations such as physicians' and dentists' offices, hospitals, insurance companies, and community health facilities. They work as administrative assistants, office managers, medical secretaries, insurance specialists, and clinic administrators.

Starting Wages: \$23,600 - \$30,500 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Medical Administrative Assistant](#)
- [Medical Secretary - Diploma](#)

Employers

Allen Memorial Hospital	Waterloo, IA
American HomePatient	Waterloo, IA
Cedar Valley Medical Specialists, P.C.	Waterloo, IA
Peoples Community Health Clinic, Inc.	Waterloo, IA
UnityPoint Health	Waterloo and Cedar Falls, IA
Wheaton Franciscan Healthcare	Waterloo and Cedar Falls, IA

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Medical Administrative Assistant Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

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Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Medical Administrative Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 64

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Medical Administrative Assistant program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADM105	Introduction to Keyboarding	1
ADM159	Proofreading and Editing	3
BCA134	Word Processing ▶	3
HSC116	Beginning Medical Terminology	4
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
ACC115	Introduction to Accounting -OR-	4
ACC131	Principles of Accounting I ▶	4 ◆
ADM108	Keyboarding Skill Development ▶	1
ADM148	Transcription ▶	2
BCA205	Database/Spreadsheets ▶ -OR-	3
CSC110	Introduction to Computers ▶	3 ◆

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HIT250	Coding I ▶	3
HSC124	Advanced Medical Terminology ▶	4
View Course Descriptions		Total Credits 17

Semester 3

BCA213	Intermediate Computer Business Applications ▶ -OR-	3
BCA132	Electronic Communications ▶	3
ENG105	Composition I ▶	3 ♦
MAP132	Medical Transcription ▶	2
MAP141	Medical Insurance ▶	3
MAP152	Computer Patient Billing ▶	2
SPC101	Fundamentals of Oral Communication	3 ♦
View Course Descriptions		Total Credits 16

Semester 4

ADM131	Office Calculators	1
ADM162	Office Procedures ▶	3
ADM180	Administrative Management	3
ADM222	Career Capstone ▶	3
BUS903	Business Field Experience ▶	3
MAP511	Pharmacology for the Medical Secretary ▶	1
View Course Descriptions		Total Credits 14

Math Electives

MAT122	College Algebra ▶	5 ♦
MAT128	Precalculus ▶	4 ♦
MAT134	Trigonometry and Analytic Geometry ▶	3 ♦
MAT210	Calculus I ▶	4 ♦
MAT216	Calculus II ▶	4 ♦
MAT219	Calculus III ▶	4 ♦
View Course Descriptions		

Medical Secretary Diploma Courses

Award: Diploma

Required number of credits: 41

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Medical Secretary program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADM105	Introduction to Keyboarding	1
BCA134	Word Processing ▶	3
MAT772	Applied Math -OR-	3 <input type="checkbox"/>
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 7

Semester 2		
ADM108	Keyboarding Skill Development ▶	1
ADM148	Transcription ▶	2
ADM159	Proofreading and Editing	3
BCA132	Electronic Communications ▶	3
HIT250	Coding I ▶	3
HSC116	Beginning Medical Terminology	4
<u>View Course Descriptions</u>		Total Credits 16

Semester 3		
ADM162	Office Procedures ▶	3

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ADM222	Career Capstone ▶	3
HSC124	Advanced Medical Terminology ▶	4
MAP132	Medical Transcription ▶	2
MAP141	Medical Insurance ▶	3
MAP152	Computer Patient Billing ▶	2
MAP511	Pharmacology for the Medical Secretary ▶	1
View Course Descriptions		Total Credits 18

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Medical Billing and Coding Associate

The Medical Billing and Coding Associate program provides students with the skills needed to enter one of the fastest-growing fields in healthcare. Students will gain hands-on, practical experience with medical insurance claim forms for various types of medical insurance and will work with ICD-10-CM, ICD-10-PCS, CPT-4, and HCPCS coding. They will also learn legal, ethical, regulatory, and HIPAA compliance concepts and requirements.

Medical billing and coding professionals keep and review records, calculate patient charges for services, prepare statements, and submit claims to insurance carriers accurately in an efficient and timely manner.

Certification

Students who successfully complete the program will be eligible to take one of the following national certification exams.

- [Billing and Coding Specialist Certification](#) (CBCS) from the National Healthcareer Association (NHA)
- [Certified Coding Associate](#) (CCA) from the American Health and Information Management Association (AHIMA)
- [Certified Professional Coder](#) (CPC) from the American Academy of Professional Coders (AAPC)

Transfer Information

Programs in the office technology area are designed to allow students to transfer from one office technology program to another. For more information, contact a program advisor.

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Medical Billing and Coding Associate Careers

Graduates may find employment in hospitals and physicians' offices working as:

- billing coordinator
- billing specialist
- coding specialist
- collections specialist
- patient account representative
- reimbursement specialist
- revenue analyst

Starting Wages: \$25,500 - \$31,400 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Medical Billing and Coding Associate](#)
- [Medical Insurance Coding Specialist - Diploma](#)

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Medical Billing and Coding Associate Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Medical Billing and Coding Associate Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 65

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Medical Billing and Coding Associate program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADM105	Introduction to Keyboarding	1
ADM159	Proofreading and Editing	3
BCA134	Word Processing ▶	3
HIT125	Essentials of Health Records	2
HSC116	Beginning Medical Terminology	4
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
View Course Descriptions		Total Credits 16

Semester 2		
ADM131	Office Calculators	1
BCA205	Database/Spreadsheets ▶ -OR-	3
CSC110	Introduction to Computers ▶	3 ◆
HIT215	Introduction to CPT ▶	2
HIT250	Coding I ▶	3
HSC124	Advanced Medical Terminology ▶	4
HSC217	Introduction to Pathology ▶	3
View Course Descriptions		Total Credits 16

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Semester 3

ACC115	Introduction to Accounting -OR-	4	
ACC131	Principles of Accounting I ▶	4	◆
ENG105	Composition I ▶	3	◆
HIT240	Advanced Coding and Classification ▶	3	
HIT280	CPT-4 Coding ▶	3	
MAP141	Medical Insurance ▶	3	
View Course Descriptions		Total Credits 16	

Semester 4

ADM222	Career Capstone ▶	3	
BCA213	Intermediate Computer Business Applications ▶ -OR-	3	
BCA132	Electronic Communications ▶	3	
HIT510	Coding Certification Review ▶	2	
MAP152	Computer Patient Billing ▶	2	
MAP511	Pharmacology for the Medical Secretary ▶	1	
PSY102	Human and Work Relations -OR-	3	▣
PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
SPC101	Fundamentals of Oral Communication	3	◆
View Course Descriptions		Total Credits 17	

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆
View Course Descriptions			

Medical Insurance Coding Specialist Diploma Courses

Award: Diploma

Required number of credits: 41

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Medical Insurance Coding Specialist program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1 – Summer		
CSC110	Introduction to Computers ▶	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 6

Semester 2		
HIT125	Essentials of Health Records	2
HIT215	Introduction to CPT ▶	2
HIT250	Coding I ▶	3
HSC116	Beginning Medical Terminology	4
HSC217	Introduction to Pathology ▶	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 17

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Semester 3

HIT240	Advanced Coding and Classification ▶	3
HIT280	CPT-4 Coding ▶	3
HIT510	Coding Certification Review ▶	2
HSC124	Advanced Medical Terminology ▶	4
MAP141	Medical Insurance ▶	3
MAP152	Computer Patient Billing ▶	2
MAP511	Pharmacology for the Medical Secretary ▶	1

[View Course Descriptions](#)

Total Credits 18

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Early Childhood Education

Hawkeye Community College prepares students for a rewarding career nurturing the growth and development of children. Students acquire basic knowledge about the child care and education field, child development from birth to adolescence, and appropriate practices in working with children.

Students gain hands-on experience by participating in opportunities in a variety of local early childhood programs, including Head Start centers, preschool programs, and child care centers, such as the [Hawkeye Child Development Center](#).

Students must pass the Department of Human Services criminal history record check and a national FBI fingerprint check before being placed in field experience courses.

Evening Program

Earn a degree in the evening! Eight-week hybrid courses (partially face-to-face, partially online) are offered on Tuesdays and Thursdays at 6:00pm. This evening sequence of study coincides with the Bachelor of Arts evening program at Upper Iowa University to ease your transition in completing your degree.

The [Hawkeye Child Development Center](#) will be open on Tuesday and Thursday evenings.

Transfer Information

The Early Childhood Education Associate of Applied Science degree has an articulation agreement with the Prekindergarten-Grade 3 Bachelor of Arts degree at Upper Iowa University.

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Early Childhood Education Careers

Graduates are working in a variety of child care settings including:

- Head Start centers
- preschools
- public or private child care centers
- public schools as paraeducators
- in-home child care providers
- nannies

Starting Wages: \$16,800 - \$27,100 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Early Childhood Education](#)

Employers

Community United Child Care Centers	Waterloo, IA Cedar Falls, IA
Hawkeye Child Development Center	Waterloo, IA
Tri-County Child & Family Development Council, Inc.	Waterloo, IA
Trinity Preschool and Child Care	Waterloo, IA
Waterloo Community School District	Waterloo, IA
Waverly Child Care and Preschool	Waverly, IA

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Early Childhood Education Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic
16 - Reading	69 - Reading	34 - Reading	62 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT045 Fundamentals of Math

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 30 students and 30 alternates each fall and spring semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.
5. Students must pass the Department of Human Services Criminal History Record Check and a National FBI Fingerprint check prior to being placed in field experience courses.

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Early Childhood Education Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 61

Program Start: Fall, Spring

Required Background Screenings

Students must pass a DHS Criminal History Record Check and an FBI Fingerprint Check before being placed in Field Experience courses.

2016–2017 Suggested Sequence of Study and Course Cost

The Early Childhood Education program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ECE103	Introduction to Early Childhood Education	3
ECE158	Early Childhood Curriculum I	3
ECE170	Child Growth and Development	3
ECE221	Infant/Toddler Care and Education	3
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 18

Semester 2

ECE133	Child Health, Safety, and Nutrition	3
ECE159	Early Childhood Curriculum II	3
ECE243	Early Childhood Guidance	3

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ECE274	Field Experience I ▶	2
ECE944	Field Experience Seminar I ▶	1
SOC110	Introduction to Sociology	3 ♦
View Course Descriptions		Total Credits 15

Semester 3

ECE120	Communication with Families	2
ECE122	Parenting Relationships	2
ECE125	School Age Care	2
ECE260	Current Topics and Issues in Child Care	2
ECE284	Field Experience II ▶	2
ECE298	Child Development Career Strategies	2
ECE945	Field Experience Seminar II ▶	1
SPC101	Fundamentals of Oral Communication	3 ♦
View Course Descriptions		Total Credits 16

Semester 4

ECE250	Advanced Curriculum Planning ▶	3
ECE290	Early Childhood Program Administration ▶	3
EDU246	Including Diverse Learners	3 ♦
PSY111	Introduction to Psychology	3 ♦
View Course Descriptions		Total Credits 12

Math Electives

MAT122	College Algebra ▶	5 ♦
MAT128	Precalculus ▶	4 ♦
MAT134	Trigonometry and Analytic Geometry ▶	3 ♦
MAT210	Calculus I ▶	4 ♦
MAT216	Calculus II ▶	4 ♦
MAT219	Calculus III ▶	4 ♦
View Course Descriptions		

Early Childhood Education – Diploma Courses

Award: Diploma

Required number of credits: 33

Program Start: Fall, Spring

Required Background Screenings

Students must pass a DHS Criminal History Record Check and an FBI Fingerprint Check before being placed in Field Experience courses.

2016–2017 Suggested Sequence of Study and Course Cost

The Early Childhood Education diploma option program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ECE103	Introduction to Early Childhood Education	3
ECE158	Early Childhood Curriculum I	3
ECE170	Child Growth and Development	3
ECE221	Infant/Toddler Care and Education	3
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT772	Applied Math -OR-	3 ▣
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 18

Semester 2

ECE133	Child Health, Safety, and Nutrition	3
ECE159	Early Childhood Curriculum II	3
ECE243	Early Childhood Guidance	3

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ECE274	Field Experience I ▶	2
ECE944	Field Experience Seminar I ▶	1
SOC110	Introduction to Sociology -OR-	3 ◆
PSY102	Human and Work Relations	3 ◻
View Course Descriptions		Total Credits 15

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆
View Course Descriptions		

Dental Assisting

The Dental Assisting program prepares students to assist the dentist at chair side, perform receptionist and clinical functions, and carry out selected dental laboratory work. Students gain valuable experience and training needed to work as a dental assistant.

Students train in Hawkeye's state-of-the-art [Dental Clinic](#) featuring 18 patient chairs, computerized patient record software, and a complete digital X-ray system. The on-campus Dental Clinic is supervised by licensed dentists. Students complete a summer clinical allowing them to train in a real-world setting. The clinic is open to the public.

Graduates are eligible to take the national and state/regional examinations for licensure, which is required to practice in any state. A social security number is required to take the exams and apply for licensure.

Accreditation

The Dental Assisting program is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. Allied Dental Professions graduates are eligible to take necessary Examinations of their choice. Successful completion of board examinations is required to receive a license to practice in the State of Iowa.

[Commission on Dental Accreditation](#)

American Dental Association
211 East Chicago Avenue
Chicago, IL 60611
312-440-4653

www.ada.org/en/coda

[Policy on Third Party Comments \[pdf\]](#)

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Dental Assisting Careers

Graduates work in a variety of careers including:

- private or group practice
- general dentistry or specialty practices
- dental schools
- federal government dental facilities

Starting Wages: \$27,400 - \$35,600 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Dental Assisting](#)

Employers

Dr. Anne Hennessey	Cedar Falls, IA
Cedar River Oral Surgery, P.C./Dr. Edwin King	Waterloo, IA
Dr. John Spragg	Waterloo, IA
Hennessey Family Dentistry	Cedar Falls, IA
Kimball & Beecher Family Dentistry	Waterloo, IA
Peoples Community Health Clinic, Inc.	Waterloo, IA

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Dental Assisting Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills
Basic Skills Competency in Math			

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG040 College Preparatory Reading III

Option 3

Any combination of Option 1 and Option 2 fulfilling the basic skills requirements in reading, writing, and math.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 24 students and 10 alternates each Fall Semester. Applicants will be accepted based upon the date of their completed applicant. If many students share the same date for completing their applicant file, the application date will be used to prioritize acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Dental Assisting Courses

Award: Diploma

Required number of credits: 46

Program Start: Fall only

Required Background Screenings to Participate in Clinicals

As a student in a health program at Hawkeye Community College you will be required to complete:

- a criminal background check,
- sex offender registry,
- child abuse registry, and
- dependent adult registry.

The outcome could possibly affect your opportunities to participate in the clinical setting.

Bloodborne Pathogens, Infectious Disease, and Ionizing Radiation

As a student of the Allied Dental Programs at Hawkeye Community College, individuals may be exposed to bloodborne pathogens, infectious disease, and ionizing radiation. The Dental Assisting and Dental Hygiene Programs both educate students in policies which are outlined in the school catalog, student and faculty handbooks, and program policies and procedures manuals, which are effective in ensuring a safe environment. These items are clearly stated verbally and in written form and given to students, faculty, and staff of Hawkeye Community College through set exposure control guidelines.

Safety regarding ionizing radiation is effective and remains a primary focus, including the design of the radiology facilities, the monitoring of potential radiation through the use of the quarterly TLD badge system, and the registration and monitoring of all equipment in compliance with the State of Iowa regulations for safety. The units used for patient exposure allow for the least amount of radiation exposure when used on the film speed E or the phosphor plate sensors.

The Allied Dental Programs accept responsibility for assuring compliance with federal and state regulations regarding bloodborne pathogens standards and hazardous materials/communications. The Programs recognize the potential for bloodborne infectious disease in patients presenting for care in clinic, sterilization, radiology, and in the dental laboratory. Protocols in all clinic and support areas have been established to integrate the ethical, legal, and regulatory considerations.

Program Course Note

You must achieve a minimum "C" grade in all courses that are required to complete the program.

2016–2017 Suggested Sequence of Study and Course Cost

The Dental Assisting program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

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When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ **General Education courses**

▣ **Non-Transfer Gen Ed**

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
BIO163	Essentials of Anatomy and Physiology	4 ◆
DEA103	Orientation to Dental Assisting	2
DEA258	Dental Anatomy	4
DEA302	Dental Radiography	3
DEA412	Dental Materials I	3
DEA513	Chairside Assisting I	4
<u>View Course Descriptions</u>		Total Credits 20

Semester 2		
COM730	Communications -OR-	3 ▣
ENG105	Composition I ▶ -AND-	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
DEA263	Dental Science II ▶	2
DEA417	Dental Materials II ▶	2
DEA514	Chairside Assisting II ▶	2
DEA556	Assisting Clinic I ▶	4
DEA603	Dental Specialties	2
DEA702	Dental Office Procedures	2
<u>View Course Descriptions</u>		Total Credits 17

Semester 3 – Summer		
DEA578	Dental Assisting Clinic II ▶ *	5
DEA591	Dental Assisting Seminar ▶	1
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 9

*10-Week Course

Dental Hygiene

The Dental Hygiene program provides a stimulating and rigorous classroom and clinical experience in Hawkeye's Dental Clinic. Students are educated in oral and dental hygiene sciences, natural sciences, clinical sciences, community health, and professional development.

Students train in Hawkeye's state-of-the-art [Dental Clinic](#) featuring 18 patient chairs, computerized patient record software, and a complete digital X-ray system. The clinic is open to the public.

Dental hygienists provide educational, clinical, and therapeutic services to the public, focusing on disease prevention and health promotion. They also help patients develop and maintain good oral health.

Registered dental hygienist (RDH) is the designation for the licensed professional. The state license and the RDH credential assure the public and other professionals that you have successfully completed a nationally accredited dental hygiene program, a national written examination, and a state or regional clinical examination.

Graduates of the Dental Hygiene program are eligible to take the national and state/regional examinations for licensure, which is required to practice in any state. A social security number is required in order to take exams and apply for licensure.

Accreditation

The Dental Hygiene program is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. Allied Dental Professions graduates are eligible to take necessary Examinations of their choice. Successful completion of board examinations is required to receive a license to practice in the State of Iowa.

[Commission on Dental Accreditation](#)

American Dental Association
211 East Chicago Avenue
Chicago, IL 60611
312-440-4653

www.ada.org/en/coda

[Policy on Third Party Comments \[pdf\]](#)

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Dental Hygiene Careers

Graduates are professionals who work in many settings including:

- private dental practices
- specialty practices
- HMOs
- long-term care/geriatric centers
- community outreach settings
- community health
- hospitals
- dental trade companies
- educational institutions
- research centers

Starting Wages: \$57,700 - \$67,200 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Dental Hygiene](#)

Employers

Black Hawk County Health Department	Waterloo, IA
Dental Associates of Manchester	Manchester, IA
Kimball & Beecher Family Dentistry	Waterloo, IA
Peoples Community Health Clinic, Inc.	Clarksville, IA Waterloo, IA

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Dental Hygiene Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic OR 97 - Elementary Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra

Option 3

Any combination of Option 1 and Option 2 fulfilling the basic skills requirements of algebra, reading, and writing.

Additional Requirements Before You Start the Program

- Prior to full acceptance into the Dental Hygiene program, you must complete [program prerequisite courses](#) with a minimum 2.75 cumulative GPA.
- Prior to the first day of classes, accepted students must be Health Care Provider Level CPR certified and have a physical exam with immunization record on Hawkeye Community College form.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants enrolled in coursework to complete the basic skill competencies requirements and [program prerequisite courses](#) will become candidates.

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- c. Upon completion of the program prerequisite courses and a cumulative GPA of 2.75 among all the program prerequisite courses, applicants will be placed on the Eligible for Acceptance list. Placement on the list is determined by their admission requirement completion date.
3. Applicants are accepted for each fall semester to begin the Dental Hygiene program. Applicants are offered acceptance based on the date their applicant file was completed. If many students share the same date for completing their applicant file, the second criteria used will be the GPA from the required general education courses.
4. If you are offered acceptance to begin the Dental Hygiene program and you choose to decline your acceptance, your file will be inactivated and you will need to re-apply for the admission to the program when interested.

Hawkeye's Equal Opportunity Statement

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Dental Hygiene Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 86

Program Start: Fall only

Required Background Screenings to Participate in Clinicals

As a student in a health program at Hawkeye Community College you will be required to complete:

- a criminal background check,
- sex offender registry,
- child abuse registry, and
- dependent adult registry.

The outcome could possibly affect your opportunities to participate in the clinical setting.

Bloodborne Pathogens, Infectious Disease, and Ionizing Radiation

As a student of the Allied Dental Programs at Hawkeye Community College, individuals may be exposed to bloodborne pathogens, infectious disease, and ionizing radiation. The Dental Assisting and Dental Hygiene Programs both educate students in policies which are outlined in the school catalog, student and faculty handbooks, and program policies and procedures manuals, which are effective in ensuring a safe environment. These items are clearly stated verbally and in written form and given to students, faculty, and staff of Hawkeye Community College through set exposure control guidelines.

Safety regarding ionizing radiation is effective and remains a primary focus, including the design of the radiology facilities, the monitoring of potential radiation through the use of the quarterly TLD badge system, and the registration and monitoring of all equipment in compliance with the State of Iowa regulations for safety. The units used for patient exposure allow for the least amount of radiation exposure when used on the film speed E or the phosphor plate sensors.

The Allied Dental Programs accept responsibility for assuring compliance with federal and state regulations regarding bloodborne pathogens standards and hazardous materials/communications. The Programs recognize the potential for bloodborne infectious disease in patients presenting for care in clinic, sterilization, radiology, and in the dental laboratory. Protocols in all clinic and support areas have been established to integrate the ethical, legal, and regulatory considerations.

Program Course Notes

- Students are not eligible for the Iowa Vocational Technical Tuition Grant while taking the prerequisite courses.
- Students must achieve a minimum "C" grade in all courses that are required to complete the program.
- We strongly advise students to complete all of the general education courses, marked with the gen ed icon ♦, prior to full admission into the program.

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2016–2017 Suggested Sequence of Study and Course Cost

The Dental Hygiene program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Prerequisites		
BIO168	Human Anatomy and Physiology I	4 ◆
BIO173	Human Anatomy and Physiology II w/Lab ▶	4 ◆
BIO185	Microbiology w/Lab	3 ◆
CHM122	Introduction to General Chemistry ▶	4 ◆
CHM132	Introduction to Organic and Biochemistry ▶	4 ◆
HSC108	Introduction to Health Professions	2
HSC113	Medical Terminology	2
View Course Descriptions		Total Credits 23

Semester 1		
DHY115	Head and Neck Anatomy for Dental Hygiene ▶	2
DHY116	Tooth Morphology ▶	1
DHY121	Oral Histology and Embryology ▶	2
DHY162	Oral Radiology ▶	2
DHY175	Fundamentals of Clinical Dental Hygiene ▶	6
View Course Descriptions		Total Credits 13

Semester 2		
DHY141	General and Oral Pathology ▶	3
DHY187	Clinical Dental Hygiene II ▶	3
DHY188	Clinical Dental Hygiene II Seminar ▶	1
DHY210	Introduction To Periodontology ▶	1
DHY222	Biomaterials for the Dental Hygienist ▶	3
DHY240	Ethics and Jurisprudence ▶	1
DHY262	Special Needs Patient Education ▶	1

[View Course Descriptions](#)

Total Credits 13

Semester 3 – Summer

PSY111	Introduction to Psychology	3	◆
SOC110	Introduction to Sociology	3	◆

[View Course Descriptions](#)

Total Credits 6

Semester 4

BIO151	Nutrition	3	◆
DHY131	Pharmacology ▶	2	
DHY211	Periodontology ▶	2	
DHY254	Community Oral Health I ▶	2	
DHY271	Pain Control ▶	2	
DHY297	Clinical Dental Hygiene III ▶	4	
DHY298	Clinical Dental Hygiene III Seminar ▶	2	

[View Course Descriptions](#)

Total Credits 17

Semester 5

DHY259	Community Oral Health Service Learning Experience ▶	1	
DHY272	Interdisciplinary Health Care ▶	2	
DHY307	Clinical Dental Hygiene IV ▶	4	
DHY308	Clinical Dental Hygiene Seminar IV ▶	1	
DHY901	Independent Study Clinical Dental Hygiene (optional)	1	
ENG105	Composition I ▶	3	◆
SPC101	Fundamentals of Oral Communication	3	◆

[View Course Descriptions](#)

Total Credits 14

Medical Laboratory Technology

The Medical Laboratory Technology program teaches the knowledge and skills necessary to perform general tests in all laboratory areas, including blood banking, hematology, immunology, and microbiology. Working under the supervision of a medical technologist or pathologist, a medical laboratory technician hunts for clues to the absence, presence, extent, and causes of diseases. Students learn clinical laboratory techniques in addition to doing formal coursework in basic science and liberal arts.

Graduates are awarded an Associates in Applied Science degree and are eligible to take the national and state/regional examinations for licensure, which is required to practice in any state. A social security number is required in order to take exams and apply for licensure.

Academic Affiliate Program

Hawkeye has academic affiliate arrangements that allow students to complete the first two semesters of the Medical Laboratory Technology program at an academic affiliate college. Students then complete the rest of the program at Hawkeye.

Academic affiliate colleges for the Medical Laboratory Technician program include:

- North Iowa Area Community College (NIACC) - Mason City, Iowa
- Northeast Iowa Community College (NICC) - Calmar and Peosta, Iowa

Accreditation

This program is accredited by the [National Accrediting Agency for Clinical Laboratory Services \(NAACLS\)](#), a non-profit organization that independently accredits clinical laboratory science programs.

NAACLS
5600 N. River Road, Suite 720
Rosemont, IL 60018-5119
773-714-8880

Program Outcomes

Hawkeye Medical Laboratory Technology program outcomes are defined by NAACLS and reported using a three-year average from 2012-2014.

- **Hawkeye Medical Laboratory Technology Placement Rate:** 100%
Employment in the laboratory field or pursuit of further education within 1 year of graduation
 - **Hawkeye Medical Laboratory Technology Graduation Rate:** 93%
The percentage of students completing the program who started the final half of the program defined as the start of the fall semester in the second year.
 - **Hawkeye Medical Laboratory Technology Certification Exam (ASCP-BOC MLT):** 95%
Percentage of students who pass the exam taken within 1 year of graduation.
-

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Medical Laboratory Technology Careers

Graduates find employment in hospital laboratories, clinics, physicians' offices, community health agencies, research institutions, and the armed forces. Other areas our graduates work in include industrial laboratories, environmental laboratories, pharmaceutical laboratories, and sales with laboratory supply companies.

Starting Wages: \$29,700 - \$40,600 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Medical Laboratory Technology](#)

Employers

Mercy Iowa City	Iowa City, IA
Mercy Medical Center-North Iowa	Mason City, IA
United Clinical Laboratories	Dubuque, IA
UnityPoint Health – Allen Hospital	Waterloo, IA
Wheaton Franciscan Healthcare	Waterloo and Cedar Falls, IA

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Medical Laboratory Technology Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic OR 97 - Elementary Algebra

AND one year high school Biology with "C" grade or higher in each semester.

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra
- BIO042 Prep. Science for Health Careers

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, writing, and biology.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 24 students and 10 alternates each Fall and Spring Semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.

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4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

Hawkeye's Equal Opportunity Statement

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Medical Laboratory Technology Courses - Effective Fall 2016

Award: Associate of Applied Science (AAS)

Required number of credits: 80

Enrollment Status: Full-time or part-time

Program Start: Fall, Spring

The Medical Laboratory Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

Part-time students, visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Program Evaluation to see your specific program requirements and ensure proper registration.

Required Background Screenings to Participate in Clinicals

As a student in a health program at Hawkeye Community College you will be required to complete:

- a criminal background check,
- sex offender registry,
- child abuse registry, and
- dependent adult registry.

The outcome could possibly affect your opportunities to participate in the clinical setting.

Program Notes

- Students must achieve a minimum "C" grade in all courses required to complete the program.
- Applicants meeting the general admission requirements may take the courses below marked with an asterisk (*) prior to full acceptance to the Medical Laboratory Technology program.

2016–2017 Suggested Sequence of Study

Semester 1 – Fall		
BIO163	Essentials of Anatomy and Physiology	4
CHM122	Introduction to General Chemistry	4
MLT101	Introduction to Lab Science *	2
MLT103	Lab Mathematics *	3
PSY111	Introduction to Psychology -OR-	3
SOC110	Introduction to Sociology	3
SPC101	Fundamentals of Oral Communication	3
<u>View Course Descriptions</u>		Total Credits 19

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Semester 2 – Spring

BIO113	General Biology II -OR-	4
CHM132	Introduction to Organic and Biochemistry	4
BIO185	Microbiology w/Lab	3
ENG105	Composition I	3
HSC113	Medical Terminology *	2
MLT120	Urinalysis *	3
View Course Descriptions		Total Credits 15

Semester 3 – Summer

MLT110	Fundamental Lab Techniques *	3
MLT130	Hematology *	3
MLT250	Clinical Microbiology	4
View Course Descriptions		Total Credits 10

Semester 4 – Fall

MLT230	Advanced Hematology *	3
MLT233	Hemostasis and Thrombosis	2
MLT240	Clinical Chemistry I	7
MLT252	Parasitology *	1
MLT260	Immunohematology	4
MLT270	Immunology and Serology	2
View Course Descriptions		Total Credits 19

Semester 5 – Spring

MLT285	Clinical Practicum: Chemistry	4
MLT287	Clinical Practicum: Hematology	4
MLT288	Clinical Practicum: Microbiology	4
View Course Descriptions		Total Credits 12

Semester 6 – Summer

MLT283	Clinical Practicum: Urinalysis	1
MLT284	Clinical Practicum: Immunohematology	2
MLT286	Clinical Practicum: Immunology and Serology	1
MLT291	Lab Survey and Review	1
View Course Descriptions		Total Credits 5

Medical Laboratory Technology Courses - Effective Spring 2017

Award: Associate of Applied Science (AAS)

Required number of credits: 81

Program Start: Fall, Spring

Required Background Screenings to Participate in Clinicals

As a student in a health program at Hawkeye Community College you will be required to complete:

- a criminal background check,
- sex offender registry,
- child abuse registry, and
- dependent adult registry.

The outcome could possibly affect your opportunities to participate in the clinical setting.

Program Notes

- Students must achieve a minimum "C" grade in all courses required to complete the program.
- Applicants meeting the general admission requirements may take the courses below marked with an asterisk (*) prior to full acceptance to the Medical Laboratory Technology program.

2016–2017 Suggested Sequence of Study and Course Cost

The Medical Laboratory Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your Program Evaluation/Degree **Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1 – Fall			
BIO163	Essentials of Anatomy and Physiology	4	◆
CHM122	Introduction to General Chemistry ▶	4	◆
MLT101	Introduction to Lab Science *	2	
PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
SPC101	Fundamentals of Oral Communication	3	◆

[View Course Descriptions](#)

Total Credits 16

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Semester 2 – Spring

BIO113	General Biology II -OR-	4	◆
CHM132	Introduction to Organic and Biochemistry ▶	4	◆
BIO186	Microbiology	4	◆
ENG105	Composition I ▶	3	◆
HSC113	Medical Terminology *	2	
MLT103	Lab Mathematics *	3	
MLT120	Urinalysis *	3	

[View Course Descriptions](#)

Total Credits 19

Semester 3 – Summer

MLT110	Fundamental Lab Techniques *	3	
MLT130	Hematology ▶ *	3	
MLT250	Clinical Microbiology ▶	4	

[View Course Descriptions](#)

Total Credits 10

Semester 4 – Fall

MLT230	Advanced Hematology ▶ *	3	
MLT233	Hemostasis and Thrombosis ▶	2	
MLT240	Clinical Chemistry I ▶	7	
MLT252	Parasitology *	1	
MLT260	Immunohematology ▶	4	
MLT270	Immunology and Serology ▶	2	

[View Course Descriptions](#)

Total Credits 19

Semester 5 – Spring

MLT285	Clinical Practicum: Chemistry ▶	4	
MLT287	Clinical Practicum: Hematology ▶	4	
MLT288	Clinical Practicum: Microbiology ▶	4	

[View Course Descriptions](#)

Total Credits 12

Semester 6 – Summer

MLT283	Clinical Practicum: Urinalysis ▶	1
MLT284	Clinical Practicum: Immunohematology ▶	2
MLT286	Clinical Practicum: Immunology and Serology ▶	1
MLT291	Lab Survey and Review ▶	1
<u>View Course Descriptions</u>		Total Credits 5

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Practical Nursing (LPN)

The Practical Nursing program prepares students for entry-level practice as licensed practical nurses. Approximately one-half of the instructional time is spent in actual clinical practice in hospitals and nursing homes under the supervision of nursing faculty.

Students receive knowledge and skills in nursing fundamentals, lifespan growth and development, pharmacology, anatomy and physiology, and medical-surgical nursing. Students apply classroom and laboratory experience with patients in clinical settings. Students receive experience in the state-of-the-art Van Gerpen Patient Simulator Laboratory using realistic, full-body manikins and high-fidelity simulators to replicate a range of clinical situations in a controlled environment.

Graduates are eligible to take the national and state/regional examinations for licensure, which is required to practice in any state. A social security number is required in order to take exams and apply for licensure.

Continuing Education Ladder Concept of Nursing Education

Qualified graduates are eligible to progress to the [Associate Degree Nursing program](#).

Accreditation

Hawkeye's Practical Nursing program is approved by the [Iowa Board of Nursing](#) and the Commission on Institutes of the North Central Association.

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Practical Nursing Careers

Graduates often work in hospitals, long-term care facilities, clinics, urgent care centers, and physicians' offices.

Starting Wages: \$31,900 - \$38,200 per year*

*Source: Iowa Workforce Development

Iowa Workforce Development forecasts more than 345 openings each year for licensed practical nurses through 2022.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Practical Nursing](#)

Employers

Bartels Lutheran Retirement Community	Waverly, IA
NewAldaya Lifescapes	Cedar Falls, IA
UnityPoint Health – Allen Hospital	Waterloo, IA
Waverly Health Center	Waverly, IA
Western Home Communities	Cedar Falls, IA
Wheaton Franciscan Healthcare	Waterloo and Cedar Falls, IA

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Practical Nursing Admission Requirements

Admission into the Practical Nursing program is a four step process. Applicants must complete each step for full admittance into the program.

Applicants must be a high school graduate or have earned their high school equivalency diploma.

Step 1—Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic OR 97 - Elementary Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Step 2—Complete TEAS Test

Complete the [Test for Essential Academic Skills \(TEAS\)](#) at Hawkeye Community College with a composite score of 64% or higher.

The TEAS must be taken at Hawkeye Community College. We will not accept TEAS score reports from any other institution.

The TEAS can be taken at Hawkeye a maximum of five times. If the applicant does not successfully complete TEAS with 64% or higher after five attempts, the applicant will not be eligible for admission to the program at Hawkeye and will be removed from the nursing list.

Applicants are not allowed to retake the TEAS once a minimum composite score of 64% is achieved.

A fee is assessed at Hawkeye for the TEAS test.

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Prepare for a successful TEAS V test.

Step 3—Complete Coursework

Complete all of the following courses, or the equivalent, with a "C" grade or higher:

- ENG105 Composition I
- BIO168 Human Anatomy and Physiology I
- HSC108 Introduction to Health Professions

Successfully complete a state approved Certified Nurse Assistant (CNA) course through an accredited college. Applicants will need to provide an official transcript providing proof of successful CNA completion.

Admissions Process

1. Apply for admission.
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants enrolled in coursework to complete Step 1 and/or Step 3 will become candidates.
 - c. Upon completion of Step 1, 2, 3, and 4, applicants will be placed on the Eligible for Acceptance list. Placement on the list is determined by the highest point total earned from the Nursing criteria.

If applicants share the same number of points, the second criteria used will be the Practical Nursing application date. The earliest application date will take priority over a later application date.
3. Applications are processed for admission in the Fall and Spring semester.

Practical Nursing Point System

TEAS score: Points awarded in one category using the highest score earned

TEAS score 64–66 -OR-	0 points
TEAS score 67–71 -OR-	1 point
TEAS score 72–76 -OR-	2 points
TEAS score 77 or higher	3 points

Highest Degree Earned: Points awarded in one category using the highest score earned

Master of Arts or Master of Science Degree -OR-	3 points
Bachelor of Arts or Bachelor of Science Degree -OR-	2 points
Associate in Arts or Associate in Science Degree	1 point

Complete the following courses with a grade of "C" or higher

BIO173 Human Anatomy and Physiology II	1 point
MAT156 Statistics -OR- MAT102 Intermediate Algebra	1 point
BIO151 Nutrition	1 point

Hawkeye's Equal Opportunity Statement

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Practical Nursing Courses

Award: Diploma

Required number of credits: 45

Program Start: Fall, Spring

Required Background Screenings to Participate in Clinicals

As a student in a health program at Hawkeye Community College you will be required to complete the following background screenings to participate in clinicals:

- a criminal background check,
- sex offender registry,
- child abuse registry, and
- dependent adult registry.

The outcome could possibly affect your opportunities to participate in the clinical setting.

Program Notes

- You must be CPR certified and have a health physical on file at Hawkeye prior to the first day of clinical course work.
- You must achieve a minimum "B" grade or better in prerequisite courses BIO168, ENG105, and HSC108 and pass PNN100.
- You must achieve a minimum "B" grade in BIO173 and a minimum "C" grade in all other courses required to complete the program.

2016–2017 Suggested Sequence of Study and Course Cost

The Practical Nursing program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Prerequisites			
BIO168	Human Anatomy and Physiology I	4	◆
ENG105	Composition I ▶	3	◆
HSC108	Introduction to Health Professions	2	
PNN100	Nursing Assistant	3	
View Course Descriptions		Total Credits 12	

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Semester 1

BIO173	Human Anatomy and Physiology II w/Lab ▶	4	◆
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
	<u>Math Electives</u>	3	
PNN115	Introduction to Nursing ▶	4	
PNN116	Introduction to Nursing Skills Lab ▶	2	
PNN117	Nursing Clinical I ▶	1	
PNN207	Introduction to Pharmacology ▶	3	
<u>View Course Descriptions</u>		Total Credits 17	

Semester 2

BIO151	Nutrition	3	◆
PNN214	Basic Health Alterations A ▶	3	
PNN215	Basic Health Alterations B ▶	3	
PNN216	Health Promotion and Maintenance Across the Lifespan ▶	2	
PNN217	Nursing Clinical II ▶	4	
PNN311	PN Issues and Trends ▶	1	
<u>View Course Descriptions</u>		Total Credits 16	

Math Electives

MAT102	Intermediate Algebra ▶	4	◆
MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT156	Statistics ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆
<u>View Course Descriptions</u>			

Associate Degree Nursing (RN)

The Associate Degree Nursing (ADN) program prepares students for entry-level practice as registered nurses and provides upward mobility for licensed practical nurses. Students gain clinical practice in local hospitals, public mental health institutions, and community health agencies. Students must complete a Practical Nursing program before starting the Associate Degree Nursing program.

Students receive knowledge and skills in nursing fundamentals, lifespan growth and development, pharmacology, anatomy and physiology, and medical-surgical nursing. Students apply classroom and laboratory experience with patients in clinical settings. Students receive experience in the state-of-the-art Van Gerpen Patient Simulator Laboratory using realistic, full-body manikins and high-fidelity simulators to replicate a range of clinical situations in a controlled environment.

Students must complete the [Practical Nursing](#) program before starting the Associate Degree Nursing program.

Graduates of the Associate Degree Nursing program are eligible to take the national and state/regional examinations for licensure, which is required to practice as a Registered Nurse in any state. Please keep in mind, a social security number is required in order to take exams and apply for licensure.

Accreditation

This program is approved by the [Iowa Board of Nursing](#) and the Commission on Institutes of the North Central Association.

Transfer Information

Hawkeye Community College is a member of the Iowa Articulation Plan, which creates a career path for Associate Degree Nursing to a Bachelor of Science in Nursing with a minimum of time and redundancy. For more information, contact a program advisor.

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Associate Degree Nursing Careers

Graduates are selected for jobs in:

- hospitals
- long-term care facilities
- clinics
- physicians' offices
- industrial health
- community health
- the armed forces
- pharmacies

Starting Wages: \$41,000–\$53,500 per year*

*Source: Iowa Workforce Development

Iowa Workforce Development forecasts more than 1,200 job openings each year for registered nurses through 2022. Registered nursing is one of the occupations in Iowa with the most job openings.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Associate Degree Nursing](#)

Employers

Allen Memorial Hospital	Waterloo, IA
Mayo Clinic	Rochester, MN
UnityPoint Health – Allen Hospital	Waterloo, IA
University of Iowa Hospitals and Clinics	Iowa City, IA
Waverly Health Center	Waverly, IA
Wheaton Franciscan Healthcare	Waterloo and Cedar Falls, IA

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Associate Degree Nursing Admission Requirements

1. Before your Admission Application will be processed for the Associate Degree Nursing program you must:
 - a. Be fully accepted into the Practical Nursing program,
 - b. Have at least one semester completed in Practical Nursing,
 - c. Have, and maintain, current CPR certification, and
 - d. Meet basic skill competencies in reading, writing, and math.

2. To be fully accepted into the Associate Degree Nursing program you must:
 - a. Have graduated from a regionally accredited Practical Nursing program, or pre-approval from the Hawkeye Nursing Program Chair if not regionally accredited, with a program cumulative GPA of 2.70 or higher.
 - b. Hold a current Iowa LPN license or get a current Iowa license before completion of first semester coursework in order to continue in the Associate Degree Nursing program.
 - c. Have one year of high school chemistry with a grade of "C" or higher or equivalent college chemistry course with a grade of "C" or higher.
 - d. Successful completion of the following courses or equivalent with a grade of "C" or higher:
 - BIO168 Human Anatomy and Physiology I
 - BIO173 Human Anatomy and Physiology II
 - SPC101 Fundamentals of Oral Communication

3. Applicants with the highest points, as determined by the point system below, will receive priority admission to the program. Applicants must have a minimum of five points.

Associate Degree Nursing Admission Point System

Cumulative Practical Nursing GPA 3.50 or higher	4 pts.
Cumulative Practical Nursing GPA 3.00–3.49	3 pts.
Cumulative Practical Nursing GPA 2.80–2.99	1 pt.
Cumulative Practical Nursing GPA 2.70–2.79	0 pts.
ACT Composite of 22 or higher	1 pt.
Hawkeye Community College Practical Nursing Graduate	1 pt.
Master of Arts or Master of Science degree -OR-	3 pts.

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Bachelor of Arts or Bachelor of Science degree -OR-	2 pts.
Associate of Arts or Associate of Science degree -OR-	1 pt.
Associate of Applied Arts or Associate of Applied Science degree from appropriate health-related field	1 pt.
Have not repeated any Practical Nursing courses	1 pt.
3.50–4.00 cumulative GPA from completion of all the following gen-ed courses: BIO168, BIO173, BIO186, SOC110 or PSY111, and SPC101. -OR-	3 pts.
3.00–3.49 cumulative GPA from completion of all the following gen-ed courses: BIO168, BIO173, BIO186, SOC110 or PSY111, and SPC101.	2 pts.
Completion of all gen-ed courses—BIO168, BIO173, BIO186, SOC110 or PSY111, and SPC101—without repeating a course.	1 pt.

Admissions Process

1. Apply for admission.
2. Completed applicant files will be processed as follows:
 - a. Applicants who do not meet the program's admission requirements will be inactivated and will be sent an admissions inactivation letter.
 - b. Applicants enrolled in coursework to complete the admission requirements will be candidates for admission.
 - c. Applicants who meet the programs admission requirements will be acceptable for admission and placed on the Eligible for Acceptance list. Placement on the list is determined by the highest point total earned.
3. Applicants will be processed for admission for the fall and spring semesters.
4. Applicants will be required to submit credentials (transcripts and test scores) as required by the program's admission requirements.
5. We will accept approximately 40 students each fall and spring semester for the day session. Applicants will be accepted based on the points earned from the Associate Degree Nursing Admission Point System.
6. Once offered acceptance to begin the Associate Degree Nursing program, if the applicant chooses to decline the acceptance, they will be placed back on the Eligible for Acceptance list in order based on total points awarded from the admission criteria. This does not guarantee that applicant will be offered acceptance the following semester.

Hawkeye's Equal Opportunity Statement

Associate Degree Nursing Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 38

Program Start: Fall, Spring

Required Background Screenings to Participate in Clinicals

As a student in a health program at Hawkeye Community College you will be required to complete:

- a criminal background check,
- sex offender registry,
- child abuse registry, and
- dependent adult registry.

The outcome could possibly affect your opportunities to participate in the clinical setting.

Program Course Notes

- You must achieve a minimum "B" grade or better in prerequisite courses BIO168, ENG105, and HSC108 and pass PNN100.
- Students must achieve a minimum "C" grade in all courses that are required to complete the program.
- Students may complete general education courses, marked with the gen ed icon ♦, prior to full admission into the program.

2016–2017 Suggested Sequence of Study and Course Cost

The Nursing: Associate Degree Nursing program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

♦ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
ADN121	Transition to Professional Nursing ▶	2
ADN122	Advanced Nursing Skills ▶	2
ADN123	Physical Assessment ▶	2
ADN281	Diet Management ▶	1
ADN531	Advanced Adult Health Nursing I ▶	6

[View Course Descriptions](#)

Total Credits 13

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Semester 2

ADN315	Professional Roles of Nursing Practice ▶	2
ADN410	Advanced Nursing in OB and PEDS ▶	5
ADN532	Advanced Adult Health Nursing II ▶	6
BIO186	Microbiology	4 ♦

[View Course Descriptions](#)

Total Credits 17

Semester 3 *

ADN477	Psychiatric Nursing ▶	5
SOC110	Introduction to Sociology -OR-	3 ♦
PSY111	Introduction to Psychology	3 ♦

[View Course Descriptions](#)

Total Credits 8

* For students starting the Associate Degree Nursing program fall semester, term one is fall, term two is spring, term 3 is summer. For students starting the Associate Degree Nursing program spring semester, term one is spring, term two is fall, and term 3 is the first six weeks of the following spring semester. If seats are available, students may be chosen by lottery to complete ADN477 during the summer in between the first and second term. However, there is no guarantee spring start Associate Degree Nursing students will be awarded a seat in the summer session.

Occupational Therapy Assistant

The Occupational Therapy Assistant program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE). As a result of this action, Hawkeye Community College Occupational Therapy Assistant students may now sit for the National Board.

The Occupational Therapy Assistant program prepares students with entry-level skills and knowledge to provide treatments that improve consumers' ability to achieve independence in everyday activities and to enjoy life to its fullest. Students will learn how to provide occupational therapy interventions for clients with various impairments and monitor their progress while following an occupational therapy plan of care. They will also learn to effectively educate and communicate with patients, families, and other healthcare providers.

Occupational therapy assistants work under the direction and supervision of an occupational therapist. Duties may include instructing patients in performance of activities of daily living, teaching clients to use adaptive equipment or modifying tasks to increase successful participation in meaningful occupations, and educating consumers in health and wellness.

Due to the nature of the work environment and the physical exertion often required to assist patients, you will need to have a moderate degree of strength. For example, you will need to be able to lift patients, kneel, stoop, and stand for long periods of time.

Students should be aware that a felony conviction can have a serious and negative impact on eligibility for certification and credentialing as an Occupational Therapy Assistant.

Accreditation

The Occupational Therapy Assistant program at Hawkeye Community College is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA)

ACOTE

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www.acoteonline.org

[Hawkeye Community College Accreditation](#)

National Certification Examination

Most states require licensure in order to practice. State licensure is usually based on the results of the [National Board for Certification in Occupational Therapy \(NBCOT\)](#) Certification Examination.

Graduation Year	Students Entering/Graduating	Graduation Rate	Number of First-Time Test Takers	Percentage of First-Time Test Takers Who Passed the Exam
2013	13/12	92%	12	100%

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Graduation Year	Students Entering/Graduating	Graduation Rate	Number of First-Time Test Takers	Percentage of First-Time Test Takers Who Passed the Exam
2014	15/11	73%	11	100%
2015	20/18	90%	18	100%
Total	48/41	85%	41	100%

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Occupational Therapy Assistant Careers

Occupational therapy assistants work in a wide variety of settings including homes, hospitals, rehabilitation clinics, community centers, out-patient facilities, schools, and nursing homes.

Starting Wages: \$41,100 - \$51,700 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Occupational Therapy Assistant](#)

Associations

- [The American Occupational Therapy Association, Inc. \(AOTA\)](#)

Employers

Millennium Therapy	Des Moines and Hudson, IA
UnityPoint Health	Waterloo, IA
Wheaton Franciscan Healthcare	Waterloo, IA
Rehab Visions	Locations throughout Iowa
HCR-Manor Care	Locations throughout Iowa
Reliant Rehab	Locations throughout Iowa
Comprehensive Rehab	Clinton, Iowa
Mercy Medical Center	Cedar Rapids, Iowa
Northern Iowa Therapy	Waverly, Iowa

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Occupational Therapy Assistant Admission Requirements

The Occupational Therapy Assistant program at Hawkeye is considered a 1+1 model. Students must complete separate admissions processes for Phase I and Phase II.

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic OR 97 - Elementary Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Phase I Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's basic skill competencies requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's basic skill competencies requirements will be considered Occupational Therapy Assistant Wait students and will be able to take Phase I courses.

Being a "Wait" student does not guarantee Phase II acceptance.

Phase II Program Entrance Requirements

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Before applying to Phase II of the program, applicants must complete the following requirements.

1. Complete one year of the following courses, or one semester of a college-level comparable course, or in the process of completing 15 credits and are currently passing the course with a "C" grade or higher with the exception of biology courses which require grade of a "B -" or higher.
 - Math (algebra or geometry)
 - Biology
 - English
2. Proof of completion of a total of 24 observation hours with a licensed occupational therapist or occupational therapy assistant at three different clinical sites (example: outpatient, hospital inpatient, home health, or long-term care), eight hours per site, and two different settings. [Pre-Admission Observation Hours form \[pdf\]](#).
3. At least 15 credits of [Phase I coursework](#) must be completed with the required cumulative GPA and individual course grades prior to applying for Phase II of the program.

Phase II Admissions Process

1. To be considered for Phase II acceptance, applicants must complete and submit the [OTA Program Phase II Application packet \[pdf\]](#) by December 1. Phase II applications will be accepted only from those who are active Hawkeye Community College students.
2. Phase II program applicants will continue with Phase II of the program as openings are assigned. Students will be notified of their acceptance or non-acceptance via their [Hawkeye email](#).
3. We accept approximately 20 students into Phase II each Summer Semester. Applicants will be accepted based on the initial date of their completed Phase II applicant file.
4. Applications need to be submitted by December 1 to be considered for the upcoming summer, Phase II, of the OTA Program.
5. On receiving notification of acceptance into Phase II of the OTA Program, the applicant has one week from the letter date to confirm acceptance into the program by contacting either the OTA Program Director or the Academic Fieldwork Coordinator.

Please be advised that the seat of any student who fails to confirm acceptance during the time period will be offered to the next student on the list. In this case, the student will need to begin the application process again.

6. If necessary alternates will be contacted, based on the date the Phase II program applicant file was completed, to fill unconfirmed positions in the program.

[Hawkeye's Equal Opportunity Statement](#)

Occupational Therapy Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 82

Program Start: Fall only

Phase I – Foundational Coursework

Phase I Notes

- Students are not eligible for the Iowa Vocational Technical Tuition Grant while taking Phase I courses.
- A minimum cumulative GPA of 2.75 is required for Phase I with no lower than a:
 - "B" in BIO168 Human Anatomy and Physiology I w/lab,
 - "B" in BIO173 Human Anatomy and Physiology II w/lab, and
 - "C" in any individual Phase I general education course.
- BIO168 and BIO173 must have been completed within the last five years of starting Phase II, unless waived by the program chair.

2016–2017 Suggested Sequence of Study and Course Cost

The Occupational Therapy Assistant program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1 – Fall		
BIO168	Human Anatomy and Physiology I	4 ◆
CSC110	Introduction to Computers ▶	3 ◆
ENG105	Composition I ▶	3 ◆
HSC113	Medical Terminology	2
MAT110	Math for Liberal Arts ▶	3 ◆
PSY111	Introduction to Psychology	3 ◆
<u>View Course Descriptions</u>		Total Credits 18

Semester 2 – Spring

BIO173	Human Anatomy and Physiology II w/Lab ▶	4 ◆
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HSC108	Introduction to Health Professions	2	
PSY121	Developmental Psychology	3	◆
PSY241	Abnormal Psychology ▶	3	◆
SOC110	Introduction to Sociology -OR-	3	◆
SOC205	Diversity in America	3	◆
SPC101	Fundamentals of Oral Communication	3	◆
View Course Descriptions		Total Credits 18	

Phase II – Technical Courses and Clinical Experience

Phase II Notes

- Phase II must be completed at full-time status.
- Students will complete Phase II in approximately 12 months.
- Before students can begin Phase II they must complete the [Phase II admissions process](#).
- Students must earn a grade of “C” or higher in all of their Phase II coursework. Less than a “C”, which is less than 75%, is considered failing.

Students may not progress with other course work until a failed course is retaken.

Students may only fail one Phase II course; failing more than one course will be grounds for dismissal from the program.

Failing one or more courses will be grounds for dismissal from the program.

Clinical Experience Requirements

Clinical experiences are completed off-campus. Sites may be local, in-state, or out-of-state and students are very likely to travel at least 2-3 hours away from campus for at least one placement to complete their fieldwork requirement. Students are responsible for their own transportation to and from clinical education, as well as any associated uniform and housing costs. Students will not be allowed to select specific sites for clinical education, but may make requests for special needs or geographical locations. Placement at sites will be dependent up the availability of supervisors.

Participation in clinical education requires:

1. Criminal background, urinalysis testing, Medicare/Medicaid fraud, sex offender, and adult/dependent abuse background checks are required prior to the first day of Phase II courses. A negative finding of the background check may limit and/or exclude you from participation in clinical education (fieldwork) component, thus your eligibility for program completion/graduation would be compromised. If you have a negative finding, you can go through the [NBCOT Early Determination & Character Review](#). NBCOT states “To ensure that occupational therapy practitioners meet standards of professional conduct prior to entering the profession, all applicants for certification are required to provide information and documentation related to affirmative

responses to character questions on the examination application. - See more at: <http://www.nbcot.org/character-review-process#sthash.893065du.dpuf>

2. Students are required to complete CPR, HIPPA, First Aid, Mandatory Reporting, OSHA training prior to the first day of clinical course work. This training is part of HSC108 Intro to Health Professions.
3. Current physical exam and updated immunizations are required, including current hepatitis B series (unless signs waiver), MMR, and current tetanus. Polio and meningitis are also recommended. Current 2-step TB test results are required. This must be recorded on the Hawkeye Community College Student Health and Immunization Record form prior to the first day of Phase II courses.

Physical and immunizations must be up to date and maintained until the following August and/or completion of all fieldwork. Failure to do so will disrupt fieldwork placement and jeopardize your position in the program.

A dress code for clinical education exists and may be dictated by the clinical site.

Semester 3 – Summer

OTA102	Human Movement and Occupation ▶	3
OTA103	Task Analysis ▶	3
OTA104	Assistive Tech and EM ▶	2
<u>View Course Descriptions</u>		Total Credits 8

Semester 4 – Fall

OTA201	Pediatrics and Occupation ▶ *	3
OTA202	Pediatric OTA Skills ▶ *	3
OTA203	Level I Fieldwork Pediatrics ▶ *	2
OTA204	Pediatric Psychosocial Conditions and Occupations ▶ *	1
OTA311	Adult Psychosocial Conditions and Occupations ▶ **	2
OTA312	Adult Psychosocial OTA Skills ▶ **	2
OTA313	Level I Fieldwork Psychosocial ▶ **	1
OTA501	Professional Practice for OTA ▶ **	3
<u>View Course Descriptions</u>		Total Credits 17

* First 8 weeks

**Second 8 weeks

Semester 5 – Spring

OTA302	Physical OTA Skills ▶ *	3
OTA310	Adult Physical Conditions and Occupations ▶ *	3

OTA401	Elders and Occupation ▶ *	2
OTA402	OTA Skills for Elders ▶ *	2
OTA403	Level I Fieldwork Physical Dysfunction ▶ *	1
OTA502	Level II Fieldwork A ▶ **	5
<u>View Course Descriptions</u>		Total Credits 16

* First 8 weeks

**Second 8 weeks

Semester 6 – Summer

OTA503	Level II Fieldwork B ▶	5
<u>View Course Descriptions</u>		Total Credits 5

Physical Therapist Assistant

The Physical Therapist Assistant program prepares students with entry-level skills and knowledge to provide treatments that improve patients' mobility, relieve pain, and prevent or lessen physical disabilities. Students will learn physical therapy interventions, data collection techniques, and how to follow a physical therapy plan of care. They will also learn to effectively educate and communicate with patients, families, and other healthcare providers.

Physical therapist assistants work under the direction and supervision of a physical therapist. Duties may include instructing patients in exercises and activities of daily living, performing manual treatments, and administering modalities such as an ultrasound.

Accreditation

The Physical Therapist Assistant program at Hawkeye Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245; email: accreditation@apta.org; website: www.capteonline.org.

Graduation, National Exam Pass, and Employment Rates

Phase 2 Class	Program Graduation	National Exam Pass*	Employment**
2011–2012	89.5%	69%	89%
2012–2013	85%	94%	92%
2013–2014	85%	73%	95%
2014–2015	95%	TBD	TBD

* Ultimate pass rate may change as students retake the exam.

** Graduate Employment Rates are determined six months after the students first national exam opportunity. Data reflects those who passed the exam.

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About the Physical Therapist Assistant Profession

Physical therapy, as a profession, dates from the beginning of the 20th century, when survivors of polio and WWI injuries created a demand for rehabilitation specialists. Physical therapy today is a health care specialty grounded on a foundation of evidence-based practice concerned with treating disorders that result in movement and functional limitations.

Clinical application of the science restores function, improves mobility, relieves pain, and prevents or limits permanent physical disabilities. The profession also works to promote overall fitness and health.

Who are Physical Therapist Assistants?

The physical therapist assistant is a technically educated health care provider who assists the physical therapist in the provision of physical therapy.

The physical therapist performs an examination and evaluation, develops a diagnosis, determines the prognosis then develops a plan of care for the patient/client.

The physical therapist assistant assists the physical therapist in implementing treatment programs according to the plan of care.

Duties may include:

- instructing patients in exercises and activities of daily living
- administering modalities and other treatment procedures
- reporting to the physical therapist on the patient's response to treatment.

Physical therapist assistants work in a wide variety of settings including hospitals, rehabilitation clinics, out-patient facilities, schools, and nursing homes.

Is Physical Therapist Assistant the Career Path for Me?

If you can answer yes to the questions below, a career as a Physical Therapy Assistant may be a good fit for you.

Do you:

- enjoy helping people achieve a better quality of life?
- enjoy working as part of a team toward a common goal?
- have a compassionate and caring personality?

Can you:

- sit, bend, reach, and/or walk and stand for most of the day?
- lift and carry up to 35% of your own body weight?
- communicate effectively in written and verbal forms?
- place the needs of a patient above your own?
- use your vision and touch for patient assessment?
- use your fine and gross motor skills to assist a patient?

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Physical Therapist Assistant Careers

Physical therapist assistants work in a wide variety of settings including hospitals, rehabilitation clinics, out-patient facilities, schools, and nursing homes.

Starting Wages: \$35,700 - \$47,300 per year*

* Source: Iowa Workforce Development

Physical therapist assistant is one of the fastest-growing occupations in Iowa according to Iowa Workforce Development.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Physical Therapist Assistant](#)

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Physical Therapist Assistant Admission Requirements

The Physical Therapist Assistant program at Hawkeye is considered a 1+1 model. Students must complete separate admissions processes for [Phase I](#) and [Phase II](#).

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic OR 97 - Elementary Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Phase I Admissions Process

1. [Apply for admission to Hawkeye](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's basic skill competencies requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's basic skill competencies requirements will be considered Physical Therapist Assistant Wait students and will be able to take Phase I courses.

Being a "Wait" student does not guarantee Phase II acceptance.

Phase II Program Entrance Requirements

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Before applying to Phase II of the program, applicants must complete the following requirements.

1. One semester of high school physics with a grade "C" or better is required. A full year of high school physics is suggested.

If you currently attend an Iowa high school that does not offer physics or you cannot work it into your schedule, discuss the possibility of taking physics through the Iowa Communications Network with your high school guidance counselor.

-OR-

If you have graduated from high school and have not fulfilled this requirement you can take a remedial course at the high school or college level. Hawkeye offers PHY100 as a physics preparatory course which meets the PTA program requirements. Contact a program advisor for more information.

2. We recommend applicants complete one year of the following high school courses, or one semester of a college-level comparable course, with a "C" grade or higher, however, these courses are not required for admission.
 - Math (algebra or geometry)
 - Biology
 - English
3. Proof of completion of a total of 24 observation hours with a licensed physical therapist or physical therapist assistant at three different clinical sites (eight hours per site).

Observations must include at least two different types of facilities (example: outpatient, hospital inpatient, home health, rehab center, or long-term care).

Arranging observations is the responsibility of the student. You will need to call the facility ahead of time to arrange an observation. Don't forget to ask about any requirements you must meet in order to observe and the dress code.

Document the observations on the [Pre-Admission Observation Hours form \[pdf\]](#). Return the form with your Phase II application.

4. Attend a PTA MORE session if you are currently attending classes at Hawkeye Community College or an interview with a Physical Therapist Assistant faculty member if transferring in all of Phase I coursework. Contact a program advisor to schedule an interview.
5. At least 18 credits of [Phase I coursework](#) must be completed with the required cumulative GPA and individual course grades prior to applying for Phase II of the program.

All [Phase I coursework](#) must be completed by the end of the spring term that precedes Phase II.

If an applicant is a graduate from another accredited university with a bachelor's degree in either exercise science or athletic training, the applicant is eligible for entry into Phase II courses without taking the general

educational requirements. The applicant would also be eligible for graduation after successful completion of Phase II coursework.

Phase II Admissions Process

1. To be considered for Phase II acceptance, applicants must have completed all of the following:
 - a. Phase I Admissions Process
 - b. Phase II program entrance requirements
 - c. Phase II PTA Program Application Packet [pdf].
2. Phase II applicants will continue with Phase II of the program as openings are assigned. Students will be notified of their acceptance or non-acceptance via their Hawkeye email.
3. We accept approximately 20 students into Phase II each fall semester. Applicants will be admitted based on a personal interview with a Physical Therapist Assistant faculty member and their preparatory coursework GPA.
4. If necessary, alternates will be contacted based on the same criteria as the initially accepted applicant.

Hawkeye's Equal Opportunity Statement

Physical Therapist Assistant Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 80

Program Start: Fall only

Phase I – Foundational Coursework

Phase I Notes

- Students are not eligible for the Iowa Vocational Technical Tuition Grant while taking Phase I courses.
- A minimum cumulative GPA of 2.75 is required for Phase I with no lower than a:
 - "B" in BIO168 Human Anatomy and Physiology I w/lab,
 - "B" in BIO173 Human Anatomy and Physiology II w/lab, and
 - "C" in any individual Phase I general education course.
- BIO168 and BIO173 must have been completed within the last five years of starting Phase II, unless waived by the program chair.

2016–2017 Suggested Sequence of Study and Course Cost

The Physical Therapist Assistant program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1 – Fall		
BIO168	Human Anatomy and Physiology I	4 ◆
CSC110	Introduction to Computers ▶	3 ◆
ENG105	Composition I ▶	3 ◆
HSC108	Introduction to Health Professions	2
PSY111	Introduction to Psychology	3 ◆
SOC110	Introduction to Sociology	3 ◆
View Course Descriptions		Total Credits 18

Semester 2 – Spring

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BIO173	Human Anatomy and Physiology II w/Lab ▶	4	◆
HSC113	Medical Terminology	2	
MAT110	Math for Liberal Arts ▶	3	◆
PSY121	Developmental Psychology	3	◆
SOC205	Diversity in America	3	◆
SPC101	Fundamentals of Oral Communication	3	◆
View Course Descriptions		Total Credits 18	

Phase II – Technical Courses and Clinical Experience

Phase II Notes

- Phase II begins fall semester and must be completed at full-time status.
- Students will complete Phase II in approximately 12 months.
- Students must earn a grade of “C” or higher in all of their Phase II coursework. Less than a “C” is considered failing.

Students may not progress with other course work until a failed course is retaken.

Students may only fail one Phase II course; failing more than one course will be grounds for dismissal from the program.

Clinical Experience Requirements

Clinical experiences are completed off-campus. Sites may be local, in-state, or out-of-state. Students are responsible for their own transportation to and from clinical education, as well as any associated housing costs. Students will not be allowed to select specific sites for clinical education, but may make requests for special needs or geographical locations.

Participation in clinical education requires:

1. Criminal background, sex offender, and child and adult/dependent abuse background checks are required prior to the first day of Phase II courses. Failing a background check will result in dismissal from the program.
2. Students are required to complete CPR, HIPAA, First Aid, Mandatory Reporting, OSHA training prior to the first day of clinical course work. This training is part of Phase II courses.
3. Getting a physical exam and updated immunizations, including current hepatitis B series (unless signs waiver), MMR, and current tetanus. Polio and meningitis are also recommended. Current two-step TB test results are required. This must be recorded on the Hawkeye Community College Student Health and Immunization Record form prior to the first day of Phase II courses.

A dress code for clinical education exists and may be dictated by the clinical site.

Semester 3 – Fall

PTA111	PTA Fundamentals	4
PTA120	Kinesiology ▶	3
PTA150	Pathophysiology ▶	3
PTA194	Therapeutic Agents I ▶	3
PTA211	Musculoskeletal I ▶	3
PTA284	PTA Professional Issues	2
PTA310	PTA Clinical I ▶	1
View Course Descriptions		Total Credits 19

Semester 4 – Spring

PTA113	Fundamentals for PTA II ▶	3
PTA195	Therapeutic Agents II ▶	3
PTA212	Musculoskeletal II ▶	3
PTA231	Therapeutic Exercise for PTA ▶	3
PTA248	PTA Neurology ▶	4
PTA311	PTA Clinical II ▶ *	1
View Course Descriptions		Total Credits 17

* Clinical will begin one week prior to the start of Spring Semester.

Semester 5 – Summer

PTA412	PTA Clinical III ▶	4
PTA413	PTA Clinical IV ▶	4
View Course Descriptions		Total Credits 8

Respiratory Care

The Respiratory Care program prepares students for employment in the diagnosis and treatment of patients with deficiencies and abnormalities associated with the cardiopulmonary system. Duties may include electrocardiograms, arterial blood gases, nebulizer treatments, inhalers, ventilator management, oxygen therapy, pulmonary function tests, and sleep studies.

Students train in Hawkeye's state-of-the-art Van Gerpen Patient Simulator Laboratory using realistic full-body manikins and simulators to replicate a range of hospital settings and patient scenarios in a controlled environment.

Graduates are eligible to take the national examination for licensure, which is required to practice in any state. A social security number is required in order to take exams and apply for licensure.

Accreditation

The Respiratory Care program, 200457, Associate of Applied Science, is accredited by the [Commission on Accreditation for Respiratory Care](#).

Commission on Accreditation for Respiratory Care
1248 Harwood Road
Bedford, TX 76021-4244
817-283-2835

[Programmatic Outcomes Data](#)

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Respiratory Care Careers

Graduates find employment in a variety of settings including:

- acute care hospitals
- sub-acute and long-term care facilities
- pulmonary function labs
- sleep centers
- home care

Starting Wages: \$41,400 - \$51,100 per year*

*Source: Iowa Workforce Development

Employers

Cedar Valley Sleep Center	Waterloo, IA
Harmony House Health Care Center	Waterloo, IA
Mayo Clinic	Rochester, MN
Mercy Medical Centers	Many Iowa locations
UnityPoint Hospitals	Many Iowa locations
University of Iowa Hospitals and Clinics	Iowa City, IA
Wheaton Franciscan Healthcare	Many Iowa locations

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Respiratory Care Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic OR 97 - Elementray Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission.](#)
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting all admission requirements will be accepted and tracked while taking the first and second semester prerequisite courses. Upon completion of this coursework with the required cumulative GPA, students will be able to register for RCP courses.
3. We accept approximately 30 students and 10 alternates each Fall Semester. The program accepts approximately 20 students each summer to the RCP professional core courses. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.

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4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

Hawkeye's Equal Opportunity Statement

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Respiratory Care Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 79

Program Start: Fall only

Required Background Screenings to Participate in Clinicals

As a student in a health program at Hawkeye Community College you will be required to complete:

- a criminal background check,
- sex offender registry,
- child abuse registry, and
- dependent adult registry.

The outcome could possibly affect your opportunities to participate in the clinical setting.

Program Notes

- Students are not eligible for the Iowa Vocational Technical Tuition Grant while taking the prerequisite courses.
- Students must complete all prerequisite courses with a 2.75 cumulative GPA prior to registering for RCP courses.
- Students must achieve a minimum "C" grade in all courses required to complete the program.

2016–2017 Suggested Sequence of Study and Course Cost

The Respiratory Care program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Prerequisites – Fall

BIO168	Human Anatomy and Physiology I	4	◆
CHM122	Introduction to General Chemistry ▶	4	◆
CSC110	Introduction to Computers ▶	3	◆
HSC113	Medical Terminology	2	▣
MAT110	Math for Liberal Arts ▶	3	◆

[View Course Descriptions](#)

Total Credits 16

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Prerequisites – Spring

BIO173	Human Anatomy and Physiology II w/Lab ▶	4	◆
BIO186	Microbiology	4	◆
ENG105	Composition I ▶	3	◆
PSY111	Introduction to Psychology	3	◆
SPC101	Fundamentals of Oral Communication	3	◆

[View Course Descriptions](#)

Total Credits 17

Semester 1 – Summer

RCP100	Introduction to Respiratory Care	3	
RCP260	Airway Maintenance Procedures ▶	4	

[View Course Descriptions](#)

Total Credits 7

Semester 2 – Fall

RCP315	Cardiopulmonary Therapeutics ▶	4	
RCP350	Pulmonary Pathology ▶	3	
RCP561	Introduction to Ventilator Support ▶	3	
RCP600	Neonatal/Pediatric Respiratory Therapy ▶	3	
RCP680	Clinical Respiratory Care ▶	4	

[View Course Descriptions](#)

Total Credits 17

Semester 3 – Spring

RCP410	Cardiopulmonary Diagnostics ▶	3	
RCP565	Intensive Respiratory Care ▶	3	
RCP690	Clinical Intensive Care ▶	8	
RCP875	Respiratory Care Applications ▶	2	

[View Course Descriptions](#)

Total Credits 16

Semester 4 – Summer

RCP900	Clinical Preceptor ▶	4	
RCP910	Respiratory Care RRT Review ▶	2	

[View Course Descriptions](#)

Total Credits 6

Civil and Construction Engineering Technology

The Civil and Construction Engineering Technology program prepares students for entry-level work with civil engineers, contractors, architects, and government agencies at the city, county, and state levels, as well as the public. Civil engineering technicians apply the principles of civil engineering technology and surveying technology in planning, designing, and overseeing construction and maintenance of structures and facilities. They do hands-on work and use high-tech equipment in various kinds of projects under the direction of engineering staff.

Several civil engineering scholarships and other scholarship opportunities are available to students in this program.

Transfer Information

Hawkeye's Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa and Mount Mercy University to transfer general education and technical credits. Many Civil and Construction Engineering Technology graduates have transferred substantial credits into the Construction Management program at UNI and the Civil Engineering program at Iowa State University. For more information, contact a program advisor.

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Civil and Construction Engineering Technology Careers

Graduates find employment working as civil technicians, CAD drafters, designers, surveyors, construction inspectors, material testing technicians, estimators, and environmental technicians in public works and private sector jobs.

With the ever-increasing need for infrastructure and the continuing retirement of seasoned technicians in this field, there are tremendous job opportunities and potential for advancement.

Starting Wages: \$35,800 - \$52,200 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Civil and Construction Engineering Technology](#)

Employers

Black Hawk County Engineer's Department	Waterloo, IA
City of Waterloo Engineering Department	Waterloo, IA
Foth Infrastructure & Environment, LLC	Cedar Rapids and Des Moines, IA
Herold-Reicks Surveying	New Hampton and Waverly, IA
IIW, P.C.	Dubuque, IA
Iowa Department of Transportation	Ames, IA
McClure Engineering Co.	Fort Dodge, IA
Peterson Contractors, Inc.	Reinbeck, IA
Terracon	Cedar Falls and Cedar Rapids, IA

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Civil and Construction Engineering Technology Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Math	42 - Algebra	38 - Reading	90 - Reading
19 - Reading	82 - Reading	40 - Writing	98 - Sentence Skills
19 - English	65 - Writing	40 - Elementary Algebra	103 - Arithmetic OR 97 - Elementary Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT063 Elementary Algebra

Option 3

Any combination of Option 1 and Option 2 fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants who do not meet the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting all admission requirements will be accepted.
3. We accept approximately 24 students and 20 alternates each Fall Semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Civil and Construction Engineering Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 71

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Civil and Construction Engineering Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CAD119	Introduction to Computer-Aided Drafting (CAD) ▶	3
CET122	Construction Drawing/Contract	2
DRF110	Introduction to Technical Drafting	2
EGT460	PLTW - Civil Engineering and Architecture ▶	3
ELT192	Introduction to Computer Science	3
MAT744	Technical Math ▶ -OR-	4 ▣
MAT122	College Algebra ▶	5 ◆
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
CET142	PC Concrete, HMA, and Testing	3
CET160	Surveying ▶	3
CET182	Structural Detailing with CAD ▶	2
CET253	Fundamentals of Construction Estimating	3
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
MAT747	Technical Math II ▶ -OR-	4 ▣
MAT128	Precalculus ▶ -OR-	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆

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[View Course Descriptions](#)

Total Credits 18

Semester 3

CET213	Route Surveying/Roadway Design ▶	3
CET223	Soils, Testing, and Foundations ▶	3
CON266	Construction Safety	3
EGT243	Statics and Strength of Materials ▶	3
PHY183	Applied Physics ▶ -OR-	3
PHY162	College Physics I ▶	4 ◆
PSY102	Human and Work Relations -OR-	3 □
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆

[View Course Descriptions](#)

Total Credits 18

Semester 4

CET133	Construction Methods and Resources ▶	3
CET233	Fundamentals of GPS and GIS ▶	3
CET256	Land Surveying ▶	3
CET262	Environmental Technology ▶	3
CET285	Structural Steel/Reinforced Concrete Design ▶	3
SPC101	Fundamentals of Oral Communication	3 ◆

[View Course Descriptions](#)

Total Credits 18

CNC Machining and Tool-Making Technology

CNC Machining and Tool-Making Technology program provides students with the entry-level skills to become a general machinist, a computer-numerical control (CNC) operator or programmer, or a tool-maker.

During the first year, students have the opportunity to complete various levels of the CNC Machining and Tool-Making Technology program to meet our rising local need. They gain experience with basic machining on manual and CNC machines, computer-aided drafting (CAD) and computer-aided machining (CAM) programming, lathes, mills, and electrical-discharge machines (EDMs). Once a student has completed the first year they can earn a diploma in CNC Machining Technology, a certificate as a CNC Machine Operator, a certificate as a CNC Machine Set-Up Specialist, or continue to the second year to earn their AAS degree.

During the second year, students gain hands-on experience in tool-making, die building, mold making, jig and fixture building, tool room machining, and basic design skills. They are also introduced to manual and coordinate measuring machine (CMM) inspection. Upon completion of the two-year program, students earn an Associate of Applied Science degree.

Partnerships

Hawkeye has a partnership with many local area high schools and local businesses through EMC² (Exploring Manufacturing Careers Consortium) to facilitate a school-to-work program.

Transfer Information

Hawkeye's Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa for general education and technical credits. For more information, contact a program advisor.

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CNC Machining and Tool-Making Technology Careers

Graduates find employment working in a variety of positions including:

- tool-maker
- CNC machinist
- CNC machine operator
- CNC set-up specialist

Starting Wages: \$28,100 - \$37,500 per year*

Many graduates in this field work overtime and are not included in the above starting wages.

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [CNC Machining and Tool-Making Technology - AAS](#)
- [CNC Machining Technology - Diploma](#)
- [CNC Machine Set-Up Specialist - Certificate](#)
- [CNC Machine Operator - Certificate](#)

Employers

Blackhawk Engineering, Inc.	Cedar Falls, IA
Criterion Manufacturing	Waterloo, IA
Geater Machining & Manufacturing, Co.	Independence, IA
GMT Corporation	Waverly, IA
Hawkeye Tool and Die	Jesup, IA
Iowa Laser Technology	Cedar Falls, IA
John Deere	Waterloo, IA
Viking Pump, Inc.	Cedar Falls, IA

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CNC Machining and Tool-Making Technology Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic
16 - Reading	69 - Reading	34 - Reading	62 - Reading
13 - English	20 - Writing	31 - Writing	48 - Sentence Skills

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

1. MAT045 Fundamentals of Math
2. RDG-039 College Preparatory Reading II
3. Review in Writing at Metro Campus

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants who meet the program's admission requirements will be accepted.
3. We accept approximately 60 students and 20 alternates each Fall Semester. Applicants will be accepted based on the date of their completed applicant file. If many students share the same date for completing their applicant file, the application date will be used to prioritize acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

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CNC Machining and Tool-Making Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 80

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The CNC Machining and Tool-Making Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
MFG122	Machine Trade Printreading I	3
MFG157	Introduction to CNC Programming I ▶	2
MFG158	Introduction to CNC Programming II ▶	2
MFG211	Basic Machine Theory	2
MFG222	Machine Operations I ▶	4
MFG302	CNC Fundamentals	3
<u>View Course Descriptions</u>		Total Credits 19

* First 8 weeks

** Second 8 weeks

Semester 2		
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
MFG142	Geometric Dimensioning Tolerancing ▶	3

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MFG214	Advanced Machine Theory ▶	2
MFG228	Machine Operations II ▶	4
MFG309	CNC Programming Theory II ▶	4
MFG335	CNC Operations ▶	3
View Course Descriptions		Total Credits 19

Semester 3 – Summer

MFG320	Computer Aided Machining ▶	3
MFG364	Hydraulic Jigs and Fixtures ▶	4
MFG380	EDM Fundamentals	2
View Course Descriptions		Total Credits 9

Semester 4

MFG408	Basic Diemaking ▶	8
MFG410	CAD Die Design	3
SPC101	Fundamentals of Oral Communication	3 ◆
WEL402	Tool Steel Welding and Heat Treatment	2
View Course Descriptions		Total Credits 16

Semester 5

MFG107	Introduction to 3D Modeling	3
MFG431	Die Revision and Repair ▶	5
MFG452	Moldmaking ▶	3
MFG525	CMM Inspection and SPC ▶	3
PSY102	Human and Work Relations -OR-	3 □
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
View Course Descriptions		Total Credits 17

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆

MAT216 Calculus II ►

4 ◆

MAT219 Calculus III ►

4 ◆

[View Course Descriptions](#)

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CNC Machining Technology Diploma Courses

Award: Diploma

Required number of credits: 47

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The CNC Machining Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your Program Evaluation/Degree **Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1

MAT772	Applied Math -OR-	3	▣
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
	<u>Math Electives</u>	3	
MFG122	Machine Trade Printreading I	3	
MFG157	Introduction to CNC Programming I ▶ *	2	
MFG158	Introduction to CNC Programming II ▶ **	2	
MFG211	Basic Machine Theory	2	
MFG222	Machine Operations I ▶	4	
MFG302	CNC Fundamentals	3	

[View Course Descriptions](#)

Total Credits 19

* First 8 weeks

** Second 8 weeks

Semester 2

COM781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG105	Composition I ▶	3	◆
MFG142	Geometric Dimensioning Tolerancing ▶	3	
MFG214	Advanced Machine Theory ▶	2	
MFG228	Machine Operations II ▶	4	

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MFG309	CNC Programming Theory II ▶	4
MFG335	CNC Operations ▶	3
View Course Descriptions		Total Credits 19

Semester 3

MFG320	Computer Aided Machining ▶	3
MFG364	Hydraulic Jigs and Fixtures ▶	4
MFG380	EDM Fundamentals	2
View Course Descriptions		Total Credits 9

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆
View Course Descriptions			

CNC Machine Set-Up Specialist Certificate Courses

Award: Certificate

Required number of credits: 38

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The CNC Machine Set-Up Specialist program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
MAT772	Applied Math -OR-	3	▣
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
<u>Math Electives</u>			
MFG122	Machine Trade Printreading I	3	
MFG157	Introduction to CNC Programming I ▶ *	2	
MFG158	Introduction to CNC Programming II ▶ **	2	
MFG211	Basic Machine Theory	2	
MFG222	Machine Operations I ▶	4	
MFG302	CNC Fundamentals	3	
<u>View Course Descriptions</u>		Total Credits 19	

* First 8 weeks

** Second 8 weeks

Semester 2			
COM781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG105	Composition I ▶	3	◆
MFG142	Geometric Dimensioning Tolerancing ▶	3	

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MFG214	Advanced Machine Theory ▶	2
MFG228	Machine Operations II ▶	4
MFG309	CNC Programming Theory II ▶	4
MFG335	CNC Operations ▶	3
View Course Descriptions		Total Credits 19

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆
View Course Descriptions			

CNC Machine Operator Certificate Courses

Award: Certificate

Required number of credits: 19

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The CNC Machine Operator program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
MFG122	Machine Trade Printreading I	3
MFG157	Introduction to CNC Programming I ▶ *	2
MFG158	Introduction to CNC Programming II ▶	2
MFG211	Basic Machine Theory	2
MFG222	Machine Operations I ▶	4
MFG302	CNC Fundamentals	3
<u>View Course Descriptions</u>		Total Credits 19

* First 8 weeks

** Second 8 weeks

Math Electives		
MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆

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[View Course Descriptions](#)

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Electromechanical Engineering Technology

The Electromechanical Engineering Technology program provides students with broad-based knowledge and skills in electronics and mechanical engineering related to industrial maintenance, electronic/mechanical machine repair, electronics manufacturing, electronics maintenance, electronics repair, electronic/mechanical design and development, and applied electronic computer programming.

Transfer Information

Hawkeye's Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa for general education and technical credits. For more information, contact a program advisor.

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Electromechanical Engineering Technology Careers

Our graduates work in a variety of positions including:

- Automation technician
- Electrical maintenance worker
- Electrical specialist
- Electrical/PLC programming technician
- Electronics technician
- Maintenance mechanic
- Maintenance technician
- Product development technician
- Repair technician
- System electronics technician

Starting Wages: \$37,800 - \$49,600 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Electromechanical Engineering Technology - AAS](#)
- [Electromechanical Technician - Diploma](#)

Employers

Blackhawk Engineering, Inc.	Cedar Falls, IA
ConAgra Foods, Inc.	Waterloo, IA
John Deere	Waterloo, IA
Quaker Oats Company	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA
Tyson Foods, Inc.	Waterloo, IA
University of Northern Iowa	Cedar Falls, IA
Viking Pump, Inc.	Cedar Falls, IA
Whirlpool Corporation	Amana, IA

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Electromechanical Engineering Technology Admissions Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
16 - Reading	69 - Reading	34 - Reading	62 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	103 - Arithmetic -OR- 97 - Elementary Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT063 Elementary Algebra

Option 3

Any combination of Option 1 and Option 2 fulfilling the basic skills requirements in algebra, reading and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants who do not meet the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting all admission requirements will be accepted.
3. We accept approximately 24 students and 20 alternates each Fall Semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

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Electromechanical Engineering Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 82

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Electromechanical Engineering Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
EGT108	Principles of Engineering -OR-	3
EGT410	PLTW - Principles of Engineering	3
ELT290	DC Electricity ▶ *	4
ELT291	AC Electricity ▶ **	4
IND100	Basic Mechanical Systems	2
IND111	Industrial Safety Mechanical Systems	1
MAT504	Electronics Math I ▶	4 ▣
View Course Descriptions		Total Credits 18

* First 8 weeks

**Second 8 weeks

Semester 2		
ELT104	Electronics Drafting ▶ -OR-	3
CAD119	Introduction to Computer-Aided Drafting (CAD) ▶	3
ELT320	Electronic Devices ▶	5
ELT321	Operational Amplifiers ▶	3
ELT600	Applied Computer Programming ▶	3
MAT514	Electronics Math II ▶	4 ▣
View Course Descriptions		Total Credits 18

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Semester 3 – Summer

EGT140	Fluid Power	2
EGT144	Fluid Power Applications	2
ELT469	Digital Circuits and Systems ► -OR-	5
EGT420	PLTW - Digital Electronics	3

[View Course Descriptions](#)

Total Credits 9

Semester 4

AGM126	Diesel Engine Sub Systems ►	3
ELT494	Data Acquisition Systems ►	5
ELT802	Electronics Design Project I	1
PHY183	Applied Physics ►	3
PSY102	Human and Work Relations -OR-	3 ◻
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆

[View Course Descriptions](#)

Total Credits 18

Semester 5

AGM142	Diesel Power Transfer Systems ►	4
COM781	Written Communication in the Workplace ► -OR-	3 ◻
ENG105	Composition I ►	3 ◆
EGT152	Advanced Fluid Power and Servo Systems ►	2
ELT156	Industrial Electronics	5
ELT703	Introduction to Networking ►	2
ELT803	Electronics Design Project II ►	1
IND145	Mechanical Power Transfer ►	2

[View Course Descriptions](#)

Total Credits 19

Electromechanical Technician Diploma Courses

Award: Diploma

Required number of credits: 45

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Electromechanical Technician program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
EGT108	Principles of Engineering -OR-	3
EGT410	PLTW - Principles of Engineering	3
ELT290	DC Electricity ▶ *	4
ELT291	AC Electricity ▶ **	4
IND100	Basic Mechanical Systems	2
IND111	Industrial Safety Mechanical Systems	1
MAT504	Electronics Math I ▶	4 ▣
View Course Descriptions		Total Credits 18

* First 8 weeks

**Second 8 weeks

Semester 2		
ELT104	Electronics Drafting ▶ -OR-	3
CAD119	Introduction to Computer-Aided Drafting (CAD) ▶	3
ELT320	Electronic Devices ▶	5
ELT321	Operational Amplifiers ▶	3
ELT600	Applied Computer Programming ▶	3
MAT514	Electronics Math II ▶	4 ▣
View Course Descriptions		Total Credits 18

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Semester 3 – Summer

EGT140	Fluid Power	2
EGT144	Fluid Power Applications	2
ELT469	Digital Circuits and Systems ► -OR-	5
EGT420	PLTW - Digital Electronics	3

[View Course Descriptions](#)

Total Credits 9

Product Development Technician Certificate Courses

Award: Certificate

Required number of credits: 13

Program Start: Fall only

The Product Development Technician Certificate is for individuals who have completed the Electromechanical Engineering Technology program and are employed by John Deere.

The following list of courses is from the current catalog year, organized in the suggested sequence of study and is subject to change.

2016–2017 Suggested Sequence of Study and Course Cost

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGM128	Fundamentals of Diesel Engine ▶	5
AGM932	Internship ▶	8
<u>View Course Descriptions</u>		Total Credits 13

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Electronics Engineering Technology

The Electronics Engineering Technology program provides students with broad-based knowledge and skills in communications, electronics manufacturing, electronics maintenance, computer and business machine repair, electronics design and development, computer software, and networking.

Electronic engineering technicians work with electronics engineers. Together they design, develop, and manufacture industrial and consumer electronic equipment such as ultrasound, radar, navigational equipment, and computers. They are involved in fabricating, operating, testing, troubleshooting, repairing, and maintaining equipment.

Partnerships

Hawkeye has a unique training partnership with John Deere to train and hire electronic engineering technicians.

Transfer Information

Hawkeye's Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa for general education and technical credits. For more information, contact a program advisor.

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Electronics Engineering Technology Careers

Our graduates work in a variety of settings including:

- Medical electronics technician
- Electronics communication technician
- Electronics lab technician
- Manufacturing test technician
- Field service engineer
- Engineering technician
- Computer repair technician
- Computer software technician
- Business machine service technician
- Computer network technician
- Industrial maintenance technician
- Field engineers
- Sales engineers
- Quality assurance technicians

Starting Wages: \$31,100 - \$46,400 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Electronics Engineering Technology - AAS](#)
- [Electronics Engineering Technology - Diploma](#)
- [Electronics Engineering Technology - Certificate](#)

Employers

ConAgra Foods, Inc.	Waterloo, IA
DISTek Integration, Inc.	Cedar Falls, IA
FRC Component Products, Inc.	Mason City, IA
John Deere	Waterloo, IA
Nestlé USA	Waverly, IA
Qorvo, Inc.	Cedar Rapids, IA
Randstad Technologies	Cedar Rapids, IA
Rockwell Collins	Cedar Rapids, IA
Skyworks Solutions, Inc.	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA

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Electronics Engineering Technology Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
16 - Reading	69 - Reading	34 - Reading	58 - Reading
16 - English	41 - Writing	35 - Writing	64 - Sentence Skills
19 - Math	42 - Algebra	40 - Elementary Algebra	85 - Elementary Algebra

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT063 Elementary Algebra

Option 3

Any combination of Option 1 and Option 2 fulfilling the basic skills requirements in algebra, reading and writing.

Pre-Program Acceptance

Applicants not meeting the Basic Skill Competencies Requirements criteria will be accepted to a Pre-Program. As a pre-program student, you will begin with general education and prerequisite classes. An advisor will help you create an academic plan to meet your program admission requirements.

Once you have completed your pre-program coursework contact Admissions.

[Apply for Admission at Hawkeye](#)

[Hawkeye's Equal Opportunity Statement](#)

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Electronics Engineering Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 85

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Electronics Engineering Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
EGT108	Principles of Engineering -OR-	3
EGT410	PLTW - Principles of Engineering	3
ELT290	DC Electricity ▶ *	4
ELT291	AC Electricity ▶	4
IND100	Basic Mechanical Systems	2
MAT504	Electronics Math I ▶	4 ▣
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 20

* First 8 weeks

**Second 8 weeks

Semester 2		
ELT104	Electronics Drafting ▶ -OR-	3
CAD119	Introduction to Computer-Aided Drafting (CAD) ▶	3
ELT320	Electronic Devices ▶	5
ELT321	Operational Amplifiers ▶	3
ELT600	Applied Computer Programming ▶	3
MAT514	Electronics Math II ▶	4 ▣
View Course Descriptions		Total Credits 18

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Semester 3 – Summer

ELT469	Digital Circuits and Systems ▶ -OR-	5
EGT420	PLTW - Digital Electronics	3
PSY102	Human and Work Relations -OR-	3 □
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆

[View Course Descriptions](#)

Total Credits 8

Semester 4

ELT403	Visual Basic ▶	3
ELT415	Communication Circuits I ▶	5
ELT417	Computer Systems ▶	3
ELT494	Data Acquisition Systems ▶	5
ELT802	Electronics Design Project I	1
PHY183	Applied Physics ▶	3

[View Course Descriptions](#)

Total Credits 20

Semester 5

ELT156	Industrial Electronics	5
ELT497	Communication Circuits II ▶	6
ELT703	Introduction to Networking ▶	2
ELT704	Embedded Processors ▶	2
ELT803	Electronics Design Project II ▶	1
ENG105	Composition I ▶ -OR-	3 ◆
COM781	Written Communication in the Workplace ▶	3 □

[View Course Descriptions](#)

Total Credits 19

Electronics Technician – Diploma Courses

Award: Diploma

Required number of credits: 43

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Electronics Technician diploma option program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
EGT108	Principles of Engineering -OR-	3
EGT410	PLTW - Principles of Engineering	3
ELT290	DC Electricity ▶	4
ELT291	AC Electricity ▶	4
IND100	Basic Mechanical Systems	2
MAT504	Electronics Math I ▶	4 ▣
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
ELT104	Electronics Drafting ▶	3
ELT320	Electronic Devices ▶	5
ELT321	Operational Amplifiers ▶	3
ELT600	Applied Computer Programming ▶	3
MAT514	Electronics Math II ▶	4 ▣
<u>View Course Descriptions</u>		Total Credits 18

Semester 3		
ELT469	Digital Circuits and Systems ▶ -OR-	5

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EGT420	PLTW - Digital Electronics	3	
PSY102	Human and Work Relations -OR-	3	▣
PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
<u>View Course Descriptions</u>		Total Credits 8	

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Electronics Assistant – Certificate Courses

Award: Certificate

Required number of credits: 35

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Electronics Assistant certificate option program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
EGT108	Principles of Engineering -OR-	3
EGT410	PLTW - Principles of Engineering	3
ELT290	DC Electricity ▶	4
ELT291	AC Electricity ▶	4
IND100	Basic Mechanical Systems	2
MAT504	Electronics Math I ▶	4 ▣
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
ELT104	Electronics Drafting ▶	3
ELT320	Electronic Devices ▶	5
ELT321	Operational Amplifiers ▶	3
ELT600	Applied Computer Programming ▶	3
MAT514	Electronics Math II ▶	4 ▣
<u>View Course Descriptions</u>		Total Credits 18

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Heating and Air Conditioning

The Heating and Air Conditioning program is designed to provide classroom and shop learning experiences. Students gain the knowledge to become proficient in the theory and service of domestic, environmental, and comfort conditioning equipment.

Students are trained in basic electricity, electric and electronic controls, fossil fuel heating process and equipment, air cooling and refrigeration theory and equipment, fabrication and installation of sheet metal, heat pump theory and equipment, and electric heat theory and equipment. They also examine the theory of the solar heating process.

Experience and Training

The Heating and Air Conditioning eight-week field experience allows students to gain real work experience at an employment site. This ensures that the students gain the skills they need to succeed on the job.

Transfer Information

Hawkeye's Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa for general education and technical credits. For more information, contact a program advisor.

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Heating and Air Conditioning Careers

Graduates have a variety of career options including working for dealers, distributors, and commercial business as service technicians and installers.

Starting Wages: \$31,100 - \$46,400 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Heating and Air Conditioning](#)

Employers

Aire Serv	Waterloo, IA
Bergen Plumbing, Heating, and Cooling	Waterloo, IA
Dalton Plumbing and Heating	Cedar Falls, IA
Mike Fereday Heating & Air Conditioning	Waterloo, IA
Independence Plumbing, Heating, & Cooling	Independence, IA
Jim Hundley Heating, Air Conditioning, & Plumbing	Janesville, IA
Plumb Tech, Inc.	Waterloo, IA
Young Plumbing & Heating Co.	Waterloo, IA

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Heating and Air Conditioning Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic
16 - Reading	69 - Reading	34 - Reading	62 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT045 Fundamentals of Math

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 20 students and 20 alternates each Fall Semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Heating and Air Conditioning Courses

Award: Diploma

Required number of credits: 48

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Heating and Air Conditioning program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
HCR111	Residential Forced Air Heating Systems	3
HCR181	Introduction to HVACR	3
HCR281	Applied Practices I	5
HCR455	Applied Electricity for HVACR	4
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 18

Semester 2		
HCR114	Boiler Fundamentals ▶	4
HCR282	Applied Practices II ▶	3
HCR415	Controls for HVACR ▶	3
HCR517	HVACR Systems II ▶	5
HCR852	Operation Strategies ▶	2
<u>View Course Descriptions</u>		Total Credits 17

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Semester 3 – Summer

HCR137	Hydronic Heating Systems ▶	3
HCR283	Applied Practices III ▶	3
HCR429	HVAC App Controls w/Automated Systems ▶	2
HCR602	HVACR Systems III ▶	2
HCR911	HVACR Field Experience I ▶	1
HCR912	HVACR Field Experience II ▶	2

[View Course Descriptions](#)

Total Credits 13

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Industrial Automation Technology

The Industrial Automation Technology program prepares students for careers and employment in a broad range of manufacturing, food processing, and business environments. Students gain an in-depth knowledge of electricity and electronics, fluid power, mechanical systems, robotics, and manufacturing processes. Students learn through hands-on training utilizing state-of-the-art equipment used in today's businesses.

Enhance Iowa Grant

The Industrial Automation program is part of the Enhance Iowa project, a grant from the US Department of Labor for equipment, training, and simulation to help prepare individuals in the high demand field of industrial maintenance and automation.

Transfer Information

Hawkeye's Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa for general education and technical credits. For more information, contact a program advisor.

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Industrial Automation Technology Careers

Entry-level positions in Industrial Automation Technology are available locally, regionally, and nationally. Graduates generally work in maintenance positions and find employment in manufacturing, food processing, and business environments.

Starting Wages: \$29,000 - \$52,000 per year*

*Source: Iowa Workforce Development and as reported by the Industrial and Engineering Technology department.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Industrial Automation Technology](#)
- [Industrial Equipment Maintenance – Diploma](#)

Employers

Blackhawk Engineering	Cedar Falls, IA
ConAgra Foods, Inc.	Waterloo, IA
Iowa Laser Technology	Cedar Falls, IA
John Deere	Waterloo, IA
Nestlé USA	Waverly, IA
Rockwell Automation	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA
Tyson Foods, Inc.	Waterloo, IA

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Iowa's Network



Industrial Automation Technology Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG-061 College Preparatory Writing II
- RDG-040 College Preparatory Reading III
- MAT-045 Fundamentals of Math

Option 3

Any combination of Option 1 and Option 2 fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants not meeting the program's admission requirements will be sent an Admissions Inactivation Letter.
 - b. Applicants meeting all admission requirements will be accepted.
3. We accept approximately 20 students and 20 alternates. Applicants will be accepted based upon the initial date of their completed applicant file. If many students share the same date for completing their applicant files; the application date, if needed, will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Industrial Automation Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall only

Eight-Week Courses * **

Courses marked with one asterisk (*) meet the first 8-weeks of the semester. Courses marked with two asterisks (**) meet the second 8-weeks of the semester.

2016–2017 Suggested Sequence of Study and Course Cost

The Industrial Automation Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
EGT140	Fluid Power <u>**</u>	2
ELT139	Electrical Systems ▶ <u>*</u>	3
ELT239	Advanced Electrical Systems ▶ <u>**</u>	3
ELT315	Digital Logic for Industrial Applications ▶ -OR-	2
EGT420	PLTW - Digital Electronics	3
IND100	Basic Mechanical Systems <u>*</u>	2
IND111	Industrial Safety Mechanical Systems	1
IND145	Mechanical Power Transfer ▶ <u>**</u>	2
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
<u>Math Electives</u>		

[View Course Descriptions](#)

Total Credits 18

Semester 2

EGT149	Fluid Power Systems II ▶	3
ELT215	Motors and Controls ▶ <u>*</u>	2

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ELT234	PLC Programming ▶ **	2
ELT736	Instrumentation and Control ▶ *	2
MFG193	Machine Shop Processes	3
PSY102	Human and Work Relations -OR-	3 □
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
WEL339	Electromechanical Maintenance **	3
View Course Descriptions		Total Credits 18

Semester 3

EGT144	Fluid Power Applications *	2
ELT120	Schematics for Electromechanical Techs ▶	3
ELT216	DC Controls Circuits ▶ **	2
ELT240	PLCs II ▶ **	2
ELT532	Semiconductors for Industrial Applications ▶ *	2
MFG365	General CNC Lathe Maintenance **	2
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 16

Semester 4

ATR145	Applied Industrial Robotics **	2
COM781	Written Communication in the Workplace ▶ -OR-	3 □
ENG105	Composition I ▶	3 ◆
EGT152	Advanced Fluid Power and Servo Systems ▶ *	2
ELE218	Motion Control ▶ **	2
ELT133	Electric Motor Drives *	2
ELT245	PLCs III ▶ *	2
ELT444	Industrial Networking ▶ **	2
MFG366	General CNC Mill Maintenance *	2
View Course Descriptions		Total Credits 17

Math Electives

MAT110	Math for Liberal Arts ▶	3 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆

Industrial Equipment Maintenance – Diploma Courses

Award: Diploma

Required number of credits: 33

Program Start: Fall only

Eight-Week Courses * **

Courses marked with one asterisk (*) meet the first 8-weeks of the semester. Courses marked with two asterisks (**) meet the second 8-weeks of the semester.

2016–2017 Suggested Sequence of Study and Course Cost

The Industrial Equipment Maintenance diploma program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
EGT140	Fluid Power <u>**</u>	2
ELT139	Electrical Systems ▶ <u>*</u>	3
ELT239	Advanced Electrical Systems ▶ <u>**</u>	3
ELT315	Digital Logic for Industrial Applications ▶ -OR-	2
EGT420	PLTW - Digital Electronics	3
IND100	Basic Mechanical Systems <u>*</u>	2
IND111	Industrial Safety Mechanical Systems	1
IND145	Mechanical Power Transfer ▶ <u>**</u> -OR-	2
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
<u>Math Electives</u>		
View Course Descriptions		Total Credits 18

Semester 2

EGT149	Fluid Power Systems II ▶	3
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ELT215	Motors and Controls ▶ <u>*</u>	2
ELT234	PLC Programming ▶ <u>**</u>	2
ELT736	Instrumentation and Control ▶ <u>*</u>	2
MFG193	Machine Shop Processes	3
WEL339	Electromechanical Maintenance <u>**</u>	3
View Course Descriptions		Total Credits 15

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT156	Statistics ▶	3	◆

[View Course Descriptions](#)

Sustainable Construction and Design

The Sustainable Construction and Design prepares students to design and construct sustainable and highly energy-efficient residences. Students will learn how to construct new homes that are durable; provide a healthy environment for the occupants; and use very little energy for heating, cooling, and lighting. The program utilizes a “whole systems approach” to train graduates to understand the integral relationship between materials, building techniques, mechanical systems, and subcontractors in the production of energy-efficient and sustainable homes. Students will learn about the use of green and renewable materials, the proper installation of all components and subsystems, and the reduction of construction site waste.

Students apply the concepts they learn in hands-on building experiences. Training includes, but is not limited to, foundations, concrete work, framing, siding, roofing, thermal/moisture protection, drywall installation/finishing, stair construction, finishing, cabinet installation, HVAC, electrical, plumbing, appliances, and landscaping.

Students learn to perform energy audits on existing homes to identify problems, develop solutions, and retrofit solutions cost effectively.

The Sustainable Construction and Design program follows the National Center for Construction Education and Research (NCCER) training, assessment, certification, and career development standards for residential construction and maintenance craft professionals. Program concepts align with the U.S. Green Building Council's initiatives.

Transfer Information

Hawkeye’s Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa to transfer general education and technical credits. Graduates may transfer credits into the Construction Management program at UNI. For more information, contact a program advisor.

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Sustainable Construction and Design Careers

Graduates will find employment as:

- building designers
- sustainable construction professionals
- carpenters
- insulation workers
- residential site supervisors
- energy auditors

They will also be prepared to continue their education to become:

- construction managers
- building inspectors
- commercial drafters
- electricians
- plumbers
- HVAC designers

Starting Wages: \$26,200 - \$39,300 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Sustainable Construction and Design](#)

Employers

Builders Select	Cedar Falls, IA
Dietz Construction L.L.C.	Nashua, IA
Johnny B's Construction, Inc.	Denver, IA
Magee Construction Company	Cedar Falls, IA
Woods Construction, Inc.	Fairbank, IA

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Sustainable Construction and Design Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic
16 - Reading	69 - Reading	34 - Reading	62 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT045 Fundamentals of Math

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 24 students and 24 alternates each Fall Semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Sustainable Construction and Design Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Sustainable Construction and Design program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CON102	Introduction to Residential Construction	2
CON108	Construction Safety	1
CON129	Concrete Lab ▶	2
CON130	Concrete Theory	1
CON131	Site Layout and Blueprint Reading	1
CON133	Construction Technology Lab	4
CON201	Framing Techniques and Lab I	2
CON302	Building Science I	1
MAT772	Applied Math -OR-	3 <input type="checkbox"/>
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT122	College Algebra ▶ -OR-	5 ◆
MAT128	Precalculus ▶ -OR-	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
View Course Descriptions		Total Credits 17

Semester 2		
CON121	Carpentry Fundamentals I ▶	4
CON146	Construction Technology Lab 2 ▶	3
CON214	Exterior Framing Systems I *	3
CON217	Exterior Finishing	3

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[View Course Descriptions](#)**Total Credits 16**

* First 8 weeks

** Second 8 weeks

Semester 3 - Summer

CON933 Employment Training Experience ▶

4

[View Course Descriptions](#)**Total Credits 4****Semester 4**

CAD200 CAD SoftPlan ▶

3

CON228 Methods of Interior Finishing

3

CON486 Building Science 2 (Sustainable Design) ▶

1

CON510 Construction Technology Lab 3 ▶

3

PSY102 Human and Work Relations -OR-

3 □

PSY111 Introduction to Psychology -OR-

3 ◆

SOC110 Introduction to Sociology

3 ◆

SPC101 Fundamentals of Oral Communication

3 ◆

[View Course Descriptions](#)**Total Credits 16****Semester 5**

CAD208 SoftPlan 2 ▶

3

COM781 Written Communication in the Workplace ▶ -OR-

3 □

ENG105 Composition I ▶

3 ◆

CON290 Construction Estimating and Project Management ▶

2

CON512 Construction Technology Lab 4 ▶

3

ENV155 Residential Energy Auditing

4

HCR200 Manual J and D HVAC Design ▶ *

1

[View Course Descriptions](#)**Total Credits 16**

* First 8 weeks

Welding

The Welding program prepares students to enter into the industry as beginning production, maintenance, or job shop welders. Students are trained in the latest techniques in the fabrication of materials by welding processes.

Welding continues to be one of the principal means of fabricating and repairing metal products. An independent certification laboratory evaluates each student's performance on the American Welding Society Structural Steel Bend test for possible certification before graduation.

Transfer Information

Hawkeye's Industrial and Engineering Technology department has a block articulation agreement with the University of Northern Iowa for general education and technical credits. For more information, contact a program advisor.

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Welding Careers

Graduates of the Welding program enter the industry as beginning maintenance or job shop welders.

Starting Wages: \$26,900 - \$35,000 per year*

Many graduates in this field work overtime.

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Welding - Diploma 1](#)
- [Welding - Diploma 2](#)
- [Welding - Certificate](#)

Employers

ADA Enterprises, Inc.	Northwood, IA
Baumgartner Gate Factory	Manchester, IA
GMT Corporation	Waverly, IA
Iowa Laser Technology	Cedar Falls, IA
John Deere	Waterloo, IA Ottumwa, IA
Terex Corporation	Waverly, IA
Wayne Engineering	Cedar Falls, IA

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Welding Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic
16 - Reading	69 - Reading	34 - Reading	62 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT045 Fundamentals of Math

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 30 students and 30 alternates each fall and spring semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Advanced Welding – Diploma 1 Courses

Award: Diploma

Required number of credits: 43

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Advanced Welding–Diploma 1 program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
MAT772	Applied Math -OR-	3	▣
MAT122	College Algebra ▶	5	◆
WEL111	Welding Blueprint Reading	3	
WEL134	Cutting Processes	2	
WEL155	Arc Welding I (SMAW)	4	
WEL186	GMAW -OR-	4	
WEL104	Introduction to MIG Welding -AND-	2	
WEL234	Introduction to GMAW II ▶	2	
<u>View Course Descriptions</u>			Total Credits 16

Semester 2			
COM730	Communications	3	▣
WEL112	Welding Blueprint Reading Advanced ▶	2	
WEL164	Arc Welding II (SMAW) ▶	4	
WEL187	Advanced GMAW ▶	4	
<u>View Course Descriptions</u>			Total Credits 13

Semester 3			
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WEL125	Fusion and Braze Welding ▶	2
WEL191	Gas Tungsten Arc Welding ▶	3
WEL303	Pipe Welding/SMAW ▶	3
WEL710	Robotic Welding ▶	6
<u>View Course Descriptions</u>		Total Credits 14

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Welding – Diploma 2 Courses

Award: Diploma

Required number of credits: 29

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Welding–Diploma 2 program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
MAT772	Applied Math -OR-	3	▣
MAT122	College Algebra ▶	5	◆
WEL111	Welding Blueprint Reading	3	
WEL134	Cutting Processes	2	
WEL155	Arc Welding I (SMAW)	4	
WEL186	GMAW -OR-	4	
WEL104	Introduction to MIG Welding -AND-	2	
WEL234	Introduction to GMAW II ▶	2	
View Course Descriptions			Total Credits 16

Semester 2			
COM730	Communications	3	▣
WEL112	Welding Blueprint Reading Advanced ▶	2	
WEL164	Arc Welding II (SMAW) ▶	4	
WEL187	Advanced GMAW ▶	4	
View Course Descriptions			Total Credits 13

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Welding – Certificate Courses

Award: Certificate

Required number of credits: 16

Program Start: Fall, Spring

2016–2017 Suggested Sequence of Study and Course Cost

The Welding–Certificate program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree **Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
MAT772	Applied Math -OR-	3	▣
MAT122	College Algebra ▶	5	◆
WEL111	Welding Blueprint Reading	3	
WEL134	Cutting Processes	2	
WEL155	Arc Welding I (SMAW)	4	
WEL186	GMAW -OR-	4	
WEL104	Introduction to MIG Welding -AND-	2	
WEL234	Introduction to GMAW II ▶	2	
<u>View Course Descriptions</u>		Total Credits 16	

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Information Systems Management

The Information Systems Management program prepares students to examine the implementation and management of information systems in today's technological business environment. This program provides students with a solid understanding of hardware, networks, and applications along with their impact on a business.

The first year of coursework focuses on information technology such as hardware, operating systems, and networking equipment. Hawkeye is a Regional Academy for Cisco Systems and delivers their curriculum covering switches and routers, preparing students to obtain the CCNA industry certification. Students are also trained and encouraged to pursue the CompTIA A+ certification as well as Microsoft MTA certification.

The second year focuses on business. Students gain an understanding of business to enable them to provide systems to support key business objectives as an information technology professional. These classes cover a variety of topics, including human resources, accounting, management, and marketing.

Hawkeye's Information Technology programs are located in [Black Hawk Hall](#). The Information Technology lab equipment, environment, and technology are state-of-the-art.

Transfer Information

Students enrolled in the Information Systems Management program wishing to transfer should contact a program advisor.

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Information Systems Management Careers

Information Systems Management graduates will be ready to accept employment in positions such as:

- network manager
- help desk manager
- information systems manager
- information technology manager

Starting Wages: \$23,700 - \$40,600 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Information Systems Management](#)

Employers

CBE Group	Cedar Falls, IA
Cedar Valley Medical Specialists, P.C.	Waterloo, IA
Veridian Credit Union	Waterloo, IA
Waverly Utilities	Waverly, IA

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Information Systems Management Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
16—Reading	69—Reading	34—Reading	62—Reading
16—English	41—Writing	35—Writing	77—Sentence Skills
16—Math	39—Pre-Algebra	40—Numerical	63—Arithmetic

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT052 Pre-Algebra

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 60 students and 20 alternates each fall semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

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Information Systems Management Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 63

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Information Systems Management program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
BCA201	Introduction to Information Systems ▶ -OR-	3 ◆
CSC110	Introduction to Computers ▶ -OR-	3 ◆
BCA205	Database/Spreadsheets ▶	3
CIS303	Introduction to Database	3
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT122	College Algebra ▶ -OR-	5 ◆
MAT134	Trigonometry and Analytic Geometry ▶ -OR-	3 ◆
MAT210	Calculus I ▶	4 ◆
NET109	A+ Certification Prep Course	4
NET213	CISCO Networking ▶	4
View Course Descriptions		Total Credits 17

Semester 2		
BUS102	Introduction to Business	3 ◆
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
NET225	Routing and Switching Essentials ▶	4
NET313	Windows Server ▶	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆

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[View Course Descriptions](#)**Total Credits 16****Semester 3**

ACC131	Principles of Accounting I ▶	4	◆
MAT156	Statistics ▶	3	◆
MGT101	Principles of Management	3	◆
NET268	CCNA Routing and Switching: Scaling Networks ▶	3	
SPC101	Fundamentals of Oral Communication	3	◆

[View Course Descriptions](#)**Total Credits 16****Semester 4**

ACC132	Principles of Accounting II ▶	4	◆
CIS750	Project Management ▶	3	
MGT170	Human Resource Management	3	
NET932	Internship ▶	2	
	<u>Information Technology Elective</u>	2	

[View Course Descriptions](#)**Total Credits 14****Information Technology Electives**

BCA183	Basic Web Design Software ▶	2	
BCA232	Multimedia for Web Design	3	
BUS183	Business Law	3	◆
GRA150	Introduction to Web Design	3	
GRA162	Web Page Graphics ▶	3	
NET152	Advanced Network Technologies	3	
NET310	Virtual Machines ▶	3	
NET320	Advanced Server Configuration ▶	3	
NET346	Windows Exchange Server ▶	3	
NET412	Linux System Administration	3	
NET474	Certification Preparation ▶	1	
NET475	Certification Preparation ▶	2	
NET612	Fundamentals of Network Security ▶	3	
NET949	Special Topics	1	

[View Course Descriptions](#)

Network Administration and Engineering

The Network Administration and Engineering prepares students to design and manage local and wide area networks. In the information technology industry certifications are a must. This program targets professional certifications including Cisco CCNA, Microsoft MTA, and CompTIA A+.

Coursework is directly related to these industry-recognized certifications. Students learn computer hardware, operating systems, server configuration, and network management. Students are prepared to design, implement, and support routers, switches, and wireless networks of all sizes. They also learn server administration, database and mail servers, and project management. Continually on the cutting edge of technology, students have the opportunity to learn about virtual machines, multi-layer switching, VPN solutions, and more.

Students design, layout, and write specifications for networks. Students learn to setup, maintain, and support networks, servers, and security. Hawkeye's Cisco Regional and Microsoft IT Academies provide access to the newest software and technology. Students gain hands-on experience with the latest Microsoft desktop, server, exchange, and SQL server platforms. Through internship opportunities, students can apply classroom theories and concepts in a business IT setting.

Hawkeye's Information Technology programs are located in [Black Hawk Hall](#). The Information Technology lab equipment, environment, and technology are state-of-the-art.

Transfer Information

Students enrolled in the Network Administration and Engineering program wishing to transfer should contact a program advisor.

Program Contacts

Department Secretary

Cindi Clark
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Program Advisor

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Dean

Bryan Renfro
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Network Administration and Engineering Careers

Graduates accept employment in positions such as network administrator, network technician, LAN/WAN engineer, or LAN/WAN administrator.

Starting Wages: \$30,000 - \$46,200 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Network Administration and Engineering](#)
- [Computer Networking Technician - Diploma](#)

Employers

ACES	Cedar Falls, IA
CBE Group	Cedar Falls, IA
Cedar Falls Utilities	Cedar Falls, IA
John Deere	Waterloo, IA
EO Johnson Business Technologies	Cedar Falls, IA
Networking Solutions	Waterloo, IA

Program Contacts

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Network Administration and Engineering Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
16—Reading	69—Reading	34—Reading	62—Reading
16—English	41—Writing	35—Writing	77—Sentence Skills
16—Math	39—Pre-Algebra	40—Numerical	63—Arithmetic

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG039 College Preparatory Reading II
- MAT052 Pre-Algebra

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 60 students and 20 alternates each fall semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

Program Contacts

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Network Administration and Engineering Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 68

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Network Administration and Engineering program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
BCA201	Introduction to Information Systems ▶ -OR-	3 ◆
CSC110	Introduction to Computers ▶ -OR-	3 ◆
BCA205	Database/Spreadsheets ▶	3
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
MAT110	Math for Liberal Arts ▶	3 ◆
NET109	A+ Certification Prep Course	4
NET213	CISCO Networking ▶	4
View Course Descriptions		Total Credits 17

Semester 2		
CIS303	Introduction to Database	3
NET225	Routing and Switching Essentials ▶	4
NET313	Windows Server ▶	3
NET412	Linux System Administration	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
View Course Descriptions		Total Credits 16

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Dean

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Semester 3

NET268	CCNA Routing and Switching: Scaling Networks ▶	3
NET310	Virtual Machines ▶	3
NET320	Advanced Server Configuration ▶	3
NET346	Windows Exchange Server ▶	3
NET612	Fundamentals of Network Security ▶	3
SPC101	Fundamentals of Oral Communication	3 ♦

[View Course Descriptions](#)

Total Credits 18

Semester 4

CIS750	Project Management ▶	3
NET269	CCNA Routing and Switching: Connecting Networks ▶	3
NET710	SQL Database ▶	2
NET916	Experiential Learning ▶	5
NET932	Internship ▶	2
	<u>Information Technology Elective</u>	2

[View Course Descriptions](#)

Total Credits 17

Information Technology Elective Electives

BCA183	Basic Web Design Software ▶	2
BCA232	Multimedia for Web Design	3
CIS604	Visual Basic	3
GRA150	Introduction to Web Design	3
GRA162	Web Page Graphics ▶	3
NET152	Advanced Network Technologies	3
NET474	Certification Preparation ▶	1
NET475	Certification Preparation ▶	2
NET949	Special Topics	1

[View Course Descriptions](#)

Computer Networking Technician – Diploma Courses

Award: Diploma

Required number of credits: 33

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Computer Networking Technician program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
BCA201	Introduction to Information Systems ▶ -OR-	3 ◆
BCA205	Database/Spreadsheets ▶ -OR-	3
CSC110	Introduction to Computers ▶	3 ◆
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
MAT110	Math for Liberal Arts ▶	3 ◆
NET109	A+ Certification Prep Course	4
NET213	CISCO Networking ▶	4
View Course Descriptions		Total Credits 17

Semester 2		
CIS303	Introduction to Database	3
NET225	Routing and Switching Essentials ▶	4
NET313	Windows Server ▶	3
NET412	Linux System Administration	3
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
View Course Descriptions		Total Credits 16

Program Contacts

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Web Programming and Development

The Web Programming and Development program provides students with the opportunity to pursue an associate degree built on the knowledge and skills to create dynamic web applications. In a hands-on approach, students will integrate many programming languages to plan, implement, test, troubleshoot, and maintain dynamic web applications.

Team-based skills are emphasized in the program. With exposure to multiple languages such as JavaScript, HTML5, CSS3, PHP, ASP.NET C#, and SQL, the program is geared to give students real-world, hands-on experience in developing websites and web applications. Current web standards are stressed throughout the program and developing trends such as responsive web design are examined. Through the support of local businesses, students gain exposure with a required internship.

Hawkeye's Information Technology programs are located in [Black Hawk Hall](#). The Information Technology lab equipment, environment, and technology are state-of-the-art.

Evening Program

Earn a degree in the evening! With classes starting at 5:00pm, the evening program allows students to work and go to school at the same time.

Transfer Information

Students enrolled in the Web Programming and Development program wishing to transfer should contact a program advisor.

Program Contacts

Department Secretary

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Program Advisor

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Web Programming and Development Careers

Graduates find employment in all types of businesses including:

- manufacturing
- service
- education
- distributors
- retail
- tourism
- non-profit
- government agencies

Starting Wages: \$21,100 - \$33,800 per year*

*Source: As reported by the Information Technology department

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Web Programming and Development](#)

Employers

Far Reach Technologies Mudd Advertising VGM Forbin Scientific Games
Interactive/Williams Interactive SoCaMo

Far Reach Technologies	Cedar Falls, IA
Mudd Advertising	Waterloo, IA
VGM Forbin	Waterloo, IA
Scientific Games Interactive/Williams Interactive SoCaMo	Cedar Falls, IA

Program Contacts

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Web Programming and Development Admission Requirements

Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
16 - English	41 - Writing	35 - Writing	77 - Sentence Skills
16 - Math	39 - Pre-Algebra	40 - Numerical	63 - Arithmetic

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Complete all of the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG060 College Preparatory Writing I
- RDG040 College Preparatory Reading III
- MAT052 Pre-Algebra

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Admissions Process

1. [Apply for admission](#).
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants meeting the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants meeting the program's admission requirements will be accepted.
3. We accept approximately 24 students and 24 alternates each Fall Semester. Applicants will be accepted based on the date their completed applicant file. If many students share the same date for completing their applicant files, the application date will be used to prioritize their acceptance.
4. If necessary, alternates will be contacted to fill unconfirmed positions in the program. Alternates will be given priority for the next term.

[Hawkeye's Equal Opportunity Statement](#)

Program Contacts

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Web Programming and Development Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Web Programming and Development program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CIS121	Introduction to Programming Logic	3
CIS355	Database Design and Management	4
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
WDV102	Introduction to Web Development	3
WDV105	Web Layouts	3
<u>View Course Descriptions</u>		Total Credits 16

Semester 2		
CIS215	Server Side Web Programming ▶	3
CIS231	PHP Programming ▶	3
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
SPC101	Fundamentals of Oral Communication	3 ◆
	<u>Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 15

Semester 3

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CIS206	Web Scripting ▶	3
CIS217	Data Driven Web Page ▶	3
CIS225	Advanced Server Side Web Programming ▶	3
PSY102	Human and Work Relations -OR-	3 ◻
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
WDV931	Internship ▶	2
	<u>Electives</u>	3
View Course Descriptions		Total Credits 17

Semester 4

CIS249	Web Languages ▶	3
WDV300	Advanced Topics in Web Development ▶	3
WDV800	Portfolio ▶	3
WDV931	Internship ▶	2
	<u>Electives</u>	3
View Course Descriptions		Total Credits 14

Electives

BCA183	Basic Web Design Software ▶	2
BCA232	Multimedia for Web Design	3
CIS234	Web Site Administration ▶	3
CIS274	E-Commerce Design ▶	3
GRA150	Introduction to Web Design	3
MGT110	Small Business Management	3
NET109	A+ Certification Prep Course	4
View Course Descriptions		

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT156	Statistics ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆

Agricultural Power Technology

The Agricultural Power Technology program prepares students for careers as service technicians in the agricultural industry. Students learn through classroom lecture and hands-on shop experience, studying comprehensive applications of repair and maintenance of internal combustion engines, diesel fuel systems, hydraulics, power trains, and electrical/electronic systems.

Transfer Information

Hawkeye's Power Technology department has a block articulation agreement with the University of Northern Iowa Department of Industrial Technology. For more information on transferring credits, contact a program advisor.

Program Contacts

Department Secretary

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Butler Hall 131
319-296-4011
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Dean

Dave Grunklee
Butler Hall 131A
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Agricultural Power Technology Careers

Our graduates can work as technicians in implement dealerships, factories, construction, independent shops, heavy equipment dealerships, independent farms, and consumer product dealerships.

Other positions our graduates hold include equipment salesperson, service manager, service writer, farm service manager, and field representative.

Starting Wages: \$26,600 - \$36,900 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Agricultural Power Technology](#)

Employers

Altorfer, Inc.	Cedar Rapids, IA
Cedar Valley Corp., LLC	Waterloo, IA
Deike Implement Co.	Waverly, IA
P&K Midwest	Waterloo and Waverly, IA
Titan Machinery	Waverly, IA

Program Contacts

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Agricultural Power Technology Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

Program Contacts

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Agricultural Power Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 68

Program Start: Fall only

2016–2017 Suggested Sequence of Study and Course Cost

The Agricultural Power Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGM104	Electricity	4
AGM107	Gas Engine Rebuild	7
AGM113	Hydraulics I	3
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
DSL377	Diesel Engine Rebuild	7
DSL447	Diesel Fuel Systems	7
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 17

Semester 3		
AGM224	Hydraulics II ▶	4

Program Contacts

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AGM327	Equipment Maintenance ▶	7
AGM333	Electronics ▶	3
PSY102	Human and Work Relations -OR-	3 □
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
View Course Descriptions		Total Credits 17

Semester 4

AGM408	Power Transfer Systems ▶	7
AGM417	Ag Equipment Repair ▶	7
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 17

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆
View Course Descriptions		

Automotive Technology

The Automotive Technology program prepares students for a career in the vast field of automotive electronics and repair. Students gain hands-on experience in testing and diagnosing, engine drivability diagnosis, automatic transmissions, gas engines, suspension, alignment, brakes, and basic electricity.

Automotive service technicians must continually adapt to changing technology as vehicle components and systems become increasingly sophisticated.

Accreditation

The Automotive Technology program is A.S.E. Master Certified in all eight areas of curriculum by the National Automotive Technician Education Foundation ([NATEF](#)).

Transfer Information

Hawkeye's Power Technology department has a block articulation agreement with the University of Northern Iowa Department of Industrial Technology. For more information on transferring credits, contact a program advisor.

Program Contacts

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Automotive Technology Careers

Graduates are working in automotive dealerships, independent automotive shops, service stations, car manufacturers, and national automotive service centers.

Other areas graduates may find employment include:

- auto service
- electrical repair
- auto service management
- wheel alignment
- auto repair shops
- heating and air conditioning
- rental repair
- heavy engine repair
- recreational vehicle repair
- automatic transmissions
- drivability engine performance
- small engine repair

Starting Wages: \$24,200 - \$37,700 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Automotive Technology](#)

Employers

C&S Car Company	Waterloo, IA
ConAgra Foods, Inc.	Waterloo, IA
Dan Deery Motor Co.	Cedar Falls, IA
John Deere	Waterloo, IA
Waterloo Auto Parts	Waterloo, IA

Program Contacts

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Automotive Technology Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Automotive Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 76

Program Start: Fall only

Four-Week Courses

Courses marked with one asterisk (*) meet the first 4 weeks of the semester. Courses marked with two asterisks (**) meet the second 4 weeks of the semester. Courses marked with three asterisks (***) meet the third 4 weeks of the semester. Courses marked with four asterisks (****) meet the fourth 4 weeks of the semester.

2016–2017 Suggested Sequence of Study and Course Cost

The Automotive Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AUT106	Introduction to Automotive Technology *	2
AUT109	Introduction to Automotive Technology II *	2
AUT164	Automotive Engine Repair **	4
AUT504	Automotive Brake Systems ****	4
AUT610	Automotive Electrical I ***	4
MAT772	Applied Math -OR-	3 <input type="checkbox"/>
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 19

Semester 2

AUT307	Automotive Manual Transmissions and Transaxles **	4
AUT404	Automotive Suspension and Steering ****	4
AUT643	Auto Starting, Charging, and Electrical ▶ *	4

Program Contacts

Department Secretary

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AUT842	Auto Computerized Engine Controls ***	4
PSY102	Human and Work Relations -OR-	3 □
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
View Course Descriptions		Total Credits 19

Semester 3

AUT537	Automotive Advanced Brake Systems ▶ *	4
AUT704	Automotive Heating and Air Conditioning **	4
AUT834	Automotive Fuel Systems ****	4
AUT886	Comprehensive Application ▶ ***	4
COM781	Written Communication in the Workplace ▶ -OR-	3 □
ENG105	Composition I ▶	3 ◆
View Course Descriptions		Total Credits 19

Semester 4

AUT204	Automotive Automatic Transmissions and Transaxles ***	4
AUT315	Automotive Differentials and 4-Wheel Drive *	4
AUT631	Automotive Electronics ▶ ****	4
AUT827	Automotive Ignition Systems ▶ **	4
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 19

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆
View Course Descriptions		

Collision Repair and Refinishing

The Collision Repair and Refinishing program provides students with the training and knowledge needed for job entry in the various collision and refinishing repair fields, such as auto frame/unibody technician, auto body painter/ refinisher, collision specialist, estimator, and auto body management. Students are provided with classroom and hands-on experience studying comprehensive applications in vehicle repair and refinishing. Students will learn paint techniques on Hawkeye's state-of-the-art [virtual paint system](#).

Certifications

Students may receive the following certifications: I-Car Pro Level 1 (Non-Structural Technician and Refinishing Technician), Painter, 6H NESHAP, and Mitchell Estimating.

Transfer Information

Hawkeye's Power Technology department has a block articulation agreement with the University of Northern Iowa Department of Industrial Technology. For more information on transferring credits, contact a program advisor.

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Collision Repair and Refinishing Careers

Graduates of the Collision Repair and Refinishing program have a wide variety of career opportunities including:

- body shop manager *
- auto body specialist
- vehicle restoration
- collision repair
- aircraft refinishing
- automotive customizing
- heavy truck body repair
- auto insurance adjuster *
- auto appraiser *
- frame specialist
- painter
- motorcycle painter
- auto body product salesperson
- auto salvage business

* Requires additional course work.

Starting Wages: \$24,200 - \$39,700 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Collision Repair and Refinishing](#)
- [Basic Collision Repair - Diploma](#)

Employers

Billion Auto	Clive, IA
Black Hawk Auto Refinishers	La Porte City, IA
Clemons Chevrolet	Marshalltown, IA
Deery Brothers Collision Center	Cedar Falls, IA
Droste's Auto Care	Waterloo, IA
Dunlap Motors	Independence, IA
Iowa Auto Rebuilders	Waterloo, IA
Rydell Chevrolet	Waterloo, IA
Terex Corporation	Waverly, IA
Witham Auto Centers	Waterloo, IA

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Collision Repair and Refinishing Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Collision Repair and Refinishing Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 70

Program Start: Fall only

Eight-Week Courses

Courses marked with one asterisk (*) meet the first 8-weeks of the semester. Courses marked with two asterisks (**) meet the second 8-weeks of the semester.

2016–2017 Suggested Sequence of Study and Course Cost

The Collision Repair and Refinishing program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CRR306	Introduction to Collision Repair **	6
CRR806	Introduction to Refinishing *	6
MAT772	Applied Math -OR-	3 <input type="checkbox"/>
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 15

Semester 2		
CRR331	Basic Collision Procedures ▶ **	6
CRR836	Refinishing II ▶ *	6
PSY102	Human and Work Relations -OR-	3 <input type="checkbox"/>
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 15

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Semester 3

COM781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG105	Composition I ▶	3	◆
CRR510	Collision Production Technology ▶ *	7	
CRR740	Estimating I ▶	3	
CRR877	Refinishing Applications ▶ **	7	
View Course Descriptions		Total Credits 20	

Semester 4

CRR657	Advanced Collision Repair ▶ *	7	
CRR750	Estimating II ▶	3	
CRR881	Refinishing Production Technology ▶ **	7	
SPC101	Fundamentals of Oral Communication	3	◆
View Course Descriptions		Total Credits 20	

Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆
View Course Descriptions			

Basic Collision Repair Diploma Courses

Award: Diploma

Required number of credits: 30

Program Start: Fall only

Eight-Week Courses

Courses marked with one asterisk (*) meet the first 8-weeks of the semester. Courses marked with two asterisks (**) meet the second 8-weeks of the semester.

2016–2017 Suggested Sequence of Study and Course Cost

The Basic Collision Repair program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CRR306	Introduction to Collision Repair **	6
CRR806	Introduction to Refinishing *	6
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 15

Semester 2		
CRR331	Basic Collision Procedures ▶ **	6
CRR836	Refinishing II ▶ *	6
PSY102	Human and Work Relations -OR-	3 ▣
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
<u>View Course Descriptions</u>		Total Credits 15

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Math Electives

MAT122	College Algebra ▶	5	◆
MAT128	Precalculus ▶	4	◆
MAT134	Trigonometry and Analytic Geometry ▶	3	◆
MAT210	Calculus I ▶	4	◆
MAT216	Calculus II ▶	4	◆
MAT219	Calculus III ▶	4	◆

[View Course Descriptions](#)

Construction Equipment Operation

The Construction Equipment Operation program prepares students to become entry-level equipment operators. Students receive the hands-on training needed to operate construction equipment and machines used for earth and materials moving. They will work with wheel loaders, skid steer loaders, dump trucks, flatbed transport trailers, compact excavators, backhoes, and track machines. Students will also learn about pre-operational inspection, personal protective equipment, job site safety practices, blueprint reading, construction site preparation, and equipment maintenance.

Students train and test to obtain a Commercial Driver's License (CDL). Our instructors are trained and state certified to teach the Federal Motor Carrier Safety Administration standards for tractor-trailer drivers and are Third Party Commercial License Testers for the State of Iowa. Federal and state laws require that intrastate drivers must be at least 18 years of age.

Experience and Training

The Construction Equipment Operation program provides an eight-week workplace experience. This allows students to gain real work experience at a job site and ensures they develop the skills they need to succeed on the job.

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Construction Equipment Operation Careers

Graduate may find employment as construction equipment operators for:

- commercial and residential building contractors
- trenching and excavation contractors
- county, state, and interstate road construction contractors
- road maintenance departments

Starting Wages: \$30,400 - \$40,300 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Construction Equipment Operation](#)

Employers

Cedar Falls Construction Co., Inc.	Cedar Falls, IA
Cedar Valley Corp., LLC	Waterloo, IA
C.J. Moyna and Sons	Elkader, IA
JB Holland Construction, Inc.	Decorah, IA
Peterson Contractors, Inc.	Reinbeck, IA
Veith Construction Corp.	Cedar Falls, IA

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Construction Equipment Operation Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Construction Equipment Operation Courses

Award: Diploma

Required number of credits: 46

Program Start: Summer only

Before the start of classes you must have:

- a valid driver's license with a good driving record
- a stable work history

During the first week of classes you must complete:

- a DOT physical examination
- a DOT drug test with negative results

2016–2017 Suggested Sequence of Study and Course Cost

The Construction Equipment Operation program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your **Program Evaluation/Degree Audit** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1 – Summer		
HEQ100	Introduction to Construction Equipment Operation	1
HEQ102	Preoperational Inspection	2
HEQ104	Equipment Maintenance I	2
HEQ105	Skid Steer Operation	3
HEQ106	Compact Excavator Operation	3
HEQ107	Wheel Loader Operation	2
View Course Descriptions		Total Credits 13

Courses will meet for 12 weeks.

Semester 2 – Fall		
CON108	Construction Safety	1
CON131	Site Layout and Blueprint Reading	1
HEQ108	Backhoe Operation	3

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HEQ109	All Terrain Lifts Operation	2
HEQ114	Track Equipment Operation	3
MAT772	Applied Math -OR-	3 <input type="checkbox"/>
MAT110	Math for Liberal Arts ► -OR-	3 <input checked="" type="checkbox"/>
COM781	Written Communication in the Workplace ► -OR-	3 <input type="checkbox"/>
ENG105	Composition I ► -OR-	3 <input checked="" type="checkbox"/>
COM730	Communications	3 <input type="checkbox"/>
TDT126	Commercial License Preparation	3
TDT128	Driving Skills Development ►	3
<u>View Course Descriptions</u>		Total Credits 19

Semester 3 – Spring		
HEQ110	Support Equipment Operation	2
HEQ111	Jobsite Certifications	4
HEQ113	Equipment Maintenance II	3
HEQ905	Workplace Experience	3
TDT100	Interpersonal Relations	2
<u>View Course Descriptions</u>		Total Credits 14

Courses will meet for the first 8 weeks and Workplace Experience will meet for the last 8 weeks of the semester.

Diesel Truck Technology

The Diesel Truck Technology program prepares students to become proficient while developing the skills for service and repair procedures on diesel trucks. Students train in a number of areas, including repair and maintenance of internal combustion engines, diesel fuel systems, hydraulics, power train, and electrical/electronic systems.

Transfer Information

Hawkeye's Power Technology department has a block articulation agreement with the University of Northern Iowa Department of Industrial Technology. For more information on transferring credits, contact a program advisor.

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Diesel Truck Technology Careers

Graduates work in truck stops, heavy equipment shops, consumer product dealerships, independent repair shops, and engine machine shops as truck and engine troubleshooters and maintenance personnel. Other areas our graduates may work in include dispatch, service manager, DOT inspector, independent shop, and repair technician in diesel, heavy equipment, and recreation vehicles (RV), boat, and train.

Starting Wages: \$27,000 - \$38,400 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Diesel Truck Technology](#)

Employers

Altorfer, Inc.	Cedar Rapids, IA
Cedar Valley Corp., LLC	Waterloo, IA
Don's Truck Sales	Fairbank, IA
Harrison Truck Centers	Waterloo, IA
Ryder Truck Rental and Leasing	Cedar Falls, IA
Thompson Truck and Trailer, Inc.	Cedar Rapids and Waterloo, IA
Warren Transport, Inc.	Waterloo, IA

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Diesel Truck Technology Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Diesel Truck Technology Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 68

Program Start: Fall only

Eight-Week Courses

Courses marked with one asterisk (*) meet the first 8-weeks of the semester. Courses marked with two asterisks (**) meet the second 8-weeks of the semester.

2016–2017 Suggested Sequence of Study and Course Cost

The Diesel Truck Technology program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
AGM104	Electricity **	4
AGM107	Gas Engine Rebuild *	7
AGM113	Hydraulics I **	3
COM781	Written Communication in the Workplace ▶ -OR-	3 ▣
ENG105	Composition I ▶	3 ◆
<u>View Course Descriptions</u>		Total Credits 17

Semester 2		
DSL377	Diesel Engine Rebuild **	7
DSL447	Diesel Fuel Systems *	7
MAT772	Applied Math -OR-	3 ▣
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆
	<u>Math Electives</u>	3
<u>View Course Descriptions</u>		Total Credits 17

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Semester 3

AGM224	Hydraulics II ▶ **	4
AGM327	Equipment Maintenance ▶ *	7
AGM333	Electronics ▶ **	3
PSY102	Human and Work Relations -OR-	3 □
PSY111	Introduction to Psychology -OR-	3 ◆
SOC110	Introduction to Sociology	3 ◆
View Course Descriptions		Total Credits 17

Semester 4

AGM408	Power Transfer Systems ▶ *	7
DSL807	Diesel Truck Equipment Repair ▶ **	7
SPC101	Fundamentals of Oral Communication	3 ◆
View Course Descriptions		Total Credits 17

Math Electives

MAT122	College Algebra ▶	5 ◆
MAT128	Precalculus ▶	4 ◆
MAT134	Trigonometry and Analytic Geometry ▶	3 ◆
MAT210	Calculus I ▶	4 ◆
MAT216	Calculus II ▶	4 ◆
MAT219	Calculus III ▶	4 ◆
View Course Descriptions		

Truck Driving and Transportation Training

The Truck Driving and Transportation Training program prepares students to become professional over-the-road and local truck drivers. Students train and test to obtain a Commercial Driver's License and assume positions in this profession.

Using a 23-acre driving range along with the latest, most-advanced driving simulators, students are individually instructed as they develop their driving skills, gain professional knowledge, and study lawful regulations vital to the trucking industry. Our instructors are trained and state certified to teach the Federal Motor Carrier Safety Administration standards for tractor-trailer drivers and are Third Party Commercial License Testers for the State of Iowa. Federal and state laws require interstate drivers be at least 21 years of age and intrastate drivers must be at least 18 years of age.

Accreditation

This program is approved by the Iowa Department of Transportation, Iowa Department of Education, the Iowa Motor Truck Association, and the Iowa Job Training Program.

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Truck Driving and Transportation Training Careers

Our graduates are trained to be professional truck drivers. Many have entered the related fields as DOT officers, shipping and terminal managers, freight agents, freight brokers, log clerks, traffic specialists, spotters, dispatchers, and transportation salespersons.

Starting Wages: \$27,100 - \$40,300 per year*

*Source: Iowa Workforce Development

Iowa Workforce Development forecasts more than 1,480 job openings each year for truck drivers in Iowa through 2022.

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Truck Driving and Transportation Training](#)

Employers

Cedar Valley Corp., Inc.	Waterloo, IA
Denver Construction, Inc.	Waterloo, IA
Gray Transportation	Waterloo, IA
Keim TS, Inc.	Fort Dodge, IA
Martin Bros. Distributing Co., Inc.	Cedar Falls, IA
Peterson Contractors, Inc.	Reinbeck, IA
Schneider National Carriers	Green Bay, WI
TransAm Trucking	Olathe, KS
Werner Enterprises, Inc.	Omaha, NE

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Truck Driving and Transportation Training Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Truck Driving and Transportation Training – 16-Week Certificate Courses

Summer session starts May 11, 2017.

Award: Certificate

Required number of credits: 19

Program Start: Fall, Spring, Summer

Before the start of classes you must have:

- a valid driver's license with a good driving record
- a stable work history

During the first week of classes you must complete:

- a DOT physical examination
- a DOT drug test with negative results

Eight-Week Courses

Courses marked with one asterisk (*) meet the first 8-weeks of the semester. Courses marked with two asterisks (**) meet the second 8-weeks of the semester.

2016–2017 Suggested Sequence of Study and Course Cost

The Truck Driving and Transportation Training 16-Week Certificate program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When **registering for classes** refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
TDT101	Interpersonal Relations *	3
TDT115	Transportation Industry and Driver Regulations *	4
TDT118	Driving Range I ▶ *	6
TDT125	Driving Range II ▶ **	3
TDT938	Truck Transportation On-the-Job Training ▶ **	3
View Course Descriptions		Total Credits 19

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Emergency Medical Services

The Emergency Medical Services (EMS) program prepares students for entry-level positions in the workforce as emergency medical technicians (EMTs) and paramedics. Students gain the knowledge and skills necessary to recognize, assess, and manage medical emergencies and patients with acute traumatic and medical conditions in a pre-hospital setting. They're prepared to provide optimal response and care to victims of any emergency, disaster, or mass casualty event. EMS is a unique combination of public health, public safety, and acute patient care.

The two-year degree is recommended for individuals who would like to become a paramedic and pursue a management position in emergency medical services.

Paramedic Certificate Option

The three-semester Paramedic certificate option is recommended for state-licensed emergency medical technicians (EMT) who would like to advance their career as a paramedic.

Accreditation

The Emergency Medical Services program is authorized as an EMS training program by the Iowa Department of Public Health, Bureau of Emergency Medical Services (EMS).

The program received a Letter of Review from the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP) and is in the process of obtaining national accreditation by the Commission on Accreditation of Allied Health Education Programs.

Certification

Students who successfully complete EMS courses will be eligible to take national certification exams through the National Registry of Emergency Medical Technicians (NREMT).

Continuing Education Options

Hawkeye offers continuing education courses for graduates and professionals to maintain their EMS licenses in the State of Iowa.

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Emergency Medical Services Careers

Graduates may find employment working as emergency medical technicians (EMTs) or paramedics in fire departments, hospitals, private ambulance services, air medical services, federal agencies, and private corporations.

Starting Wages: \$22,800 - \$33,000 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Emergency Medical Services](#)
- [Paramedic - Certificate](#)

Potential Employers

Area Ambulance Service	Cedar Rapids, IA
CARE Ambulance, LLC	Iowa City, IA
Mason City Fire Department	Mason City, IA
North Benton Ambulance Service	Vinton, IA
Waterloo Fire Rescue	Waterloo, IA
Wheaton Franciscan Healthcare	Waterloo, IA

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Criminal History Matters

As a future emergency services responder, students need to use good judgment in all areas of their personal, professional, and scholastic interactions and activities; and must keep their records clean. All hospitals, EMS, and fire agencies require background checks for internships, volunteer placements, and employment.

Be aware that character counts and your behavior can sabotage your ability to graduate from this program and your ability to work in the field. Consider what your actions and criminal history says about you...i.e. an OWI conviction indicates that you demonstrate poor judgment by drinking to excess and deciding to drive, which may kill or injure you or another person.

If you want to work in emergency services, avoid these issues:

- Acquiring speeding tickets or safety violation citations.
- Acquiring a suspended driver's license or citations for driving with a suspended license.
- Participating in underage drinking, using fake ID's, or buying alcohol for underage persons.
- Use or abuse of prescription drugs, street drugs, club drugs (ecstasy), marijuana, or synthetic drugs.
- Engaging in theft of property, goods, or services.
- Assault or battery related cases.

You will not be employable in emergency services if you have:

- Felony convictions.
- Domestic abuse convictions.
- Placement on an abuse registry (sex offender, child/elder abuse).
- Drug convictions, or history of drug use or abuse (methamphetamine, cocaine, heroin, etc.) Each agency (city, county, state, or federal) sets their own limits on marijuana use from zero tolerance to a limited amount of use, and factors in how recent the use was.

Ultimately, potential employers will rationalize your behavior by this criteria: If you know or reasonably believe an action is illegal or will cause harm then the best candidate will take responsibility, demonstrate self-control, and not do it.

Lastly, employers will ask our faculty for references. Students need to know that full time faculty and adjunct faculty members are constantly formally and informally assessing students in terms of academic performance, attendance, honesty, professionalism, social skills, maturity, and appearance so that we can make objective assessments when asked. Your interactions count, and we are here to mentor you.

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Emergency Medical Services Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Paramedic Certificate Admission Requirements

Step 1: Complete the online application for the Paramedic program

The application link will be sent to you upon acceptance to the Emergency Medical Services program.

Step 2: Complete the Basic Skill Competencies Requirements

Option 1

Score at least the following scores on any combination of the below assessment options:

ACT sub scores	COMPASS scores	ASSET scores	ACCUPLACER scores
19 - Reading	82 - Reading	38 - Reading	90 - Reading
19 - English	65 - Writing	40 - Writing	98 - Sentence Skills
14 - Math	24 - Pre-Algebra	38 - Numerical	40 - Arithmetic

Applicants can take the [ACT assessment](#) or the [COMPASS assessment](#) at Hawkeye. Pre-registration is required.

Option 2

Successfully complete the following college success courses with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college:

- ENG061 College Preparatory Writing II
- RDG040 College Preparatory Reading III
- MAT045 Fundamentals of Math

Option 3

Any combination of the above fulfilling the basic skills requirements of algebra, reading, and writing.

Step 3: Complete Required General Education Courses

Successfully complete the required general education courses, or the equivalent, with a cumulative GPA of 2.50 or higher:

- BIO168 Human Anatomy & Physiology I
- BIO173 Human Anatomy & Physiology II
- HSC113 Medical Terminology for Health Sciences

Step 4: Certifications

Hold current Iowa EMT (Emergency Medical Technician) or NREMT (National Registry Emergency Medical Technician) Certification.

Step 5: Letters of Recommendation

Provide three letters of recommendation. The letters must come from non-family members and be submitted directly to:

Hawkeye Community College
Paramedic Department

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Health Education and Services Center
P.O. Box 8015
Waterloo, IA 50704

Step 6: Paramedic Admission Interview

Successfully complete the Paramedic admission committee interview.

Admissions Process

1. Apply for admission.
2. Completed applicant files (we have your application, transcripts, and test scores) will be processed as follows:
 - a. Applicants who do not meet the program's admission requirements will be sent an admissions inactivation letter.
 - b. Applicants enrolled in coursework to complete Steps 1–6 will become candidates.
 - c. Upon successful completion of Steps 1–6 applicants will be placed on the Eligible for Acceptance list. Placement on the list is determined by the highest total points from the Paramedic criteria. If applicants share the same number of points, the second criteria used will be the Paramedic application date. The earliest application date will take priority over a later application date.
3. The Paramedic program accepts approximately 18 students each fall semester.

Paramedic Point System

Required General Education Courses CGPA: (BIO168, BIO173, HSC113)	
Cumulative GPA 3.50 or higher.	4 points
Cumulative GPA 3.00–3.49.	3 points
Cumulative GPA 2.80–2.99	1 point
Cumulative GPA 2.79 or below.	0 points
All General Education courses completed with a CGPA 2.50 or higher: (BIO168, BIO173, HSC113, ENG105, SPC101, MAT110 or MAT122 or MAT156, SOC110 or SOC2015)	1 point
Highest Degree Earned: Points awarded in one category using the highest score earned	
Master of Arts or Master of Science Degree -OR-	3 points
Bachelor of Arts or Bachelor of Science Degree -OR-	2 points
Associate in Arts or Associate in Science Degree	1 point
Associate of Applied Arts or Associate of Applied Science Degree (from appropriate health-related field)	1 point

Paramedic Admission Interview Score:

Interview score 90 or higher	2 points
Interview score 80–89	1 point
Interview score 79 or below	0 points
ACT Composite of 22 or higher	1 point
Hawkeye Community College EMT (Emergency Medical Technician) Graduate	1 point
Hold other Health Care Provider Certification (RN, RT, etc.)	1 point
Applicant has not repeated any EMS courses.	1 point
Volunteer Fire/EMT for more than 1 year ¹	1 point
Military EMS/Medic experience	1 point

Hawkeye's Equal Opportunity Statement

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Emergency Medical Services Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 69

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Emergency Medical Services program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
BIO168	Human Anatomy and Physiology I	4	◆
EMS201	Emergency Medical Technician ▶	7	
ENG105	Composition I ▶	3	◆
HSC113	Medical Terminology	2	
<u>View Course Descriptions</u>			Total Credits 16

Semester 2			
BIO173	Human Anatomy and Physiology II w/Lab ▶	4	◆
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
MAT122	College Algebra ▶	5	◆
SOC110	Introduction to Sociology -OR-	3	◆
PSY111	Introduction to Psychology	3	◆
SPC101	Fundamentals of Oral Communication	3	◆
<u>EMS Electives</u>			2
<u>View Course Descriptions</u>			Total Credits 15

Semester 3

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EMS541	Clinical I ▶	3
EMS610	Paramedic Pharmacology and Medication Administration ▶	4
EMS619	Airway and Patient Assessment ▶	4
EMS641	Introduction to Paramedicine ▶	3
EMS678	Traumatic Emergencies for the Paramedic ▶	3
<u>View Course Descriptions</u>		Total Credits 17

Semester 4

EMS546	Clinical II ▶	3
EMS650	Medical and Psychological Emergencies ▶	4
EMS674	Cardiology for the Paramedic ▶	4
EMS677	Special Populations for the Paramedic ▶	4
<u>View Course Descriptions</u>		Total Credits 15

Semester 5 – Summer

EMS654	EMS Operations ▶	2
EMS655	Transition to Paramedic Practice ▶	4
<u>View Course Descriptions</u>		Total Credits 6

EMS Electives

CRJ285	Physical Conditioning for Public Services	2
EMS114	Emergency Medical Responder	2
EMS856	Management of Emergency Medical Services	3
EMS900	Education in EMS	3
FIR139	Fire Fighter I	4
FIR213	Principles of Emergency Services	3
FIR214	Legal Aspects of Emergency Services	3
<u>View Course Descriptions</u>		

Paramedic Certificate Courses

Award: Certificate

Required number of credits: 48

Program Start: Fall only

Required Background Screenings

To participate in the EMS/Paramedic education courses, prior to the first day of classes, you will be required to complete all of the following:

- Drug screening
- Criminal background
- Sex offender
- Adult/dependent abuse background checks

Failing a drug screening or background check will result in dismissal from the program.

Required Certification

Prior to the first day of classes you must be Basic Life Support for Healthcare Provider CPR certified.

Program Course Note

You must achieve a minimum "C" grade in all courses that are required to complete the program.

2016–2017 Suggested Sequence of Study and Course Cost

The Paramedic program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Prerequisites

BIO168	Human Anatomy and Physiology I	4	◆
BIO173	Human Anatomy and Physiology II w/Lab ▶	4	◆
HSC113	Medical Terminology	2	

[View Course Descriptions](#)

Total Credits 10

Semester 1

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EMS541	Clinical I ▶	3
EMS610	Paramedic Pharmacology and Medication Administration ▶	4
EMS619	Airway and Patient Assessment ▶	4
EMS641	Introduction to Paramedicine ▶	3
EMS678	Traumatic Emergencies for the Paramedic ▶	3
<u>View Course Descriptions</u>		Total Credits 17

Semester 2

EMS546	Clinical II ▶	3
EMS650	Medical and Psychological Emergencies ▶	4
EMS674	Cardiology for the Paramedic ▶	4
EMS677	Special Populations for the Paramedic ▶	4
<u>View Course Descriptions</u>		Total Credits 15

Semester 3 – Summer

EMS654	EMS Operations ▶	2
EMS655	Transition to Paramedic Practice ▶	4
<u>View Course Descriptions</u>		Total Credits 6

Fire Science

The Fire Science program is designed to prepare students for entry-level technical or administrative careers in fire service. Students develop the knowledge and understanding of building construction, management, and fire behaviors and hazards. They receive hands-on training in fire suppression, protection, prevention, investigation, and safety techniques and are prepared to react appropriately in emergency situations.

This program follows the Fire and Emergency Services Higher Education (FESHE) curriculum by the U.S. Fire Administration. Designed in cooperation with local fire department officials, the program provides education paths for individuals seeking a fire services career and for practicing firefighters to advance their careers. Credit may be awarded toward the degree for existing certifications and verified industry trainings.

Certification

Students who successfully complete the FIR139 Fire Fighter I course will be eligible to take the International Fire Service Accreditation Congress (IFSAC) Firefighter I certification through the Iowa Department of Public Safety, Iowa Fire Service Training Bureau.

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Fire Science Careers

Graduates may find employment working as firefighters, fire investigators, fire insurance inspectors, or fire protection specialists in city and county fire departments, state and federal governments, private insurance or safety companies, and private fire protection companies.

Starting Wages: \$19,500 - \$37,500 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Fire Science](#)

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Criminal History Matters

As a future emergency services responder, students need to use good judgment in all areas of their personal, professional, and scholastic interactions and activities; and must keep their records clean. All hospitals, EMS, and fire agencies require background checks for internships, volunteer placements, and employment.

Be aware that character counts and your behavior can sabotage your ability to graduate from this program and your ability to work in the field. Consider what your actions and criminal history says about you...i.e. an OWI conviction indicates that you demonstrate poor judgment by drinking to excess and deciding to drive, which may kill or injure you or another person.

If you want to work in emergency services, avoid these issues:

- Acquiring speeding tickets or safety violation citations.
- Acquiring a suspended driver's license or citations for driving with a suspended license.
- Participating in underage drinking, using fake ID's, or buying alcohol for underage persons.
- Use or abuse of prescription drugs, street drugs, club drugs (ecstasy), marijuana, or synthetic drugs.
- Engaging in theft of property, goods, or services.
- Assault or battery related cases.

You will not be employable in emergency services if you have:

- Felony convictions.
- Domestic abuse convictions.
- Placement on an abuse registry (sex offender, child/elder abuse).
- Drug convictions, or history of drug use or abuse (methamphetamine, cocaine, heroin, etc.) Each agency (city, county, state, or federal) sets their own limits on marijuana use from zero tolerance to a limited amount of use, and factors in how recent the use was.

Ultimately, potential employers will rationalize your behavior by this criteria: If you know or reasonably believe an action is illegal or will cause harm then the best candidate will take responsibility, demonstrate self-control, and not do it.

Lastly, employers will ask our faculty for references. Students need to know that full time faculty and adjunct faculty members are constantly formally and informally assessing students in terms of academic performance, attendance, honesty, professionalism, social skills, maturity, and appearance so that we can make objective assessments when asked. Your interactions count, and we are here to mentor you.

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Fire Science Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Fire Science Courses

Award: Associate of Applied Science (AAS)

Required number of credits: 60

Program Start: Fall, Spring, Summer

2016–2017 Suggested Sequence of Study and Course Cost

The Fire Science program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1			
CSC110	Introduction to Computers ▶	3	◆
ENG105	Composition I ▶ -OR-	3	◆
COM781	Written Communication in the Workplace ▶	3	▣
FIR130	Fire Prevention	3	
FIR139	Fire Fighter I	4	
MAT110	Math for Liberal Arts ▶ -OR-	3	◆
MAT156	Statistics ▶ -OR-	3	◆
MAT772	Applied Math	3	▣
<u>View Course Descriptions</u>		Total Credits 16	

Semester 2			
FIR124	Building Construction	3	
FIR127	Fire Behavior and Combustion	3	
FIR149	Fire Protection Hydraulics and Water Supply	3	
FIR291	Fire Fighter II Certification ▶	3	
<u>Fire Science Electives</u>		3	
<u>View Course Descriptions</u>		Total Credits 15	

Semester 3			
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FIR235	Fire Investigation I	3	
FIR400	Emergency Safety and Survival	3	
PSY102	Human and Work Relations -OR-	3	▣
PSY111	Introduction to Psychology -OR-	3	◆
SOC110	Introduction to Sociology	3	◆
<u>Fire Science Electives</u>		6	
<u>View Course Descriptions</u>		Total Credits 15	

Semester 4			
CRJ285	Physical Conditioning for Public Services	2	
POL111	American National Government	3	◆
SPC101	Fundamentals of Oral Communication	3	◆
<u>Fire Science Electives</u>		6	
<u>View Course Descriptions</u>		Total Credits 14	

Fire Science Electives			
CHM122	Introduction to General Chemistry ▶	4	◆
EMS114	Emergency Medical Responder	2	
EMS201	Emergency Medical Technician ▶	7	
EMS900	Education in EMS	3	
FIR145	Strategy and Tactics	3	
FIR200	Occupational Safety/Health in Emergency Services	3	
FIR213	Principles of Emergency Services	3	
FIR214	Legal Aspects of Emergency Services	3	
FIR236	Fire Investigation II ▶	3	
FIR300	Principles of Fire and EMS Administration ▶	3	
<u>View Course Descriptions</u>			

Police Science

The Police Science program provides students with knowledge of the criminal justice system, its operations and purpose, and prepares them to meet hiring standards required in Iowa. They gain knowledge and critical problem solving skills through coursework focusing on criminology, juvenile justice, sociology, criminal and constitutional law, and ethical issues.

Students receive practical training in police operations, traffic collision investigation, crime scene investigation, critical incident management, report writing and testifying, and physical fitness conditioning courses.

Use of force in defensive tactics and firearms courses focus on safe practices, competency to meet industry standards, and legal issues. Hawkeye utilizes a [virtual firearms simulator system](#) (MILO) to enhance decision making in use of force incidents. All Police Science instructors have law enforcement experience and academic training.

Police Academy

Graduates, either newly hired or sponsored by a law enforcement agency, are eligible to attend the [New Officer 8-Week Basic Level II Certification Academy](#). Hawkeye is designated as a Regional Law Enforcement Training Facility by the Iowa Law Enforcement Academy.

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Police Science Careers

Graduates are eligible to work in a variety of capacities within the criminal justice field, including city and county law enforcement agencies, corrections and probation systems, and corporate security. Additional education and experience may be required to work in specific capacities at the state and federal levels.

The ability to be hired by a law enforcement agency may be impaired by any arrest record, juvenile or adult.

Starting Wages: \$38,300 - \$52,200 per year*

*Source: Iowa Workforce Development

Career Coach

Explore local data on wages, employment, job postings, and more!

- [Police Science](#)

Employers

- Police departments throughout Iowa
- County sheriff's offices throughout Iowa
- Iowa State Patrol
- Iowa Department of Motor Vehicle Enforcement
- Local, state, and federal law enforcement agencies throughout the United States

Administrative Secretary

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Criminal History Matters

As a future criminal justice professional, students need to use good judgment in all areas of their personal, professional, and scholastic interactions and activities; and must keep their records clean. Criminal justice organizations require background checks for internships, volunteer placements, and employment; which will include adult and juvenile civil and criminal issues, official and informal contacts with police, and character references. Employment will also hinge on the successful completion of a polygraph, credit check, and psychological evaluation.

Be aware that character counts and your behavior can sabotage your ability to graduate from this program and your ability to work in the field. Consider what your actions and criminal history says about you...i.e. an OWI conviction indicates that you demonstrate poor judgment by drinking to excess and deciding to drive, which may kill or injure you or another person. Remember your personal behaviors (what you didn't get caught for) will be revealed during the polygraph, and what you do privately (when no one is watching or supervising) speaks volumes as to the true content of one's character.

If you want to work in criminal justice avoid these issues:

- Acquiring speeding tickets or safety violation citations.
- Acquiring a suspended driver's license or citations for driving with a suspended license.
- Participating in underage drinking, using fake ID's, or buying alcohol for underage persons.
- Use or abuse of prescription drugs, street drugs, club drugs (ecstasy), marijuana, or synthetic drugs.
- Engaging in theft of property, goods, or services.

You will not be employable in criminal justice if you have:

- Felony convictions.
- Domestic abuse convictions.
- Placement on an abuse registry (Sex offender, child/elder abuse).
- Drug convictions, or history of drug use or abuse (methamphetamine, cocaine, heroin, etc.) Each agency (city, county, state, or federal) sets their own limits on marijuana use from zero tolerance to a limited amount of use, and factors in how recent the use was.
- Weapons violations.

Ultimately, criminal justice employers will rationalize your behavior by this criteria: If you know or reasonably believe an action is illegal or will cause harm then the best candidate will take responsibility, demonstrate self-control, and not do it.

Lastly, employers will ask our faculty for references. Students need to know that full time faculty and adjunct faculty members are constantly formally and informally assessing students in terms of academic performance, attendance, honesty, professionalism, social skills, maturity, and appearance so that we can make objective assessments when asked. Your interactions count, and we are here to mentor you.

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Police Science Admission Requirements

1. Be a high school graduate or equivalent.
[High School Diploma Verification Process.](#)
2. [Apply at Hawkeye.](#)
3. Meet basic skill competencies in reading, writing, and math.

Basic skill competencies assessment provides information about your academic skills in reading, writing, and math. This information will be used to determine your acceptance, course selection, and registration.

For general admission to Hawkeye Community College, students must provide assessment scores in reading, math, and writing.

College success courses may be required if your assessment score indicates additional help is needed.

For course placement recommendations, based on your assessment score, review the [Assessment Scores and Course Equivalences.](#)

Accepted Assessments

- ACT
- COMPASS
- ASSET
- SAT
- ACCUPLACER (effective Spring 2014)

Previous College Experience

Assessment may be waived based on previous college course work in reading, math, and writing. Send your official college transcripts to the Admissions office for evaluation.

[Hawkeye's Equal Opportunity Statement](#)

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Police Science Courses - Effective Fall 2016

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Enrollment Status: Full-time or part-time

Program Start: Fall, Spring

The Police Science program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

Part-time students, visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Program Evaluation to see your specific program requirements and ensure proper registration.

Felony Conviction?

Students convicted of a felony will not be allowed to enroll in the Firearms and Practicum courses and will not graduate from the Police Science program. [Learn how your criminal history matters.](#)

2016–2017 Suggested Sequence of Study

Semester 1		
CRJ100	Introduction to Criminal Justice	3
ENG105	Composition I	3
MAT110	Math for Liberal Arts -OR-	3
MAT772	Applied Math	3
SOC110	Introduction to Sociology -OR-	3
SOC115	Social Problems -OR-	3
SOC205	Diversity in America	3
SPC101	Fundamentals of Oral Communication	3
<u>View Course Descriptions</u>		Total Credits 15

Semester 2		
CRJ143	Police Operations	3
CRJ234	Traffic Law	2
CRJ237	Criminal and Constitutional Law	3
CRJ252	Basic Firearms	1
CRJ285	Physical Conditioning for Public Services	2
CRJ320	Criminal Justice Ethics	3
EMS114	Emergency Medical Responder	2
<u>View Course Descriptions</u>		Total Credits 16

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Semester 3		
CRJ135	Criminal Evidence	3
CRJ151	Defensive Tactics	2
CRJ200	Criminology	3
CRJ244	Advanced Accident Investigation	3
CRJ254	Advanced Firearms	1
CRJ282	Crime Scene Investigation	3
CRJ315	Crisis Intervention	3
<u>View Course Descriptions</u>		Total Credits 18

Semester 4		
CRJ141	Criminal Investigation	3
CRJ266	Report Writing and Testifying	3
CRJ316	Juvenile Justice	3
CRJ322	Tactical Police Operations	2
CRJ952	Internship	2
<u>View Course Descriptions</u>		Total Credits 13

Police Science Courses - Effective Spring 2017

Award: Associate of Applied Science (AAS)

Required number of credits: 62

Program Start: Fall, Spring

Felony Conviction?

Students convicted of a felony will not be allowed to enroll in the Firearms and Practicum courses and will not graduate from the Police Science program. [Learn how your criminal history matters.](#)

2016–2017 Suggested Sequence of Study and Course Cost

The Police Science program requires a mix of general education and hands-on courses. The following list of courses is the suggested sequence of study for a full-time student.

When registering for classes refer to your Program Evaluation/Degree

Audit to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General Education courses

▣ Non-Transfer Gen Ed

▶ **Course has a prerequisite and/or corequisite.** See the course description for more details.

Semester 1		
CRJ100	Introduction to Criminal Justice	3 ◆
CRJ143	Police Operations	3
CRJ234	Traffic Law	2
CRJ320	Criminal Justice Ethics	3 ◆
SOC110	Introduction to Sociology -OR-	3 ◆
SOC115	Social Problems -OR-	3 ◆
SOC205	Diversity in America	3 ◆
View Course Descriptions		Total Credits 14

Semester 2		
CRJ135	Criminal Evidence ▶	3
CRJ237	Criminal and Constitutional Law	3
CRJ244	Advanced Accident Investigation ▶	3
CRJ316	Juvenile Justice ▶	3 ◆
MAT110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT156	Statistics ▶ -OR-	3 ◆

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[View Course Descriptions](#)**Total Credits 15****Semester 3**

CRJ151	Defensive Tactics ▶	2
CRJ200	Criminology	3 ♦
CRJ252	Basic Firearms ▶ *	1
CRJ254	Advanced Firearms ▶ **	1
CRJ282	Crime Scene Investigation ▶	3
CRJ285	Physical Conditioning for Public Services	2
EMS114	Emergency Medical Responder	2
ENG105	Composition I ▶	3 ♦

[View Course Descriptions](#)**Total Credits 17**

* First 8 weeks

**Second 8 weeks

Semester 4

CRJ141	Criminal Investigation ▶	3
CRJ266	Report Writing and Testifying ▶	3
CRJ315	Crisis Intervention ▶	3
CRJ322	Tactical Police Operations ▶	2
CRJ952	Internship ▶	2
SPC101	Fundamentals of Oral Communication	3 ♦

[View Course Descriptions](#)**Total Credits 16**

Associate of General Studies (AGS) Degree

The **Associate of General Studies (AGS) degree** is awarded upon completion of an individualized course of study that is primarily designed to gain a broad educational background rather than the pursuit of a specific college major or professional/technical program. It is intended as a flexible course of study and may include a combination of liberal arts courses and career program courses. This degree may meet the requirements for those students with specific needs or goals. A minimum of 60 credit hours is required for the AGS degree.

Keep in mind that since this degree is individualized, it may not meet the needs for transfer or job placement as effectively as other degree options.

Completing an AGS Degree

To be considered for an Associate of General Studies degree, you must work with an academic advisor. Your academic advisor will help determine if the AGS degree is right for you, develop goals, and plan a course of study.

Academic Advisors

Student Services

Hawkeye Center 208

319-296-4014

Email us

2016-2017 Course Descriptions

Registration

Hawkeye Center 134

319-296-2460

800-670-4743

319-296-4400 (fax)

Email us

Mon-Fri 8:00am-4:30pm

ACC111 Introduction to Accounting

3 credits—This course covers the terminology, concepts, and procedures involved in financial accounting for businesses. Topics include accounting for cash and accounting for payroll.

Lecture Hours: 48

ACC115 Introduction to Accounting

4 credits—This course presents the fundamental concepts, procedures, and applications of the accounting cycle for service and merchandising businesses. The proprietorship form of ownership is studied. Topics include the special journals, payroll accounting, and accounting for cash.

Lecture Hours: 48

ACC116 Introduction to Accounting II

4 credits—This course is a continuation of Introduction to Accounting (ACC-115) emphasizing the principles of accrual accounting. Emphasis is placed on accounting for corporations and a manufacturing business. Topics include accounting for receivables, inventory, and long-term assets.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C in ACC115 or ACC131.

ACC131 Principles of Accounting I

4 credits—This course is an introduction to basic financial accounting concepts and procedures for service and merchandising businesses. Topics included are the accounting cycle; accounting systems; financial statements; accounting for cash, receivables, payables, inventories, plant assets, partnerships, corporations, and bonds.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D- in MAT063 or equivalent COMPASS or ACT math score.

ACC132 Principles of Accounting II

4 credits—The course continues to address topics in financial accounting that began in Principles of Accounting I. Primary emphasis is on managerial accounting and the corporate form of ownership. Topics include accounting for bonds, the statement of cash flows and financial statement analysis. Managerial accounting topics include job order and process cost systems, cost-volume-profit analysis, budgeting and standard cost systems. Capital investment analysis and activity-based costing are also addressed.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in ACC131.

ACC190 Financial Analysis

2 credits—This course provides the student with a general framework of corporate finance. The emphasis is limited to financial analysis of business performance and evaluation of alternative choices for investments and working capital.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in ACC132 or ACC116.

ACC222 Cost Accounting

4 credits—This course provides an introduction to the accounting concepts of manufacturing systems. In addition to job order and process costing systems, profit planning and control programs are emphasized.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C in ACC132 or ACC116.

ACC231 Intermediate Accounting I

4 credits—This course emphasizes accounting theory as students work with detailed applications of various balance sheet and income statement accounts. Applicable generally accepted accounting principles are emphasized as they relate to each subject area. Time values of money concepts are also introduced.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C in ACC132 or ACC116.

ACC232 Intermediate Accounting II

4 credits—This course continues the detailed applications that began in Intermediate Accounting I. Emphasis is on corporate debt and equity. The statement of cash flows is addressed extensively as well as the accounting for business combinations. The course will conclude with financial statement analysis.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C in ACC231 Intermediate Accounting I.

ACC250 Review for the LPA Exam

3 credits—This course reviews and summarizes the accounting, law, and ethics information received in the accounting program over four semesters to prepare students for the licensing exam.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in ACC132 or ACC116 or instructor approval.

ACC265 Income Tax Accounting

4 credits—Emphasis is placed on the understanding of the federal tax system. The student will gain hands on experience preparing the most current tax forms for sole proprietorship businesses and individuals. Tax planning is addressed as it relates to the current and forthcoming year. Students will be provided with an opportunity to use computer software to prepare returns.

Lecture Hours: 64

ACC311 Computer Accounting

3 credits—This course presents an introduction to a computerized accounting system. Two popular software packages will be used to accumulate, classify, and summarize data about a business.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in ACC115 or ACC131.

ACC360 Accounting Spreadsheets

2 credits—This course provides the student with an in depth working knowledge of how to use an integrated spreadsheet program to assist in routine jobs. Writing formulas is emphasized along with planning and creating spreadsheets.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in BCA205.

ACC801 Payroll Accounting

1 credits—This course involves the study of the federal, as well as the state forms and regulations concerning payroll. Students will be completing a comprehensive payroll simulation.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in ACC115 or ACC131.

ACC803 Accounting Simulations

1 credits—This course provides hands-on experience using a manual and computerized simulation of an accounting cycle. The proprietorship form of business, accrual accounting and other concepts learned in the first accounting course will be the basis for the simulation.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in ACC115 or ACC131.

ACC924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

Can be completed for up to three credits.

Lecture Hours: 16

ADM105 Introduction to Keyboarding

1 credits—This course presents the technique and development of touch keyboarding. Basic functions of a computer are introduced with emphasis on learning alphabetic, numeric and symbolic keys, and the numeric keypad. The minimum competency of 25 net words per minute, with no more than five errors per timing, on 3 five-minute timed writings is required.

Lab Hours: 32

ADM108 Keyboarding Skill Development

1 credits—The skill building process is continued. This course assists students to improve speed and accuracy. The minimum competency of 40 net words per minute, with no more than five errors per timing, on 3 five-minute timed writings is required.

Lab Hours: 32

Prerequisite(s): A minimum grade of D- in ADM105.

ADM131 Office Calculators

1 credits—The 10-key electronic calculator is used in business related applications. The emphasis is on speed and accuracy as the student performs the basic arithmetical procedures.

Lab Hours: 32

ADM148 Transcription

2 credits—This course builds and strengthens skills in machine transcription. Students are provided instruction for using transcription equipment with emphasis on language skills, including spelling, capitalization, punctuation, and word usage. Emphasis will be on editing, proofreading, and mailability of documents.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in BCA134 and ADM105.

Pre/Co-requisite(s): A minimum grade of D- in ADM159 Proofreading and Editing.

ADM159 Proofreading and Editing

3 credits—This course emphasizes the applications designed to sharpen skills in detecting and correcting errors in written communications including memos, letters, reports, databases, presentation slides, advertisements, and spreadsheets. It also introduces the student to proofreading and editing skills necessary when using current and new technology (i.e. email messages and voice recognition).

Lecture Hours: 48

ADM162 Office Procedures

3 credits—This course provides preparation for employment in today's rapidly changing office environment by exposing a variety of topics including the working environment, oral and written communication, and administrative support services.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in BCA134 and ADM159.

ADM180 Administrative Management

3 credits—Administrative management is studied including organization, site location, office layout, environment, communication processes, job analysis, job evaluation, salary administration, performance appraisal, and employer/employee relations.

Lecture Hours: 48

ADM200 Legal Document Processing

3 credits—This course familiarizes students with various fields of law and the proper preparation of legal documents utilized in each. Students will apply various skills in

preparing legal documents, including transcription skills, communication skills, problem-solving skills, and technical skills.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in ADM105, BCA134, and ADM148.

ADM203 Legal Office Concepts and Procedures

3 credits—This course provides an understanding of the legal office environment and offers a broad spectrum of legal concepts and procedures.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in BCA134.

ADM208 Legal Terminology

3 credits—This course is designed to familiarize students with the most commonly used legal terms in today's workplace. It emphasizes correct spelling and defining of legal terms.

Lecture Hours: 48

ADM222 Career Capstone

3 credits—Career skills, techniques and strategies that will assist the student in securing and maintaining employment are developed. Students will learn the fundamentals of the job search process, including interviewing skills and employment correspondence. International, legal, and ethical issues as well as technological developments affecting workplace communication skills are incorporated throughout the course. An individual capstone portfolio will be created. It is required that this course be taken the semester in which the student will be graduating.

Lecture Hours: 48

Prerequisite(s): Can only be taken in the term in which the student will be completing their program of study.

ADN121 Transition to Professional Nursing

2 credits—This course focuses on the associate degree nurse as transition occurs from the licensed practical nurse role to the registered nurse role. Major units in this course include an overview of ethical, legal and professional role/responsibilities of the registered nurse, history of nursing, nursing process and critical thinking, as well as an introduction to APA writing style and research.

Admission without conditions to the Associate Degree Nursing program for the current semester.

Lecture Hours: 32

Co-requisite(s): A minimum grade of C in ADN531.

ADN122 Advanced Nursing Skills

2 credits—This course provides supervised practice of advanced nursing skills in a laboratory setting. The student is assisted in gaining skill and accuracy through demonstration, supervised practice and evaluation

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): Admission to the Associate Degree Nursing program.

Co-requisite(s): ADN123 Physical Assessment

Pre/Co-requisite(s): A minimum grade of C in ADN531 Advanced Adult Health Nursing I.

ADN123 Physical Assessment

2 credits—This course covers basic physical assessment with history taking and data collection, analysis and planning for care, nursing interventions and documentation.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): Admission to the Associate Degree Nursing program. This course begins the 3 year time limit for completion of the ADN curriculum. A minimum grade of C in BIO168.

Co-requisite(s): A minimum grade of C in ADN122 Advanced Nursing Skills.

Pre/Co-requisite(s): A minimum grade of C in ADN531 Advanced Adult Health Nursing I.

ADN281 Diet Management

1 credits—This course continues the study of food nutrients and body utilization for good health. There is emphasis on special diets, food exchanges, socio-economic and cultural implications of nutrition.

Lecture Hours: 16

Prerequisite(s): Admission without conditions to the Associate Degree Nursing program.

ADN315 Professional Roles of Nursing Practice

2 credits—This course focuses on the role of professional nursing, the implementation of leadership and managerial aspects within the nursing discipline. This course will discuss ethical and legal issues, roles of the registered nurse, the nursing process, critical thinking, and Evidence Based Practice guidelines within nursing practice. Preparation for the licensing exam is also included.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in PNN214, PNN215, PNN216, PNN217, BIO151, SPC101, ADN121, ADN122, ADN123, ADN281, and ADN531.

Pre/Co-requisite(s): A minimum grade of C in BIO186.

ADN410 Advanced Nursing in OB and PEDS

5 credits—This course provides comprehensive care for childbearing and pediatric clients in wellness and illness with special emphasis on health interruptions and variations and the nursing process needed to meet these variations. Clinical experiences are provided in selective acute care and community settings.

Lecture Hours: 48

Prerequisite(s): Valid Iowa LPN license. A minimum grade of C in ADN121, ADN122, ADN123, and ADN531.

Pre/Co-requisite(s): A minimum grade of C in ADN315.

ADN477 Psychiatric Nursing (Effective Spring 2017)

5 credits—This course focuses on the study and application of modern concepts of psychiatric nursing and effective interactions with people. The student will respond therapeutically to clients with maladaptive behaviors through utilization of the nursing process by applying the principles of mental health and psychiatric nursing.

Lecture Hours: 48

Prerequisite(s): Valid Iowa LPN license. A minimum grade of C in ADN123 and ADN315.

ADN477 Psychiatric Nursing (Effective Summer 2017)

5 credits—This course focuses on the study and application of modern concepts of psychiatric nursing and effective interactions with people. The student will respond therapeutically to clients with maladaptive behaviors through utilization of the nursing process by applying the principles of mental health and psychiatric nursing. This course will also review the NCLEX material.

Lecture Hours: 48 **Clinic Hours:** 96

Prerequisite(s): Valid Iowa LPN license. A minimum grade of C in ADN123 and ADN315.

ADN531 Advanced Adult Health Nursing I

6 credits—This course is a study of the concepts of health and illness and of the nursing process in providing comprehensive nursing care for adults requiring advanced medical and surgical care. The content includes a review of shock, stress, immunity, fluid, electrolyte, acid base, eye, ear, respiratory, endocrine, reproductive and musculoskeletal disorders. Clinical experiences are provided in selected acute care settings.

Lecture Hours: 64 **Clinic Hours:** 96

Pre/Co-requisite(s): A minimum grade of C in ADN121, ADN122, and ADN123.

ADN532 Advanced Adult Health Nursing II

6 credits—This course is a continuation of Advanced Adult Health Nursing I. Emphasis is placed on the nursing process in providing comprehensive care of the complex medical-surgical adult patient. The content includes cardiac, peripheral vascular, digestive, hematologic, oncologic, urinary and neurologic disorders. Clinical experiences are provided in acute care and community settings. Selected experience in the nurse manager role is included.

Lecture Hours: 64 **Clinic Hours:** 96

Prerequisite(s): A minimum grade of C in ADN121, ADN122, ADN123, and ADN531.

Pre/Co-requisite(s): A minimum grade of C in ADN315.

ADN924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

AGA114 Principles of Agronomy

3 credits—This course presents introductory principles of plant-soil-climate relationships in crop production, plant anatomy, crop plant classification and identification, crop

physiology, climate, soils, soil water, tillage and seeding, plant breeding, seed and grain quality, weeds, insects, crop diseases, crop management, harvesting and storage. Global Positioning and Geographic Information Systems in crop systems is discussed.

Lecture Hours: 32 Lab Hours: 32

AGA154 Fundamentals of Soil Science

3 credits—This course presents information on soils and soil fertility, land use, soil formation, soil types, soil testing, soil physical characteristics, soil classes, primary nutrients, secondary nutrients, micro-nutrients, fertilizer materials, fertilizing, and using soil test information. The use of Global Positioning and Geographic Information Systems in recording soil data is covered.

Lecture Hours: 32 Lab Hours: 32

AGA214 Cash Grains

3 credits—This course introduces the production of Iowa's main cash crops; corn and soybeans. Units include: crop history, crop development, seed selection, fertilization, insect and weed control, harvesting, grain handling, marketing, storage and the economic importance of each crop. New and experimental production practices are discussed for practical application.

Lecture Hours: 32 Lab Hours: 32

AGA284 Pesticide Application Certification

3 credits—This course will introduce students to the safe use of agricultural chemicals. Safety precautions and prevention of chemical exposure will be stressed when discussing types of chemicals, usage, application, equipment, and mixing. First aid and responding to chemical contamination will also be discussed. This course prepares the students for taking the Iowa Commercial Pesticide Applicators Certification Exam.

Lecture Hours: 32 Lab Hours: 32

AGA376 Integrated Pest Management

3 credits—This course is designed to make application and use of some materials learned in other courses. Decision making as it deals with the total cropping plan is stressed. An individual will determine from observation weed problems, plant populations, disease problems, insect problems, do yield checks, make recommendations for handling any problems. COURSE PREREQUISITE: NONE

Lecture Hours: 32 Lab Hours: 32

AGA924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

AGB101 Agricultural Economics

3 credits—This course introduces students to basic concepts in economics, including various aspects of an economy-like agriculture, industry, population, food supply, government policies and physical environmental affect on each other and the economy as

a whole. Resources used in agricultural production, organization price determination, supply, demand, and profit modernization is studied.

Lecture Hours: 32 Lab Hours: 32

AGB235 Introduction to Agriculture Markets

3 credits—This course provides the student with an introduction to grain merchandising and farm marketing. It is taught from the standpoint of a country elevator; however, the same principles apply to many other aspects of the grain industry. We emphasize the elevators relationship and responsibility to its customers. The basic fundamentals of marketing are discussed along with the more advanced aspects of managing basis positions, basis trading and managing risks. Some prior knowledge of country elevators and the futures market is useful but not required.

Lecture Hours: 32 Lab Hours: 32

AGB303 Agriculture Leadership

3 credits—This course is designed to enhance students' abilities in the area of leadership. The course includes activities that enable students to develop skills in communication, problem solving, committee work, and parliamentary procedure. Students may be involved in many local, state and nationally organized activities.

Lecture Hours: 32 Lab Hours: 32

AGB330 Farm Business Management

3 credits—Business and economic principles applied to decision making and problem solving in the management of a farm business, cash flow, partial, enterprise, and whole farm budgeting. Information systems for farm accounting, analysis, and control. Obtaining and managing land, capital, and labor resources. Alternatives for farm business organization and risk management.

Lecture Hours: 32 Lab Hours: 32

AGB331 Entrepreneurship in Agriculture

3 credits—This course introduces students to basic principles of organizing, financing, and managing a business. Including product merchandising and marketing, personnel management, credits, and risk management.

Lecture Hours: 32 Lab Hours: 32

AGB336 Agricultural Selling

3 credits—This course presents aspects of the sales process including: selling success, types of sales questions, creating the selling climate, motivation, attitude, referral prospecting, no referral prospecting, phone sales, sales presentations and demonstrations, qualifying the prospect, overcoming objectiveness, closing twelve power closes, and sales paper work.

Lecture Hours: 32 Lab Hours: 32

AGC103 Ag Computers

3 credits—This course will introduce students to the hardware, software, word processing, database and spreadsheet programs, as well as various utility software. Applications of various agricultural management uses are covered throughout. Networks, telecommunication, Global Positioning and Geographic Information Systems are also introduced.

Lecture Hours: 32 **Lab Hours:** 32

AGC999 Study Abroad

1 credits—This course explores relative differences between the student's country and study abroad country with emphasis in agriculture. Topics include history, geography, culture, food, language, and agriculture topics. May be taken for up to 5 credits.

Lecture Hours: 16

AGH107 Horticulture Lab

1 credits—Horticulture lab offers students the opportunity to work in the Hawkeye horticulture laboratory under the supervision of an instructor. Students will be assigned projects and will be responsible for completing them on a timely basis for a limited time. This course may be repeated up to three times with different content.

Lecture Hours: 0 **Lab Hours:** 32

AGH112 Introduction to Turfgrass Management

3 credits—This course introduces the types of grass species and their uses; their growth habits, and development as a unique plant species. Proper culture and establishment procedures are studied, as well as their importance to the environment.

Lecture Hours: 48

AGH119 Herbaceous Plant Materials

2 credits—This course covers identification, adaptation, cultural characteristics and uses of selected annuals, perennials and bulbs suitable for use in landscape and gardens in Iowa. Students will identify the plants covered and will also be required to incorporate them into four flower garden design projects.

Lecture Hours: 32

AGH123 Woody Plant Materials

3 credits—The identification, morphology, landscape use and culture of native and nonnative woody plants of the Upper Midwest. First part of course will include emphasis on deciduous plants. Last part of course will include emphasis on evergreens.

Lecture Hours: 32

AGH134 Greenhouse Production

3 credits—This course explores various employment opportunities in the greenhouse career field. Production theories and practices are studied. Emphasis is on proper techniques of watering, potting, transplanting, fertilizing and various other aspects of greenhouse production. Cultural practices used to produce the most common greenhouse crops are also covered.

Lecture Hours: 48

AGH140 Equipment Operations

2 credits—This course introduces the general care and use of horticultural equipment in turf and landscape maintenance, and construction. Emphasis is on operation, preventative maintenance performed by the operator, daily lubrications and minor adjustments. Students will also mount and dismount accessories used on the equipment. Safe operation of machinery is emphasized.

Lecture Hours: 16 **Lab Hours:** 32

AGH142 Landscape Construction

3 credits—Principles and practices of landscape construction will be explained. Curriculum encompasses process from initial client contact to installation of plant material and hardscape. Laboratory work in the course involves landscape installation using various materials and techniques

Lecture Hours: 32

AGH143 Equipment Repair

3 credits—This course is an introduction to basic maintenance of mechanical, hydraulic, and electrical systems of gasoline and diesel engines. Maintenance, up-keep and repair techniques on reel mowers, rotary mowers, and other horticulture equipment are covered.

Lecture Hours: 32 **Lab Hours:** 32

AGH152 Landscape Design Techniques

3 credits—Concepts and applications of landscape design principles are utilized in completing landscape plans. Emphasis is placed on the design principles for preparing, evaluating and selling landscape plans.

Lecture Hours: 32 **Lab Hours:** 32

AGH159 Landscape Graphics

2 credits—This course is an introduction to landscape graphics associated with drafting equipment and materials, and computer aided drawings

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in AGH152 Landscape Design Techniques.

AGH161 Irrigation Systems

3 credits—This course presents various types of irrigation equipment: heads, valves, controllers, pipe, and the accessories used in an irrigation system. The course presents the function of water, its relationships to plants and soil, and an introduction to water hydraulics.

Lecture Hours: 32 **Lab Hours:** 32

AGH200 Landscape Estimating and Bidding

2 credits—This course focuses on the fundamentals of creating a landscape project estimate including material take-offs, plant pricing, labor rates, measuring, reading landscape plans and math calculations.

Lecture Hours: 16

AGH211 Advanced Turfgrass Management

3 credits—The course provides opportunities for students to learn techniques of golf course management and operation. Proper construction of specific golf course areas such as: greens, trees, bunkers, basic golf course design is presented. Budgets, irrigation, maintenance and an integrated pest management program are presented.

Lecture Hours: 48

AGH221 Principles of Horticulture

3 credits—This course provides students with an overall view of how man utilizes horticulture plant materials. Topics covered are fruits, vegetables, ornamental plants and their proper use and care. Proper culture and environmental conditions are also included.

Lecture Hours: 48

AGH233 Plant Propagation I

3 credits—Introduces students to techniques used in reproducing plants through sexual and asexual methods. Seedlings, vegetative cuttings, grafts and buddings are practiced in the laboratory.

Lecture Hours: 32

AGH270 Nursery Production

2 credits—This course introduces the student to theory and techniques of springtime nursery production. Students will plant trees, shrubs and evergreens in the horticulture lab nursery, and participate in other nursery cultural practices, such as: weed control, pruning, cultivation, etc.

Lecture Hours: 16 **Lab Hours:** 32

AGH273 Nursery Management

3 credits—Basic management functions are applied to a plant nursery. Advertising, harvest and sale of trees and shrubs from the school nursery provide students with hands-on experiences. Chemical selection for pest control in a nursery will also be covered. Students will be involved in planning the planting of the horticulture lab nursery.

Lecture Hours: 32 **Lab Hours:** 32

AGH280 Botany for Horticulture

3 credits—This course presents the basic structure of plant life, plant nomenclature, botanical terminology, the function of plant parts: cells, tissues, roots, and leaves. The physiological processes of plant life; osmosis, photosynthesis, respiration, transpiration, reproduction and the basic principles of genetics, and the plants metabolism is discussed.

Lecture Hours: 32 **Lab Hours:** 32

AGH281 Arboriculture

3 credits—A study of tree culture with emphasis on propagation, pruning, transplanting, pest control, urban environment concerns and recognition of hazards and liabilities. Methods of evaluation of values of trees also studied.

Lecture Hours: 48

AGH292 Garden Center Management

3 credits—Display, promotion and merchandising in the modern garden center will be stressed. Problems of distribution functions of marketing and their costs will be studied. Management's role in organizing a business and financial planning will be discussed.

Lecture Hours: 48

AGH400 Athletic Field Maintenance

3 credits—Studies specific sport facilities utilizing turf grasses including football, soccer, field hockey, baseball, and softball fields. Techniques of operation, management, maintenance, budgets, construction, and irrigation will be covered.

Lecture Hours: 32 **Lab Hours:** 32

AGH425 Grounds Maintenance

3 credits—This course introduced basic maintenance practices used on a golf course; golf course etiquette, procedures such as top dressing, aerifying, mowing, verticutting, fertilizing, watering, and changing cups on a green. Introduces maintenance practices used in sports complexes, parks and recreation areas, and commercial and industrial grounds.

Lecture Hours: 32 **Lab Hours:** 32

AGM104 Electricity

4 credits—This course is an in-depth study of theory in the diagnosing and repair of electrical components and circuitry.

Lecture Hours: 32 **Lab Hours:** 64

AGM107 Gas Engine Rebuild

7 credits—This course covers the theory of gas engines and the construction, diagnosis, and repair of all the systems. Fuel, ignition, and supportive systems are also included.

Lecture Hours: 48 **Lab Hours:** 128

AGM113 Hydraulics I

3 credits—This course covers theory and symbols of hydraulic components. Testing and repair of components is performed according to manufacturer's specifications.

Lecture Hours: 16 **Lab Hours:** 64

AGM126 Diesel Engine Sub Systems

3 credits—A study of diesel fuel systems, air intake systems, cooling systems and exhaust systems.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): Must be an Electronic Engineering Technology with a Mechanical Emphasis student. A minimum grade of D- in EGT144.

AGM128 Fundamentals of Diesel Engine

5 credits—Students are introduced to diesel engine application, design, construction, theory and operating principles of diesel engines. This course also covers diagnosis, disassembly, and assembly of diesel engines.

Lecture Hours: 16 **Lab Hours:** 128

Prerequisite(s): Must be an Electronic Engineering Technology with a Mechanical Emphasis student. A minimum grade of D- in EGT144.

AGM142 Diesel Power Transfer Systems

4 credits—Students are introduced to application, design, construction, theory and operating principles of transmission, differentials and final drives.

Lecture Hours: 16 **Lab Hours:** 96

Prerequisite(s): Must be an Electronic Engineering Technology with a Mechanical Emphasis student. A minimum grade of D- in EGT144.

AGM224 Hydraulics II

4 credits—This course covers theory and symbols of hydraulic systems. Testing and repair of hydraulic systems is performed with the use of meters and gauges for proper diagnosis.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, and DSL377.

AGM327 Equipment Maintenance

7 credits—This course presents background on theory of operation, diagnosis, and repair of brakes and suspension systems. Students gain knowledge and skill in performing preventive maintenance, service, and inspection of equipment. Arc welding and flame cutting will also be taught. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 48 **Lab Hours:** 128

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, and DSL377.

AGM333 Electronics

3 credits—This course is a continuing study of electricity in electronic components covering circuitry, diagnosis and repair.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, and DSL377.

AGM408 Power Transfer Systems (Effective Fall 2016)

7 credits—A study of the power train from the clutch through the rear driving axles. Emphasis is placed on clutch types, transmissions, and drive axles. Key goals of the course are failure analysis and troubleshooting malfunctions.

Lecture Hours: 80 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, and DSL377.

AGM408 Power Transfer Systems (Effective Spring 2017)

7 credits—A study of the power train from the clutch through the rear driving axles. Emphasis is placed on clutch types, transmissions, and drive axles. Key goals of the course are failure analysis and troubleshooting malfunctions.

Lecture Hours: 48 **Lab Hours:** 128

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, and DSL377.

AGM417 Ag Equipment Repair (Effective Fall 2016)

7 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects. Also included is theory and operation, diagnosis, and repair of heating and air conditioning systems. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 80 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, DSL377, AGM327, AGM333, and AGM224.

AGM417 Ag Equipment Repair (Effective Spring 2017)

7 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects. Also included is theory and operation, diagnosis, and repair of heating and air conditioning systems. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 48 **Lab Hours:** 128

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, DSL377, AGM327, AGM333, and AGM224.

AGM932 Internship

8 credits—Students will work on-site at a local industry under the direction of a supervisor. This course may be taken for 1-8 credits.

Lecture Hours: 0 **Lab Hours:** 0 **Co-op Hours:** 512

Prerequisite(s): Completion of the Electromechanical Engineering Technology program. A minimum grade of D- in AGM128.

AGP333 Precision Farming Systems

3 credits—Fundamental processes of Global Positioning System (GPS) with emphasis on its application to agriculture will be covered. General technical aspects of the GPS satellites, differential correction, and hardware will be covered. The specific application of this technology in agriculture for mapping, navigation, variable rate technology (VRT), and data collection will be discussed and demonstrated on the farm laboratory.

Lecture Hours: 32 **Lab Hours:** 32

AGP340 Foundations of GIS and GPS

3 credits—This course will introduce fundamental processes of Global Positioning System (GPS) including technical aspects of the GPS satellites, differential correction, and hardware. The specific application of this technology for mapping, navigation, variable rate technology (VRT), and data collection will be discussed and demonstrated. Fundamental processes of Geographic Information Systems (GIS) will also be introduced, including file formats, data base management, spatial analysis and manipulation of data.

Lecture Hours: 32 **Lab Hours:** 32

AGP401 Introduction to GIS Software

1 credits—This course provides a conceptual overview and hands-on experience using the software, giving one the background knowledge to quickly take advantage of Arc GIS Software's powerful display and query capabilities. Students will learn basic Arc GIS Software functionality. Students become familiar with the Arc GIS Software user interface and use Arc GIS Software to create, edit, display, query and analyze geographic and tabular data and create maps and charts for use electronically and in print form.

Lecture Hours: 16

Prerequisite(s): A minimum grade of D- in AGC103.

AGP436 Advanced Precision Farming Hardware

3 credits—This course will focus on the installation, operation, and troubleshooting of precision farming hardware components. Students will learn how to install displays, GPS equipment, and various other components used within precision agriculture. Students will properly operate various precision agriculture hardware systems such as displays, variable rate controllers, and GPS equipment. Special attention will be given to training students to troubleshoot problems and learn how to develop cognitive problem solving skills.

Lecture Hours: 32 **Lab Hours:** 32

AGP450 Fundamentals of GIS

3 credits—Fundamental processes of Geographic Information Systems (GIS) with emphasis in its application to agriculture will be covered. File formats, data base management, spatial analysis and manipulation of data will be covered thoroughly. Comparisons of GIS and mapping software, and conversions between formats will also be discussed. The lab portion will concentrate on using georeferenced data from mapping and yield monitoring to develop maps from which a VRT prescription will be synthesized.

Lecture Hours: 32 **Lab Hours:** 32

AGS113 Survey of the Animal Industry

3 credits—This course introduces students to the species and breeds of domestic livestock and development of an appreciation for the principles of livestock production, and issues facing product marketing. Topics include: breeds, basic management and marketing of farm animals, composition, evaluation and marketing of farm animals, composition, evaluation and marketing of animal products; including beef and dairy cattle, horses, goats, poultry, sheep and swine.

Lecture Hours: 32 **Lab Hours:** 32

AGS211 Issues Facing Animal Science

2 credits—Overview of the factors that define contemporary ethical and scientifically based issues facing animal agriculture. Life skills development will be incorporated.

Lecture Hours: 32

AGS216 Equine Science

3 credits—This course presents the basic management and production practices for horses including nutrition, health care, facilities, reproductive management, breeding and evaluation. The course is designed for students wanting to learn how to care for their own horse or for other owners? horses as a herdsman or in a stable.

Lecture Hours: 32

AGS218 Domestic Animal Physiology

4 credits—Introduction to the functional anatomy and physiological activities governing the animal body through discussion and observation via video of the various body systems; including cells, senses, nerves, skeletal, circulatory, respiratory, digestive urinary, muscular reproductive and endocrinology. Fundamentals of identification, prevention, and treatment of various common disease problems. This course presents a sound preventative approach to animal health and husbandry as it relates to body health, form and function.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in AGS113.

AGS225 Swine Science

3 credits—This course provides an understanding of the principles involved with comprehensive swine management; selection to marketing. Emphasis will be placed on business aspects, production systems, facilities, health, record systems, and analysis. Field trips and guest speakers will be included. Hands-on training will be included through the swine-teaching herd.

Lecture Hours: 32 **Lab Hours:** 32

AGS226 Beef Cattle Science

3 credits—This course prepares students to integrate production principles. Management principles involved with comprehensive beef cattle production will be emphasized. Topics included: overview of the industry, budgeting, record analysis, principles of bull management, cow and heifer management practices, preconditioning programs, feedlot management and marketing. Students receive hands-on experience working with the school teaching herd plus field trips and guest speakers.

Lecture Hours: 32 **Lab Hours:** 32

AGS272 Foods of Animal Origin

5 credits—An introduction to contemporary practices in the meat industry with a focus on production, processing and preservation of safe, wholesome, nutritious and palatable animal derived products (meat, dairy, and eggs).

Lecture Hours: 64 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in AGS113.

AGS275 Food Safety and Analysis

3 credits—An introduction to food quality control/assurance and establishment of decision-making processes, looking at potential hazards in the food system along with ways to ensure safety of products. The 3 modules of this course will be 1) Food hazards 2) HACCP (Hazard Analysis Critical Control Points) and 3) Analysis for potential contamination.

Lecture Hours: 32 **Lab Hours:** 32

AGS305 Livestock Evaluation

3 credits—This course develops the student's potential in livestock selection with emphasis placed on the evaluation of breeding animal as well as market animals. The course emphasizes the visual appraisal and the carcass evaluation of beef, swine, and sheep. Production records and grading, and wholesale and retail cuts will be studied.

Lecture Hours: 32

AGS319 Animal Nutrition

3 credits—This course introduces students to the underlying principles of livestock nutrition through discussion of nutrition information, digestive systems, feedstuffs and ration balancing. Nutritional principles, digestive systems, composition and nutritional characteristics of common feedstuffs, ration formulation and recommended feeding programs of farm animals, including beef and dairy cattle, horses, poultry, sheep and swine will be emphasized.

Lecture Hours: 32 **Lab Hours:** 32

AGS924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

AGT700 Special Topics: Agriculture Education

1 credits—This course is designed for secondary agriculture education professionals to develop and enhance knowledge and skills in specific emerging practices, issues, and technical content areas in the broad industry of agriculture.

Lecture Hours: 16

Prerequisite(s): Secondary Educator

AGT805 Employment Experience

5 credits—This course provides students with opportunities to gain on-the-job experience in the agriculture industry. Students will gain an understanding of qualities and skills needed for success in the agricultural field. Coordination and guidance will be provided by department instructors.

Co-op Hours: 320

AGT928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course.

May be taken for up to 5 credits.

Lecture Hours: 16

AGV101 Veterinary Assisting

3 credits—This is a Capstone course that will provide students the necessary skills and competencies that are needed to successfully perform the duties of a veterinary assistant. An example of topics covered will include; basic laboratory procedures, animal positioning, and surgical assistance. Staff and animal safety will also be covered.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in AGV154 or instructor approval.

AGV121 Veterinary Medical Terminology

2 credits—This class focuses on reading and interpreting medical charts and records, and conversing with veterinary professionals. It is designed for students to develop a working understanding of the language of veterinary medicine.

Lecture Hours: 32

AGV123 Companion Animal

3 credits—This course provides an understanding of the basic principles of Anatomy and Physiology and Health of companion animals. Additionally the course will offer insight into social behavior and relationships. Also included will be training, housebreaking and obedience.

Lecture Hours: 32 **Lab Hours:** 32

AGV140 Veterinary Pharmacology

3 credits—This class introduces the student to small animal pharmaceuticals. Learning is centered on the use, dosage, administration, handling, and storage of commonly used drugs used in small and large animal veterinary practices.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in AGS218.

AGV154 Veterinary Reception and Administration Skills

4 credits—This class introduces the student to means necessary to establish a working relationship with clients in the veterinary field. Familiarizes students with software used in veterinary practice.

Lecture Hours: 64

ANT105 Cultural Anthropology

3 credits—This course introduces the student to a comparative study of societies around the world. In this course cultural similarities and differences are explored to illustrate how human beings construct and conduct their existence. It emphasizes the origin and maintenance of the human species by studying its evolution, cultural development, ecology, kinship, organizations, and symbolic expressions. (Same as SOC-208)

Lecture Hours: 48

ART101 Art Appreciation

3 credits—This course is an examination of the value, esthetic pleasures, structure, function, and history of art. The course explores sculpture, painting, film, drawing, printmaking, photography, ceramics, and architecture. Field trips to galleries allow students the opportunity to personally experience significant visual art.

Lecture Hours: 48

ART120 2-D Design

3 credits—This course introduces students to the principles of design on the two-dimensional plane. Students are instructed in conceptual thinking, content and art practices, and exposed to design, color theory, and organizational principals. An introduction to materials and practice through the disciplines of drawing, painting, printmaking and collage are part of the conceptualization process offered in this curriculum.

Lecture Hours: 32 **Lab Hours:** 32

ART123 3-D Design

3 credits—This course introduces students to the principles of design on the three-dimensional plane. Students are instructed in conceptual thinking, content and art practices, and exposed to the elements of art/design and organizational principles through the utilization of space. An introduction to materials and practice through the disciplines of

drawing, designing and drafting are part of the conceptualization process offered in this curriculum. Projects will revolve around paper and card construction, modeling clay, iron wire and found objects.

Lecture Hours: 32 Lab Hours: 32

ART133 Drawing

3 credits—An introduction to basic drawing. Working with still life props: line, form, values, perspective and composition will be explored, using various wet and dry mediums. Concentration will be on accurate visual drawing.

Lecture Hours: 32 Lab Hours: 32

ART134 Drawing II

3 credits—This course concentrates on intermediate drawing problems: Gesture, contour, proportions, mapping techniques and values are studied through the use of props and clothed models. Creative interpretation with various media and approaches are stressed.

Lecture Hours: 32 Lab Hours: 32

ART143 Painting

3 credits—This course is an introduction to painting in a variety of media. Color theory, design theory and media area applied to exercises, studies, and finished paintings. Concentration is on developing skills in handling materials and personal expression through painting.

Lecture Hours: 32 Lab Hours: 32

ART144 Painting II

3 credits—This course is an advanced painting course using a variety of media, with greater emphasis on self-direction. Concentration is on developing advanced skills in handling materials leading to greater abilities and personal expression through painting.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): ART143, equivalent, or instructor approval.

ART173 Ceramics

3 credits—A hands-on intensive introduction to clay and glaze materials, integrated with a fresh approach to building interesting forms effectively.

Lecture Hours: 32 Lab Hours: 32

ART184 Photography

3 credits—This course provides an introduction to the basics of digital photography, from camera selection to its use as an art form and aesthetic medium. Content includes camera types, lenses, exposure controls, elements of composition, editing fundamentals, and the storage, printing and sharing of photographic images. It will also examine the elements of photographic theory, history and ethics. Students will be able to check out digital cameras provided by the college, or may bring their own, approved photographic equipment. In this hands-on class, students will complete specific technique-based assignments and participate in class demonstrations, discussions and critiques. Text: required. Pre-requisite: None.

Lecture Hours: 32 Lab Hours: 32

ART203 Art History I

3 credits—This course is an introduction to the history of visual art and artists; prehistory through Gothic. All forms of media: painting, sculpture, drawing, architecture, ceramics, metal work, glass and others are considered in the context of time, society, and the human impulse to create.

Lecture Hours: 48

ART204 Art History II

3 credits—This course is an introduction to the history of visual art and artists; Renaissance to the present. All forms of media: painting, sculpture, drawing, architecture, ceramics, metal work, glass, photography, film, and others are considered in the context of time, society, and the human impulse to create.

Lecture Hours: 48

ART924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

ART928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course.

May be taken for up to 5 credits.

Lecture Hours: 16

ATR145 Applied Industrial Robotics

2 credits—This course will introduce the study of industrial robots. This hands-on course will equip students with the skills for the installation, programming, and troubleshooting of industrial robots.

Lecture Hours: 16 **Lab Hours:** 32

AUT106 Introduction to Automotive Technology

2 credits—This introductory course provides an introduction to the many facets of the automotive industry to include: careers in the automotive industry, environmental concerns affecting the automotive industry, basic automotive hand tools, specialty tools, precision measuring tools, power tools and shop equipment, using service and shop manuals, and shop safety.

Lecture Hours: 16 **Lab Hours:** 32

AUT109 Introduction to Automotive Technology II

2 credits—This course includes the use of hand and power tools, the understanding of electronic repair information and the importance of preventative maintenance.

Lecture Hours: 16 **Lab Hours:** 32

AUT164 Automotive Engine Repair

4 credits—Basic theory of two-cycle and four-cycle gasoline engines and their application will be introduced. Disassembly, inspection and reassembly of an engine will be experienced as well as cooling, lubrication, induction, exhaust, compression and valve systems discussed. Students will develop competencies in precision measuring and services procedures.

Lecture Hours: 32 **Lab Hours:** 64

AUT204 Automotive Automatic Transmissions and Transaxles

4 credits—This course covers the advanced study of automatic transmission theory and service. The student will review basic automatic transmission theory. The student will study diagnosis, disassembly, inspection, and assembly of different types of automatic transmissions and trans-axles.

Lecture Hours: 32 **Lab Hours:** 64

AUT307 Automotive Manual Transmissions and Transaxles

4 credits—A comprehensive study of the Manual Transmissions/Transaxle components and their relationship to the application of power to the drive wheels of vehicles.

Lecture Hours: 32 **Lab Hours:** 64

AUT315 Automotive Differentials and 4-Wheel Drive

4 credits—A comprehensive study of Differentials and Transfer Cases and their relationship to the application of power to the drive wheels of vehicles.

Lecture Hours: 32 **Lab Hours:** 64

AUT404 Automotive Suspension and Steering

4 credits—Steering and suspension system operation and service procedures are covered. Emphasis is on diagnosis and repair procedures.

Lecture Hours: 32 **Lab Hours:** 64

AUT504 Automotive Brake Systems

4 credits—Instruction in the theory and operating principles of drum, disc, hydraulic, and anti-lock brake systems. Laboratory procedures for inspecting, testing, diagnosing, repairing, and/or replacing conventional, power brake system components.

Lecture Hours: 32 **Lab Hours:** 64

AUT537 Automotive Advanced Brake Systems

4 credits—This course explains antilock brake systems. It also covers the diagnosis and repair of this system, as well as traction and stability control.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in AUT504.

AUT610 Automotive Electrical I

4 credits—This introductory course covers basic electronic theory and utilization of electrical measuring instruments. Emphasis will be placed on the application of Ohm's Law and the proper utilization of electronic test equipment including practice with equipment and circuits.

Lecture Hours: 32 **Lab Hours:** 64

AUT631 Automotive Electronics

4 credits—This course includes the theory of automotive electronics, communication of automotive electronics and repair of electronic systems.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in AUT610 and AUT643.

AUT643 Auto Starting, Charging, and Electrical

4 credits—This course includes automotive electrical theory, electrical components, component operation, testing and repair procedures for automotive charging, starting and electrical systems.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in AUT610.

AUT704 Automotive Heating and Air Conditioning

4 credits—This course will provide instruction in the theory of operation of auto air conditioning and heating systems. Students will learn how to diagnose and service auto air conditioning systems and heating systems.

Lecture Hours: 32 **Lab Hours:** 64

AUT827 Automotive Ignition Systems

4 credits—Operation, diagnosis, and repair procedures used to service the modern automotive ignition system.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in AUT842.

AUT834 Automotive Fuel Systems

4 credits—This course will provide the instruction to introduce the student to basic fuel system principles. Students will study theory and will gain hands-on experience by cleaning, repairing, and adjusting automotive fuel systems.

Lecture Hours: 32 **Lab Hours:** 64

AUT842 Auto Computerized Engine Controls

4 credits—This course builds upon the knowledge and skills learned in previous automotive courses to prepare the student to service On-Board Diagnosis 2 computer-controlled vehicles. The theory and operating principles of automotive computers, sensors and control devices will be emphasized. Lab instruction on late model cars will be included.

Lecture Hours: 32 **Lab Hours:** 64

AUT886 Comprehensive Application

4 credits—Students are presented with diagnostic problems and repair projects. Competencies attained in prior classes are emphasized.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in AUT106, AUT109, AUT164, AUT610I, AUT504, AUT643I, and AUT307.

BCA087 College Prep Computer Skills

3 credits—This non-transfer course is designed to assist students who have limited experience with a personal computer. Skills emphasized will include keyboarding, file management, Internet navigation, email, and entry level functions of word processing and presentation software. Students may use this course to prepare for other computer applications courses.

Lecture Hours: 16 **Lab Hours:** 64

BCA132 Electronic Communications

3 credits—An introductory course in electronic communications designed to provide the students with a basic understanding of electronic mail, presentation software, and desktop publishing software. Students will be given hands-on experience with the software.

Lecture Hours: 48

Prerequisite(s): CSC110 or ADM105 and BCA134

BCA134 Word Processing

3 credits—This course will provide word processing concepts, terminology, and experience producing entry-level and advanced documents found in typical business offices. The major focus of the course is on mastery of word processing functions and concepts.

Lecture Hours: 48

Co-requisite(s): ADM105 Introduction to Keyboarding

BCA183 Basic Web Design Software

2 credits—This course will show students how to use a web authoring software to enhance and manage professional quality web sites. Students will create a web site containing multimedia elements, publish it, and maintain it.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): WDV102

BCA191 Computer Applications

2 credits—This course presents the application of the personal computer as a productivity tool. Basic functions of computer hardware and software and their interaction are introduced. Various components of a computer system are included with hands-on emphasis of the manipulation of word processing, spreadsheet, and database software.

Lecture Hours: 16

BCA201 Introduction to Information Systems

3 credits—The purpose of this course is to provide the student with a firm understanding of management information systems. Included are an introduction to hardware and data communication technology, software and data management, and business applications of the technology. The course will present the basics of information system design and management, and provide opportunities to experience working with an electronic spreadsheet, data base management system and programming using HTML.

Lecture Hours: 48

Prerequisite(s): Basic computer, software and keyboarding skills are required.

BCA205 Database/Spreadsheets

3 credits—This course emphasizes file management and learning to generate and format spreadsheets and databases. File management tasks include managing folders and moving, copying and deleting files. Spreadsheet tasks include making entries, correcting entries, entering formulas and creating charts. Database tasks include designing and creating tables, generating queries, creating forms and reports, and database maintenance. Basic computer literacy is expected of students enrolling in this course.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in RDG039 and appropriate math placement score.

Co-requisite(s): Ability to type 15 net WPM on a five-minute timing. Test will be given on the first day of class.

BCA213 Intermediate Computer Business Applications

3 credits—This course covers advanced computer applications including word processing, spreadsheet, database, and presentation software. Topics include using mail merge, desktop publishing, using database functions in a spreadsheet, templates, creating customized reports and forms in database, advanced features of presentation software, importing and exporting data.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in BCA205, BCA201, and BCA134.

BCA232 Multimedia for Web Design

3 credits—This course is designed to show students the tools and methods for using multimedia objects in web development. Media types discussed will include streaming video and audio, animation, inline media and on-line chat. Students will create website that incorporate multimedia elements.

Lecture Hours: 32 **Lab Hours:** 32

BCA924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

BIO042 Prep Science for Health Careers

3 credits—This course provides a focused examination of study skills/strategies and a foundation in biology to help students be more successful in health career classes. Students will be introduced to and given the opportunity to practice a variety of skills for academic success. Students will be introduced to major topics relating to health science curriculum: basic math, terminology, chemistry, and cell biology. Selected topics from the body systems will also be introduced.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in MAT052 and RDG039.

BIO105 Introductory Biology

4 credits—This course provides an introduction to living organisms, their diversity, structure and function and how they maintain themselves both during their life cycle and as a species. It is designed to highlight concepts of the biological sciences for the non-biology major.

Lecture Hours: 48 **Lab Hours:** 32

BIO112 General Biology I

4 credits—This lecture and laboratory course is the first of a two semester sequence designed for students with a specific interest in majoring in the biological sciences or a desire for a more comprehensive undergraduate course in the discipline. The course integrates the basic principles of general biology and focuses on their interrelationships. The major themes addressed include levels of organization, cell structure and metabolism, the genetic basis of life, evolution, diversity and ecological relationships. Laboratory exercises are coordinated with lecture topics to enhance the student's understanding of these topics.

Lecture Hours: 48 **Lab Hours:** 32

BIO113 General Biology II

4 credits—This lecture and laboratory course is part of a two semester sequence designed for students with a specific interest in majoring in the biological sciences or a desire for a more comprehensive undergraduate course in the discipline. The major focus of this course is on the diversity of life forms, including microbes, protists, the fungi, plants and animals. The course will include the study of their structure and function, evolutionary patterns, ecological relationships and behavior. Laboratory exercises are coordinated with lecture topics to enhance the student's understanding of the lecture concepts.

Lecture Hours: 48 **Lab Hours:** 32

BIO151 Nutrition

3 credits—Principles of Nutrition will introduce students to the science of nutrition. The course will examine individual nutrients; their structure and function in the human body; nutrient composition of food; and selection of food to meet nutrient needs, maintain health and satisfaction. Students will understand and apply present day knowledge of nutrition to dietary patterns and needs of selected individuals and groups. The course is an advanced beginning course in human nutrition designed for students with a science background.

Lecture Hours: 48

BIO154 Human Biology

3 credits—Human Biology explores human structure and function and the relationship of humans to other living organisms. The course examines the application of basic biological principles to practical human concerns. The course is a one-semester biology course intended for students who do not wish to major in the biological or health sciences.

Lecture Hours: 48

BIO159 Fundamentals of Anatomy and Physiology

3 credits—This course provides a basic overview of the anatomy and physiology of the human body. It is designed to provide practical nursing, and other health science students with an understanding of normal body structure and function as a basis for the study of variations from normal health.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in BIO042.

BIO163 Essentials of Anatomy and Physiology

4 credits—An introduction to the principles of human anatomy and physiology beginning with the cellular/biochemical level of organization and progressing through a comprehensive study of organ systems emphasizing homeostasis. This is a one-term transfer level class designed for students entering allied health fields or biological sciences. (To be applicable to any health career program, successful completion with a grade of "C" or better is required.) Each student must enroll for one laboratory section.

Lecture Hours: 48 **Lab Hours:** 32

BIO168 Human Anatomy and Physiology I

4 credits—The first of a two-semester sequence especially designed for students pursuing careers in allied health fields as well as any student desiring an in-depth undergraduate transfer course. The course focuses on the interdependent relationships between the structure and functions of body systems and the ways these parts interact (homeostasis) to insure the survival of the organism. Major topics addressed include levels of organization, the chemistry of life, support/movement, integration/control, and coordination. Coordinated laboratory exercises focus on anatomical knowledge and physiological functions. To be applicable to any health career program, successful completion of both BIO-168 and BIO-173 with a grade of "C" or better is required.

Lecture Hours: 48 **Lab Hours:** 32

BIO173 Human Anatomy and Physiology II w/Lab

4 credits—The second of a two-semester sequence designed for students pursuing careers in allied health fields or wishing an in-depth undergraduate transfer course in the biological sciences. The course focuses on interdependent relationships between the structures and functions of body systems and the way these parts interact (homeostasis) to insure survival of the organism. Major topics addressed include systems associated with circulation, maintenance, elimination and continuity. Coordinated laboratory exercises focus on anatomical knowledge and physiological functions.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in BIO168.

BIO185 Microbiology w/Lab

3 credits—This lecture-laboratory course emphasizes a survey of general topics needed by students entering careers in allied health fields as well as any student desiring a background in microbiology. The course covers aspects of microbial function, nutrition and growth, metabolism, energy procurement, medical genetics, genetic engineering, control using physical and chemical agents, host-parasitic relationships as well as beneficial roles of microorganisms. Coordinated laboratory exercises enhance and support the lecture topics.

Lecture Hours: 32 **Lab Hours:** 32

BIO186 Microbiology

4 credits—Morphology, physiology, taxonomy, and relationship of microorganisms to disease. In-depth laboratory study and suitable lecture material with applications to agriculture, industry, and medicine.

Lecture Hours: 48 **Lab Hours:** 32

BIO247 Applications of Biotechnology

3 credits—This lecture-lab course focuses on the laboratory procedures used in biotechnology and their application to agriculture, nursing, police science, and research. Students will learn the procedures and develop proficiency in such techniques as tissue culture, DNA manipulation, extraction, transformation, polymerase chain reaction (PCR), and DNA fingerprinting. Students will also be introduced to spectroscopy. The course will also provide exposure to new and emerging topics.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CHM122 and BIO105, BIO112, or BIO185.

BIO924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

BIO928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course.

Lecture Hours: 16

BUS102 Introduction to Business (Effective Spring 2017)

3 credits—An introductory survey course which provides an overview of the major functions in business with relation to current social, economic and environmental concerns.

Lecture Hours: 48

BUS102 Introduction to Business (Effective Summer 2017)

3 credits—An introductory survey course which provides an overview of the major functions in business with relation to current social, economic, global, and environmental concerns.

Lecture Hours: 48

BUS180 Business Ethics

3 credits—This course is an introduction to ethical decision making in business. There is an examination of individual, organizational, and macrolevel issues in business ethics. This course does not determine correct ethical action; it is designed to assist the potential businessperson to make more informed ethical decisions on a daily basis. Dilemmas, real life situations and cases provide an opportunity for you to use concepts in the assignments

and to resolve ethical issues. Since there is no universal agreement on the correct ethical business norms, critical thinking and informed decision making are emphasized.

Lecture Hours: 48

BUS183 Business Law

3 credits—An introduction to the principles of law as they relate to business. This course includes an overview of our court system, sources of law, ethics and social responsibility, contracts, warranties, real property, landlord and tenant, negotiable instruments, and agency. Emphasis is placed on exploring the law as it affects businesses and individuals.

Lecture Hours: 48

BUS210 Business Statistics

3 credits—Application and interpretation of probability and statistics as they relate to business problems; design of experiment, descriptive statistics, sampling, estimation, correlation, linear regression, hypothesis testing, and analysis of variances.

Lecture Hours: 48

Prerequisite(s): MAT156

BUS220 Introduction to International Business

3 credits—This course focuses on marketing management problems, techniques, and strategies needed within the world marketplace. Understanding a country's cultural and environmental impact is emphasized. Worldwide consumerism, economic and social development, the spread of multinational corporations, business ethics, cultural diversity, and current economic and marketing issues will be examined.

Lecture Hours: 48

BUS230 Quantitative Methods for Business Decision Making

3 credits—Quantitative and qualitative aspects of problem solving and decision making in business are covered. Topics include structuring and the basics of decision making, classification theory, functional relationships, marginal analysis, resource allocation, and probability.

Lecture Hours: 48

Prerequisite(s): MAT156

BUS903 Business Field Experience

3 credits—This course provides students with the opportunity to gain practical work experience, while applying skills and techniques learned in their program of study, under the supervision of an employer, manager, or supervisor.

Co-op Hours: 192

Prerequisite(s): 2.00 cumulative GPA

BUS905 Golf Course Internship

3 credits—Students will intern at golf courses and country clubs throughout the region and state, focusing on internal and external operations of the course/club.

Co-op Hours: 192

Prerequisite(s): A minimum grade of C- in MGT222.

BUS905 Golf Course Internship

1 credits—Students will intern at golf courses and country clubs throughout the region and state, focusing on internal and external operations of the course/club.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C- in MGT222.

CAD119 Introduction to Computer-Aided Drafting (CAD)

3 credits—This course will introduce hands-on computer-aided drafting and design. Basic computer hardware, software and file management will be discussed. Basic two-dimensional engineering CADD drawing creation using Drawing Aids will be covered. Various editing techniques will be examined. CAD drawings will be created, edited and plotted.

For non-majors, student with basic computer proficiency can be enrolled with instructor consent.

Lecture Hours: 16 **Lab Hours:** 64

Pre/Co-requisite(s): A minimum grade of D in CSC110, EGT108, EGT410, or ELT192.

CAD200 CAD SoftPlan (Effective Fall 2016)

3 credits—The CAD SoftPlan course will introduce students to an object based CAD program and the process involved in generating a complete set of residential working drawings. Emphasis will be placed on setting up a drawing, using file management, organizing architectural information, paying attention to detail, converting sketches to CAD, modifying CAD drawings, and applying problem solving skills.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): CON102

CAD200 CAD SoftPlan (Effective Spring 2017)

3 credits—The CAD SoftPlan course will introduce students to an object based CAD program and the process involved in generating a complete set of residential working drawings. Emphasis will be placed on setting up a drawing, using file management, organizing architectural information, paying attention to detail, converting sketches to CAD, modifying CAD drawings, and applying problem solving skills.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CON102.

CAD208 SoftPlan 2

3 credits—The Softplan 2 Course will introduce students to advanced Softplan skills involved in generating a complete set of residential working drawings. Emphasis will be placed on advance organization of architectural information, attention to detail, modifying CAD drawings, and applying problem-solving skills.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CAD200.

CET122 Construction Drawing/Contract

2 credits—The course examines typical building and civil construction plans and introduces the methods of bidding and contracting for building projects.

Lecture Hours: 16 **Lab Hours:** 32

CET133 Construction Methods and Resources

3 credits—Methods of and problems related to construction of highways and buildings are covered. Examination is done of the commonly utilized resources - money, materials, equipment, personnel - and their management. Production and handling costs are discussed. Productivity, construction scheduling and construction safety are also covered briefly.

Lecture Hours: 32 **Lab Hours:** 32

Pre/Co-requisite(s): MAT744 or MAT122

CET142 PC Concrete, HMA, and Testing (Effective Fall 2016)

3 credits—This course covers types, production, and physical properties of asphalt and Portland cements, testing and selection of mineral aggregates and concrete mix designs, laboratory testing procedures of mix evaluation and quality control methods for asphalt and Portland cement concretes.

Lecture Hours: 32

Prerequisite(s): Must be in program major.

CET142 PC Concrete, HMA, and Testing (Effective Spring 2017)

3 credits—This course covers types, production, and physical properties of asphalt and Portland cements, testing and selection of mineral aggregates and concrete mix designs, laboratory testing procedures of mix evaluation and quality control methods for asphalt and Portland cement concretes.

Instructor consent if not in program major.

Lecture Hours: 16 **Lab Hours:** 64

CET160 Surveying (Effective Fall 2016)

3 credits—Surveying includes the use of surveying instruments and note-keeping for level circuits, topographic surveys, traversing, and construction surveys. Computations to determine errors, distances, azimuths, bearings, angles, areas, volumes, and topics in photogrammetry are included.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): MAT744 or MAT122

CET160 Surveying (Effective Spring 2017)

3 credits—Surveying includes the use of surveying instruments and note-keeping for level circuits, topographic surveys, traversing, and construction surveys. Computations to determine errors, distances, azimuths, bearings, angles, areas, volumes, and topics in photogrammetry are included.

Instructor consent if not in program major.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in MAT744 or MAT122.

CET182 Structural Detailing Using CAD (Effective Fall 2016)

2 credits—Structural Detailing uses mostly computer-aided drafting (CAD) and computer techniques to prepare drawings for highway structures which include structural steel, reinforced concrete and structural timber. Course includes the preparation of bar bend details, reinforcing bar lists, and quantity calculations. Topics from the Department of Transportation Specifications are covered also.

Lecture Hours: 16

Prerequisite(s): CAD105

CET182 Structural Detailing with CAD (Effective Spring 2017)

2 credits—Structural Detailing uses mostly computer-aided drafting (CAD) and computer techniques to prepare drawings for highway structures which include structural steel, reinforced concrete and structural timber. Course includes the preparation of bar bend details, reinforcing bar lists, and quantity calculations. Topics from the Department of Transportation Specifications are covered also.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in CAD119.

CET213 Route Surveying/Roadway Design

3 credits—Route surveying covers horizontal and vertical curves (circular, parabolic, and spiral), earthwork, and elements of safety and photogrammetric applications. Fieldwork includes surveying for a grading project and drafting the plan and profile, cross-sections, and calculating and balancing earth volumes. Roadway design incorporates the use of a computer-aided roadway design software package and includes topographic mapping, highway design, and plotting project drawings.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): CET160

CET223 Soils, Testing, and Foundations

3 credits—Students study the origin, structure, identification, and engineering classification of soils, moisture-density relationships, standard laboratory testing procedures, compressive and shearing strength of soil and bearing capacity of soils and piling.

Lecture Hours: 32

Prerequisite(s): MAT744 or MAT122

CET233 Fundamentals of GPS and GIS

3 credits—This course will introduce fundamental processes of Global Positioning Systems (GPS) including technical aspects of GPS satellites, differential corrections and hardware. The specific application for mapping and data collection will be discussed and demonstrated. Fundamental processes and applications of Geographic Information Systems (GIS) will also be introduced, including file formats, data base management, spatial analysis and manipulation of data.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): CET160

CET253 Fundamentals of Construction Estimating

3 credits—Students learn the fundamental principles of construction estimating. The course stresses the organization of the estimate, the procedure of estimating costs in different divisions of the project and determining the critical quantities of materials obtained from a set of plans.

Lecture Hours: 32 **Lab Hours:** 32

CET256 Land Surveying

3 credits—This course covers topics of the U.S. Public Land Survey System, Iowa laws regarding surveying and the preparation and recording of plats. Fieldwork is required to collect boundary measurements and field astronomy for a North azimuth. Calculations include astronomical bearings, traverse adjustment, area and partition of land. Computer drafting is used in the preparation of the plat.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): CET160

CET262 Environmental Technology

3 credits—Topics covered include hydraulics, hydrology, water quality, water and sewer systems, storm water control, solid and hazardous waste, and air and noise pollution.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): MAT744 or MAT122

CET285 Structural Steel/Reinforced Concrete Design

3 credits—Structural Steel Design covers the design of beams, columns, bolted and welded connections, base and bearing plates, and tension members. Reinforced Concrete Design covers the strength and behavior of reinforced concrete in the design of such structural members as beams, slabs, walls, columns and footings.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): EGT243

CHM122 Introduction to General Chemistry

4 credits—An introductory course which assumes a minimal student background in mathematics and chemistry. The course is intended to serve students in allied health programs and any student desiring an application-oriented, less theoretical approach to chemistry. The course introduces students to the practical aspects and basic concepts of chemistry including measurements, dimensional analysis, matter, energy, atoms, elements, the Periodic Chart, nuclear chemistry, chemical bonding, nomenclature, an introduction to organic chemistry, chemical quantities, formulas, gases, chemical calculations, balancing equations, solutions, acids and bases, chemical kinetics, and equilibrium. Coordinated laboratory exercises are intended to emphasize topics covered in the lecture as well as stress basic laboratory techniques. Elementary algebra is required as a prerequisite.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in MAT063.

CHM132 Introduction to Organic and Biochemistry

4 credits—This lecture-laboratory course is intended primarily to serve undergraduate health-related majors such as nursing and dental hygiene as well as the general studies

students seeking an integrated background in organic and biological chemistry. Students will study topics applications from a clinical, human or environmental perspective. Laboratory exercises are coordinated with the lecture topics.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): CHM122

CHM165 General Chemistry I

4 credits—This lecture and laboratory course is the first of a two-semester sequence designed specifically for students majoring in chemistry, physics, biology, or pre-engineering. It is a mathematically rigorous course that assumes the entering student has a strong background in algebra and finite mathematics. Students will learn specific-content chemical information that will be applied within the context of a variety of chemistry applications. Many of the applications that will be investigated highlight contemporary social and scientific issues. Through participation in course activities, each student should expect to improve her/his knowledge of chemistry and to develop improved qualitative and quantitative problem-solving skills. Hands-on experience with laboratory experiments will allow students to learn proper procedures, to gather meaningful data, and to draw logical and appropriate conclusions based on the laboratory data. Content will include chemical equations, stoichiometry, gases, thermochemistry, equilibrium, electronic structure of atoms, periodic trends, molecular bonding and structure, intermolecular forces, and nuclear chemistry.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in MAT102, MAT110, or MAT156. Highly recommended that the prerequisite class be passed with a C- or better in the past 5 years.

CHM175 General Chemistry II

4 credits—This lecture and laboratory course is the second of a two semester sequence designed specifically for students majoring in chemistry, physics, biology or pre-engineering. Students will have successfully completed General Chemistry I or its' equivalent. The course focuses on chemical equilibria and their applications, thermodynamics, kinetics, modern materials, electrochemistry, properties of solutions, chemistry of the representative main group and transition elements, coordination compounds, basic organic chemistry, biological chemistry, and chemistry of the environment. Specific topics are outlined under the course content. Laboratory exercises are coordinated with lecture topics where possible, and are intended to augment and support these topics.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): CHM165

CHM260 Organic Chemistry I

3 credits—Theory and practice of organic chemistry with emphasis on the chemistry of functional groups, structure, bonding, molecular properties, reactivity and nomenclature of alkanes, alkenes, alcohols and ethers, stereochemistry, reaction mechanism, nucleophilic substitution and elimination reactions.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in CHM165 and CHM175.

CHM270 Organic Chemistry II

3 credits—Theory and practice of organic chemistry with emphasis on nomenclature and reactivity of alkenes, alkynes, aromatics, aldehydes, ketones, carboxylic acids and their derivatives, amines, and polyfunctional compounds.

Lecture Hours: 48

Prerequisite(s): Minimum grade of C- in CHM260 or equivalent.

CHM924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

CHM928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course.

May be taken for up to 5 credits.

Lecture Hours: 16

CIS102 Introduction to Computers

2 credits—This course introduces the basic use of the personal computer. The course includes a study of DOS (disk operating system), Windows, and word processing.

Lecture Hours: 16 **Lab Hours:** 32

CIS121 Introduction to Programming Logic

3 credits—This course will introduce language independent programming logic design techniques. Students will learn techniques such as flow-charting and pseudo-code to build complete programs that can be translated into modern programming languages. Students will learn to use elements of decision making, looping, control breaks, and arrays. Language independent Object Oriented Programming will be introduced along with other advanced topics.

Lecture Hours: 32 **Lab Hours:** 32

CIS206 Web Scripting

3 credits—This course is designed to give students experience in creating dynamic web sites. Students will use JavaScript to add interactivity to web site. Students will explore the Document Object Model as well as advanced techniques.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in CIS231 and CIS215.

CIS215 Server Side Web Programming

3 credits—This course is designed to give the student the tools and the knowledge to program using the web programming language ASP.NET as a server side language. This course goes over the syntax and usage of the language. This course will introduce the basics of web applications.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in WDV102, WDV105, and CIS121.

Pre/Co-requisite(s): A minimum grade of D in MAT110.

CIS217 Data Driven Web Page

3 credits—This course is designed to give the student the tools and the knowledge to program a web application using PHP and MySQL. This course covers advanced topics such as administration pages for the web site for the management of the web application. This course is a continuation of CIS231 PHP Programming.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in CIS215.

CIS225 Advanced Server Side Web Programming

3 credits—This course will build on the skills learned from Server Side Web Programming. This course will work with advanced topics in Active Server Pages. Students will be expected to create entire web sites using information learned in this course. A practical hands-on approach will be utilized.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in CIS215.

CIS231 PHP Programming

3 credits—This course is designed to give the student the tools and the knowledge to program using the web programming language PHP as a server side language. This course goes over the syntax and usage of the language. This course will introduce the basics of web applications.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in WDV102, WDV105, and CIS121.

Pre/Co-requisite(s): A minimum grade of D in MAT110.

CIS234 Web Site Administration

3 credits—This course is designed to introduce students to the various platforms that support the servicing web sites. Students will understand HTTP, FTP and SMTP and configure the services. Students will also host and maintain several websites on a server.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): WDV102

CIS249 Web Languages

3 credits—This course is designed to give the student an exploration of other web languages used on the web, and learn the basics of those languages.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in CIS215 and CIS231.

CIS274 E-Commerce Design

3 credits—This course will introduce students to using the Internet as a medium for marketing, sales and support of a product. Students will learn how to adapt a traditional business model to an electronic model.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): CIS206

CIS303 Introduction to Database

3 credits—This course will introduce students to data management using databases. Focus will be given to database models, data storage concepts, SQL and data warehousing.

Lecture Hours: 32

CIS355 Database Design and Management

4 credits—This course will introduce students to data management using databases. This includes database design, normalization/optimization, relationships, security, and database management systems.

Lecture Hours: 48 **Lab Hours:** 32

CIS604 Visual Basic

3 credits—This class will introduce students to creating programs using the Visual Basic language. Students will gain experience in creating applications automating processes using Visual Basic.

Lecture Hours: 32

CIS750 Project Management

3 credits—This course is designed to provide students exposure to project management and its importance to improving success in information technology projects. Topics addressed in the course will include triple constraints of project management, project life cycle, cost estimates, value management and motivation theory, and team building. Tools and techniques important to project management will also be presented, including project selection methods, work breakdowns, network diagrams, critical path analysis, and scheduling. Students will have the opportunity to utilize software to help plan and manage an information technology project.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in NET313 and a minimum grade of D in NET213.

CLS130 African Cultures

3 credits—This course will explore the development of Sub-Saharan African civilizations from the dawn of humanity to the issues facing the continent today. The first part of the course will look at the indigenous and colonial heritage of Africa. The second part will examine the political, economic, social, religious, environmental, and gender issues and realities facing the African today. The third part will expose students to significant African contributions and trends in prose, poetry, drama, art, music and dance.

Lecture Hours: 48

CLS141 Middle Eastern History and Culture

3 credits—This interdisciplinary course will examine the history of the Middle East with particular emphasis on the period since the birth of Islam. The course will also explore the

cross-cultural exchanges that ancient Middle Eastern and Islamic civilizations have engaged in with other world civilizations. Among the topics covered in this course are the foundation and development of Islam, the cultural influence and spread of Islamic civilization, the creation and politics of modern nation-states, and emergence of Islamist politics.

Lecture Hours: 48

CLS150 Latin American History and Culture

3 credits—This course will explore the development of Latin American civilization from its ancient origins to the issues facing the region today. The course will look at the indigenous and colonial heritage of the area; examine its shared cultural, literary, economic, social, and political contributions and trends; and look at the history and current issues facing the individual countries or sub-regional groupings.

Lecture Hours: 48

CLS160 East Asian Cultures

3 credits—East Asian Cultures is an interdisciplinary course that will explore the emergence of East Asian civilization, its development and diversification, and its contacts and exchanges with other world civilizations. Primary emphasis is on China. The course will explore the various historical, cultural, religious, philosophical, economic, political, social, demographic and geographic factors that make this such a diverse and dynamic civilization and will also draw comparisons between China and neighboring countries.

Lecture Hours: 48

CLS164 Japanese History and Culture

3 credits—Japanese History and Culture is an interdisciplinary course that will explore the emergence of Japanese civilization, its development, diversification, and its contacts and exchanges with other world civilizations. The course will explore the various historical, cultural, religious, artistic, philosophical, economic, political, social, cultural, demographic, and geographic factors that make Japan such a diverse and dynamic civilization. Emphasis will be placed upon attempting to understand Japanese culture as being both unique and as intimately related to other cultures.

Lecture Hours: 48

CLS172 Russian Civilization

3 credits—Russia's turbulent past and uncertain present will be discussed in this interdisciplinary course. It will examine the major political, economic, geographic, social, cultural, religious, and other factors that have contributed to the development of Russian civilization. Emphasis will be placed upon understanding Russia as both a unique Eurasian civilization and a part of the global community of nations.

Lecture Hours: 48

CLS924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

CLS928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics germane to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course.

May be taken for up to 5 credits.

Lecture Hours: 16

CNS104 Outdoor Recreation II

1 credits—This course provides an introduction into basic outdoor recreation certifications. The course will provide a way for students to learn about boating safety, first aid, and CPR and gain certification necessary for employment. The course will provide background in the principles of Leave No Trace which are essential for wilderness camping. Additionally, the course will provide an examination of the Fish Iowa curriculum for students to share with others as they progress in their careers.

Lecture Hours: 0 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in RDG038.

CNS107 Outdoor Recreation Techniques

1 credits—This course provides an introduction into basic outdoor recreation techniques commonly utilized by naturalists and conservation professionals to help citizens gain an appreciation of their environment. Recreational techniques will include activities such as canoeing, kayaking, hiking, and backpacking.

Lecture Hours: 0 **Lab Hours:** 32

CNS108 Wildlife Identification

3 credits—This course will provide information to assist in the identification of common wildlife of Iowa. Wildlife will be identified not only by physical characteristics, but by many other characteristics. Vertebrates, insects, and macroinvertebrates will be covered. Major groups of vertebrates including mammals, birds, fish, reptiles, and amphibians will be studied.

Lecture Hours: 32 **Lab Hours:** 32

CNS109 Wildlife Ecology

3 credits—This course focuses on the application of wildlife ecology and management techniques. It studies censuring, capture and marking of wildlife. The course includes habitat evaluation, habitat restoration, Iowa game laws, life history studies and the application of wildlife management principles as they relate to important ecological and recreational resources.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in CNS121.

CNS110 Equipment Operation and Safety

2 credits—Equipment Operation and Safety focuses on the operation, maintenance, personal protective equipment, and safety of equipment used in the natural resources field. Labs include the use of equipment ranging from small engines to equipment used for prairie restoration, timber stand improvement, aquatic management, and park management.

Lecture Hours: 16 **Lab Hours:** 32

CNS121 Environmental Conservation

3 credits—Environmental Conservation is a course that enables students to learn about their environment. Students study about natural ecosystems, interactions within ecosystems, ecological principles and their application, the impact our increasing population has on the environment, the importance and components of a sustainable agriculture, and the environmental issues facing today's world.

Lecture Hours: 32 **Lab Hours:** 32

CNS134 Wildlife Management

4 credits—This course will provide a foundation in the dynamics of wildlife conservation and management. This course relates the biological concepts of wildlife populations, habitat management, management goals and applications geared toward various forms of wildlife.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in CNS121.

Co-requisite(s): CNS106

CNS136 Aquatic Management

3 credits—This course introduces aquatic conservation and management. Basic background on aquatic environments, the ecology of fish, and the characteristics of humans who utilize aquatic resources or indirectly interact with them through land- and water-use activities will be covered.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in CNS121

CNS138 Woodland Management

3 credits—This course will provide an introduction to woodland management from an ecological management perspective. Management of small properties will be emphasized.

Lecture Hours: 32 **Lab Hours:** 32

CNS143 Fire Management

3 credits—This course focuses on prescribed burns as a tool in ecosystem management. The use of fire to meet resource management objectives requires definitive and quantified knowledge of physical, biological, and ecological effects of fire on the ecosystem involved. Students will be trained in conducting prescribed burns and will participate as burn crew members.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): CNS121

CNS180 Principles of Interpretation

2 credits—This course covers the history, objectives, forms, and techniques of interpretation in the settings of county, state, national parks, and zoos. The course will explore the principles of effective communication as they apply to natural resource fields. Conceptual principles for planning interpretive programs and use of effective communication in multi-media delivery systems in outreach campaigns to manage and

conserve natural resources are discussed. This course helps students gain the technical competencies of interpretation professionals by presenting and observing nature walks, giving public presentations, creating displays, writing news releases, and taking photographs as interpretative exercises. Students will have the opportunity to complete the National Certified Interpretative Guide exam.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in CNS121.

CNS200 Conservation Biology

3 credits—Conservation Biology draws together scientists and environmentalists in basic and applied studies of biodiversity. The course will examine the nature of this emerging field, and will survey basic principles of ecology with emphasis on the ecosystem concept and its central role in conservation management. The course will examine biodiversity in detail, evaluate the threats to biodiversity, and examine the processes of extinction that are leading to a biodiversity crisis. Students will be active participants in current conservation projects and will conduct studies of the biological diversity of their community.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in CNS121.

CNS204 Native Vegetation

3 credits—This course provides an introduction to botany, landforms of Iowa, and native plant communities. Emphasis will be on the identification of native plants and differentiation from exotic weed species.

Lecture Hours: 32 **Lab Hours:** 32

CNS205 Advanced Outdoor Recreation Techniques

1 credits—This course provides a wilderness experience to utilize advanced outdoor recreation techniques during an intense time period (over Labor Day weekend or the equivalent). Techniques utilized include hiking, backpacking, canoeing or kayaking, low impact camping, and others. This wilderness encounter is at a remote location such as the Boundary Waters, Isle Royale, etc. The focus of this experience is to gain leadership skills to guide groups of citizens on basic outdoor recreation adventures to increase their appreciation of their environment such as is done by naturalists and conservation groups by following the 18 points set by the Wilderness Education Association and Leave No Trace Principles.

Lab Hours: 32

Prerequisite(s): CNS107

CNS228 Natural Areas Management

3 credits—This course provides a background in the restoration of native ecosystems. Restoration practices from site analysis, seed and plant selection, and planting techniques; to management by fire, mowing, and weed control are covered. Students will have practical experiences in the reconstruction and management of various ecosystems.

Lecture Hours: 16 **Lab Hours:** 64

CNS929 Individual Projects

1 credits—This course provides in-depth experiences in conservation. Projects are developed in cooperation with and supervised by the instructor dealing with construction,

habitat maintenance, wildlife census, habitat mapping, trail development, observation of conservation boards, etc. It includes paper describing the project from start to finish. Hours of credit depend on the scope and depth of the project.

May be taken for up to 3 credits.

Lab Hours: 32

Prerequisite(s): A minimum grade of C- in CNS121.

COM140 Introduction to Mass Media

3 credits—Introduction to Mass Media presents elements of the mass communication process with emphasis on the forms, functions, regulations, and social impact of the various media. This course helps students understand how media influence their lives.

Lecture Hours: 48

COM143 Media Messages: Printed Page

1 credits—Media Messages: Printed Page focuses on the development of skills needed to access, analyze, evaluate, and produce printed media messages by examining the roles of viewer, producer, text, context, techniques, technologies, and institutions. The combination of COM-143, COM-144, and COM-147 may equate to a 3 credit media literacy course at other institutions.

Lecture Hours: 16

COM144 Media Messages: TV and Movies

1 credits—Media Messages: TV and Movies focuses on the development of skills needed to access, analyze, evaluate, and produce messages from television and film by examining the roles of viewer, producer, text, context, techniques, technologies, and institutions. The combination of COM-143, COM-144, and COM-147 may equate to a 3 credit media literacy course at other institutions.

Lecture Hours: 16

COM147 Media Messages: World Wide Web

1 credits—Media Messages: Examining the World Wide Web focuses on the development of skills needed to access, analyze, evaluate, and produce messages accessed through the web by examining the roles of viewer, producer, text, context, techniques, technologies, and institutions. The combination of COM-143, COM-144, and COM-147 may equate to a 3 credit media literacy course at other institutions.

Lecture Hours: 16

COM148 Diversity and the Media

3 credits—Diversity and the Media presents a historical perspective and a current analysis of various minority groups and how media depict these groups. This course helps students understand why and how stereotypical media portrayals have been produced and how the under-representation of diversified images affects their knowledge, attitudes, and behaviors toward.

Lecture Hours: 48

COM155 Newspaper Production

3 credits—Newspaper Production presents elements of the news reporting process with emphasis on determining newsworthiness, gathering news, writing and editing stories in

journalistic style, and observing legal and ethical responsibilities in the print, broadcast, and electronic media. This course helps students explore how journalists determine what the public needs and wants to know.

Lecture Hours: 48

COM730 Communications

3 credits—This course presents elements of oral and written communications with applications to routine correspondence and oral communication situations in the work place. Students will be involved in activities that provide opportunity for the development and improvement of writing skills and oral communication skills.

Lecture Hours: 48

COM763 Introduction to Professional Writing

3 credits—This course provides students with an introduction to professional writing; it overviews the role of writing as an important part of many careers, as well as part of an academic discipline. This course explores the issues, theories, resources and career opportunities in professional writing, as well as the use of technology to communicate and produce documents.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): ENG105

COM781 Written Communication in the Workplace

3 credits—This course focuses on composition and editing of curriculum-specific technical and business-related writing projects. Instruction includes formatting, information gathering, document drafting, editing, and written employment strategies.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in ENG061.

COM924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

CON102 Introduction to Residential Construction

2 credits—Students will be introduced to basic residential construction safety, history, terminology, materials, and basic construction techniques. This course will cover basic information and develop manual skills needed to begin construction of a new home.

Lecture Hours: 16 **Lab Hours:** 32

CON108 Construction Safety

1 credits—The Construction Safety course will provide students with the requirements and expectations required to work safely in the numerous occupations of the construction industry. The course will introduce students to the national OSHA safety standards for General Construction and upon their completion of this course will receive the OSHA 10 hour General Construction certification.

Lecture Hours: 16

CON109 Construction Safety

2 credits—This course includes the 30 Hour Construction Outreach Program as outlined by the OSHA Voluntary Outreach Program. Areas of study include General Safety and Health Provisions, Occupational Health and Environmental Controls (HAZCOM), job site safety, training requirements and an overview of the 1926 Standards (OSHA rules).

Lecture Hours: 16 **Lab Hours:** 32

CON113 Construction Printreading

2 credits—Students examine and study typical working drawings for use in the construction of residential and light commercial projects. Areas of special attention are specifications, plan views, concrete and structural steel construction drawings and details.

Lecture Hours: 16 **Lab Hours:** 32

CON121 Carpentry Fundamentals I

4 credits—The Carpentry Fundamentals Level I course will prepare the diploma level students to take the National Center for Construction Education and Research (NCCER) Level One test. This course will serve as a review and preparation over the Level One Objectives as defined by NCCER.

Lecture Hours: 16 **Lab Hours:** 96

Prerequisite(s): CON102 and CON133

CON124 Construction Estimating I

3 credits—Students learn the fundamental principles of construction estimating. The course stresses the organization of the estimate, the procedure of estimating costs in different divisions of the project and determining the critical quantities of materials obtained from a set of plans.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): CON113 and CON135

CON125 Construction Estimating II

3 credits—This course presents the skills required to organize and prepare an estimate for a construction project. Students examine the procedure and function of a preliminary estimate, the quantity take-off method and the summary sheet, all using the CSI format.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): CON124 and ARC175

CON129 Concrete Lab

2 credits—The Concrete Lab course will provide students with hands-on experience in estimating, ordering, forming, working, and finishing concrete.

Lab Hours: 64

Prerequisite(s): CON130

CON130 Concrete Theory

1 credits—The concrete theory course will provide students with a basic understanding of concrete, and its relationship to residential construction.

Lecture Hours: 16

CON131 Site Layout and Blueprint Reading

1 credits—The Site Layout and Blueprint Reading course will train students to interpret and use site plans and other working drawings. Students will learn how to interpret construction symbols and building specifications. Students will develop site layouts for various projects utilizing lasers, builder's levels, and transits using site plans and other working drawings.

Lecture Hours: 16

CON133 Construction Technology Lab

4 credits—The Construction Technology Laboratory course offers students the opportunity to further develop their skills with hand and power tool operations, and to devote more time to hands-on construction projects while improving their skill competencies.

Lab Hours: 128

CON135 Site Planning

3 credits—Students study procedures for developing site plans for a construction project(s). Students will examine aspects of the development of a job site by considering feasibility studies, zoning requirements, site survey and design, and required permits and other pertinent information. The general outline of the Waterloo and Cedar Falls policies will be used as examples.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): Must be in program major.

CON146 Construction Technology Lab 2

3 credits—The Construction Technology Lab 2 course will provide students with the opportunity to utilize the knowledge gained in previous construction courses with hands-on applications to construction projects. This course will reinforce construction competencies in applied mathematics, site layout, blue print reading, framing, exterior finishing, interior finishing, sustainable design, and building science.

Lab Hours: 96

Prerequisite(s): CON133

CON201 Framing Techniques and Lab I

2 credits—The Framing Techniques and Lab 1 course will introduce students to the methods used to layout wall lines and plates, measure and cut all required parts, and assemble a floor deck, walls, and roof/ceiling framing with an emphasis on air sealing and advanced framing techniques.

Lecture Hours: 16 **Lab Hours:** 32

CON214 Exterior Framing Systems I

3 credits—This course will utilize resource efficient advanced framing methods that stress energy efficiency and sustainable design. The "Whole Systems Approach" to residential design and construction will be teamed with Universal Design principles, Optimum Value

Engineering techniques, the "Building America" program, and the LEED (Leadership in Energy and Environmental Design) program.

Lecture Hours: 16 **Lab Hours:** 64

CON217 Exterior Finishing

3 credits—This course will present the various materials used for residential exterior finishes. Topics will include insulated sheathing, building wraps, drainage planes, shingles, soffits, venting, windows, and exterior doors. Emphasis will be on sustainable construction techniques and building science principles.

Lecture Hours: 16 **Lab Hours:** 64

CON228 Methods of Interior Finishing

3 credits—In the Methods of Interior Finishing course, students will discuss the theory and history of the residential interior system. The lab portion of this course will focus on gypsum wallboard installation, taping, finishing, texturing, and painting. The gypsum wallboard work will be followed by the installation of pre-hung door units, casing, base molding, custom trim, closet finishes, hardware, and cabinetry. Universal Design and a focus on indoor air quality will be stressed. Custom interior finish packages may be included.

Lecture Hours: 16 **Lab Hours:** 64

CON266 Construction Safety

3 credits—This course includes the 30-Hour Construction Outreach Program as outlined by the OSHA Voluntary Outreach Program. Areas of study include General Safety and Health Provisions, Occupational Health and Environmental Controls (HAZCOM), job site safety, training requirements and an overview of the 1926 Standards (OSHA rules), with emphasis on developing, implementing and maintaining a comprehensive safety and health program.

Lecture Hours: 48

CON290 Construction Estimating and Project Management

2 credits—The Construction Estimating and Project Management course will link construction estimating with project management and scheduling.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CON510.

CON302 Building Science I

1 credits—Students will learn building science principles and methods to determine how thermal energy transfer, air infiltration and exfiltration, internal and external air pressures, moisture migration, and durable design strategies apply to today's residential design and construction industry.

Lecture Hours: 16

CON372 Technical Portfolio Design

2 credits—This course provides students with the writing and research skills necessary to compile a personal portfolio documenting their prior education, occupational training and work experiences.

Lecture Hours: 32

Prerequisite(s): Must be in program major.

CON373 Technical Presentations

3 credits—This course highlights essential skills and provides the opportunity for students to develop expertise in both writing for and making technical presentations.

Lecture Hours: 48 **Lab Hours:** 64

Prerequisite(s): Must be in program major.

CON386 Sustainable Design

1 credits—The Sustainable Design Course is an overview of the concepts and strategies involved in sustainable design and construction. The course covers the history of sustainable design, LEED categories, Build It Green, USGBC, NAHB, and local and federal agencies overseeing and mandating green design. Also included are discussions of Green Point Raters, LEED AP, and additional certification opportunities along with market advantages and "Greening your business."

Lecture Hours: 16

CON486 Building Science 2 (Sustainable Design)

1 credits—This course builds upon concepts learned in CON 302 Building Science. Students will focus on applying advanced building science concepts to actual design applications.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in CON302.

CON510 Construction Technology Lab 3

3 credits—The Construction Technology Lab 3 course will provide students with the opportunity to utilize the knowledge they have gained in their previous construction courses with hands-on applications to construction projects. This course will require that students use their knowledge of construction codes and construction documents and computer aided drafting to provide detailed drawings adhering to the International Energy Conservation Code and Universal Design Principles.

Lab Hours: 96

Prerequisite(s): CON146

CON512 Construction Technology Lab 4

3 credits—The Construction Technology Lab 4 course will provide students with the opportunity to utilize the knowledge they have gained in their previous construction, energy, building science, and design courses with hands-on applications to construction projects. This course will require students to use their knowledge of sustainable construction principles; adhering to the International Energy Conservation Code and Universal Design principles.

Lab Hours: 96

Prerequisite(s): CON510

CON933 Employment Training Experience

4 credits—This course provides students with opportunities to gain on-the-job experience in the construction industry. Students will gain an understanding of the qualities and skills

needed to be successful in the construction industry. Coordination and guidance will be provided by Department Instructors.

Lecture Hours: 0 **Co-op Hours:** 256

Prerequisite(s): A minimum grade of C in CON102.

CRJ100 Introduction to Criminal Justice

3 credits—This course examines the day-to-day operation of criminal justice in our society. Emphasis is on the inter-relationships of the components of law enforcement, the courts, corrections, and the juvenile justice system.

Lecture Hours: 48

CRJ120 Introduction to Corrections

3 credits—This course will provide an introductory examination of corrections in the United States. The central theme of the course will be to critically analyze corrections as an integral part of the overall criminal justice system in America.

Lecture Hours: 48

CRJ141 Criminal Investigation

3 credits—This course examines the techniques and procedures used to investigate crimes.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ143 Police Operations (Effective Fall 2016)

3 credits—This course examines the operational aspects of policing to include patrol theories and methods, crime response, operational skills and factors that influence police operations.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ143 Police Operations (Effective Spring 2017)

3 credits—This course examines the operational aspects of policing to include patrol theories and methods, crime response, operational skills and factors that influence police operations.

Lecture Hours: 48

CRJ151 Defensive Tactics (Effective Fall 2016)

2 credits—This course provides instruction on self defense and control techniques necessary for law enforcement. Emphasis is placed on physical fitness, officer safety, criminal and civil liability.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): Must be in program major. A minimum grade of C in CRJ100, CRJ237, CRJ320, and CRJ285.

CRJ151 Defensive Tactics (Effective Spring 2017)

2 credits—This course provides instruction on self defense and control techniques necessary for law enforcement. Emphasis is placed on physical fitness, officer safety, criminal and civil liability.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): Must be in program major. A minimum grade of C in CRJ100.

Pre/Co-requisite(s): A minimum grade of C in CRJ237 and CRJ320.

CRJ200 Criminology

3 credits—This course explores theories of factors that influence criminal behavior, and analyzes criminal behavior in relationship to other social problems.

Lecture Hours: 48

CRJ201 Juvenile Delinquency

3 credits—This course is an investigation of the social and legal definitions of juvenile delinquency and its causes. It also focuses on the administration of juvenile court, probation and parole, and assessment of present and potential prevention programs.

Lecture Hours: 48

CRJ233 Probation, Parole, Community-Based Corrections

3 credits—This course examines probation and parole practices related to community-based corrections programs throughout the United States. Emphasis is placed on community-based programs for offenders, administration and legal issues of the programs, trends in probation, parole and related community-based programs.

Lecture Hours: 48

Prerequisite(s): CRJ100 and CRJ120

CRJ234 Traffic Law (Effective Fall 2016)

2 credits—This course provides in depth examination of the State of Iowa traffic laws, and how traffic code enforcement enhances public safety.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ234 Traffic Law (Effective Spring 2017)

2 credits—This course provides in depth examination of the State of Iowa traffic laws, and how traffic code enforcement enhances public safety.

Lecture Hours: 32

CRJ237 Criminal and Constitutional Law

3 credits—This course will review the historical development of constitutional law, the philosophy of law, and the current impact on law enforcement officials. The judicial process will be examined to better understand the societal and political influences that impact current day constitutional decisions. A review of the current constitutional protections afforded to an individual. The course will also provide an examination of the elements of common offenses and the procedural safeguards in the criminal process.

Lecture Hours: 48

CRJ244 Advanced Accident Investigation

3 credits—This course covers the fundamentals of traffic investigation to include officer response, scene management, measurements, and report preparation.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ252 Basic Firearms (Effective Fall 2016)

1 credits—This course covers the fundamentals of using a firearm with emphasis on safety, care, and proficient use of firearms to law enforcement standards.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ254 Advanced Firearms

1 credits—This course expands skills developed in Basic Firearms, and includes skill and proficiency development with shotgun and patrol rifle.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in CRJ100 or CRJ252.

CRJ266 Report Writing and Testifying

3 credits—Report writing and courtroom testimony skills are essential to detail officer activity and enable effective case prosecution. Report writing chronologically details officer investigative activity, and documents elements of a crime. Effective courtroom testimony is vital to the prosecution and resolution of civil and criminal cases.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in ENG105 and CRJ100.

CRJ282 Crime Scene Investigation

3 credits—This course involves the study of techniques and procedures used to investigate various crimes and crime scenes. The student will gain fundamental skills in photography, evidence preservation, collection, and processing; and scene measurement and documentation.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ285 Physical Conditioning for Public Services

2 credits—This course prepares public safety personnel for the physical demands of public safety entrance testing and work demands.

Lecture Hours: 16 **Lab Hours:** 32

CRJ315 Crisis Intervention

3 credits—This course uses a criminal justice perspective to examine the methods and techniques of crisis intervention, causative factors, typologies of those involved, and psycho-social factors of crisis situations. A certificate in Mental Health First Aid is included.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in CRJ100 and CRJ237.

CRJ316 Juvenile Justice

3 credits—This course examines the juvenile justice system from a practitioner perspective. It provides operational knowledge of how law enforcement, the courts, and correctional facilities navigate the juvenile offender.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ317 White Collar Crime

3 credits—This course examines white collar crime as a social and criminal justice problem, the costs to society, explanations for behavior, and investigative techniques.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in CRJ100 and CRJ237.

CRJ318 Crime Analysis

3 credits—This course enables the student to use intelligence and analytic data to identify and inform tactical, strategic, and administrative crime analysis functions.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in CRJ100.

CRJ320 Criminal Justice Ethics

3 credits—An examination of ethical issues in the criminal justice system with an emphasis on reasoning and decision making for professional competence.

Lecture Hours: 48

CRJ322 Tactical Police Operations

2 credits—This course challenges student skills and decision making within scenario based learning activities.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CRJ151, CRJ254, and EMS114.

CRJ924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

CRJ928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course.

May be taken for up to 3 credits.

Lecture Hours: 16

CRJ952 Internship

2 credits—This course requires 128 hours of supervised placement with a law enforcement agency. Course eligibility requires criminal background check. Placement dependent on agency assessment of student fitness to meet hiring requirements. Instructor consent required.

Co-op Hours: 128

Prerequisite(s): Must be in program major. A minimum grade of C in CRJ100, CRJ135, CRJ143, CRJ234, CRJ237, CRJ244, CRJ282, EMS114, and CRJ151.

CRJ955 Field Observation

3 credits—Student field experience in an appropriate correctional agency. Enrollment is restricted to second year students who have a minimum 2.00 CGPA and have successfully completed advisor approved courses. Placement based on approval of faculty advisor and host agency.

Lecture Hours: 16 **Co-op Hours:** 128

Prerequisite(s): CRJ110 or CRJ120

CRR306 Introduction to Collision Repair

6 credits—In this course students receive training on the proper handling of hazardous waste and EPA issues together with technical information about specific auto body safety and health situations. Specific training is provided in tools/equipment usage, parts assembly, filler application, and straightening techniques. Students will also receive training in autobody welding.

Lecture Hours: 48 **Lab Hours:** 96

CRR331 Basic Collision Procedures

6 credits—This course covers specific collision tool and equipment usage, panel repair and alignment, sheet metal pulling and stress relieving, mobile glass servicing, trim removal and replacement, and basic collision repair techniques. Performance tasks will require students to work in actual production style situations. Projects will include straightening collision damage and filler application, utilizing corrosion resistant undercoat/primer.

Lecture Hours: 48 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in CRR306.

CRR510 Collision Production Technology

7 credits—In this course, students will receive information and training in common collision repair procedures performed by production collision centers. Specific training is provided in straightening procedures for light and heavy collision damage, specialized tools and equipment, and air conditioning systems relating to collision damage.

Lecture Hours: 64 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in CRR331.

CRR657 Advanced Collision Repair

7 credits—In this course, students will receive hands on experience involving high production practices used by industry collision repair technicians. Students will receive training in collision related suspension and steering systems. Additional training will be received in drive train repairs, wheel alignment, brakes, and other vehicle collision related repairs, tools, and equipment.

Lecture Hours: 64 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in CRR510.

CRR740 Estimating I

3 credits—This course provides instructional experience in collision handwritten estimating.

Lecture Hours: 32

Prerequisite(s): A minimum grade of D- in CRR836 and CRR331.

CRR750 Estimating II

3 credits—Introduce students to various aspects of computerized estimating software while reinforcing repair procedures.

Lecture Hours: 32

Prerequisite(s): A minimum grade of D- in CRR740.

CRR806 Introduction to Refinishing

6 credits—Students receive training in use of sanding abrasives, refinishing products, tools and equipment, masking procedures, corrosion protection, and paint preparations. A thorough understanding of personal health and safety issues is also obtained.

Lecture Hours: 48 **Lab Hours:** 96

CRR836 Refinishing II

6 credits—Fundamentals of spraying automotive paints are provided in this course together with the uses and application of various types of top coat systems and color mixing/matching using computers.

Lecture Hours: 48 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in CRR806.

CRR877 Refinishing Applications

7 credits—This course provides training in paint repair procedures used to match and blend partial or full panel refinish repairs. Students will be exposed to various procedures used in refinishing systems. Students will also receive training in basic electrical fundamentals and basic air bag systems as they apply to collision and refinishing repairs.

Lecture Hours: 64 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in CRR836.

CRR881 Refinishing Production Technology

7 credits—In this course, students will receive hands on experience involving high production practices used by industry technicians. Students will be exposed to time management performance tasks involved in numerous areas of refinishing. Skill levels will be enhanced for various refinish tasks such as paint preparation, masking procedures, blending, and overall refinishing.

Lecture Hours: 64 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in CRR877.

CSC110 Introduction to Computers

3 credits—An introductory course in electronic information processing and information system management designed to provide the students with a general understanding of computer hardware and software and the facility to use this knowledge in the creation and management of useful information. Students will be given hands-on experience with operating system, word processing, database management, presentation and spreadsheet software. Exposure to and use of the Internet, including security and privacy concerns, is an integral part of the course. Basic computer literacy is expected for students entering this course.

Lecture Hours: 48

Prerequisite(s): The ability to enter data using a computer keyboard at a rate of no less than 15 words per minute on a three-minute timing. A minimum grade of C in RDG039.

CSC945 Special Topics in Computer Science

5 credits—This course is for students who are interested in developing the professional and technical skills and knowledge required to forge forward in exploring all areas of computer science. Students use technical knowledge to create solutions to world problems. The class will include a broad introduction to computer science career opportunities, with a focus on college and career readiness and employability skills. Students will explore a vast array of specialty areas available in technology careers where professionals utilize technology to solve business problems and design products. Examples may include software engineering, web development, network design/technologies, management information systems and emerging technologies. All students will have hands-on, active learning opportunities with a full immersion in real-world projects developed by local business partners.

Lecture Hours: 32 **Co-op Hours:** 192

DEA103 Orientation to Dental Assisting

2 credits—This course introduces students to dentistry, certification, dental terminology, and legal and ethical aspects of dental practice. Concepts and procedures of preventive dentistry and oral health education are also included.

Lecture Hours: 32

DEA258 Dental Anatomy

4 credits—This course presents oral and dental structures, head and neck anatomy, oral embryology and histology, and the relationship of oral and dental anatomy to dental procedures and treatment. Also included is a study of basic microbiology, disease transmission and the relationship of disease processes.

Lecture Hours: 48 **Lab Hours:** 32

DEA263 Dental Science II

2 credits—This course provides students with basic understanding of biomedical and dental sciences including: Oral pathology and disease processes, pharmacology and therapeutics, emergency treatment, oral hygiene, and nutrition and dietary considerations for dental patients.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in BIO158, BIO160, and DEA103.

DEA302 Dental Radiography

3 credits—This course covers the principles, properties, techniques and protective procedures involved with exposure of dental radiographs. Primary emphasis is on the development of skill proficiency in techniques of intraoral and extraoral dental radiography.

Lecture Hours: 32 **Lab Hours:** 32

DEA412 Dental Materials I

3 credits—This course provides information related to various dental materials, their composition, classification, manipulation, preparation and usage. Emphasis is given to materials commonly used in the practice of general dentistry.

Lecture Hours: 32 **Lab Hours:** 32

DEA417 Dental Materials II

2 credits—This course is a study of restorative materials; specifically gold, porcelain, denture resin, and other metals and their usage in dentistry. Additional laboratory procedures commonly performed in dental offices are also included.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in DEA412.

DEA513 Chairside Assisting I

4 credits—This course is a study of basic operative and chairside assisting procedures; dental equipment, its function and maintenance; dental armamentarium, instrumentation, procedural tray setups, charting, development of clinical records, and patient screening procedures.

Lecture Hours: 32 **Lab Hours:** 64

DEA514 Chairside Assisting II

2 credits—This course presents instruction in additional chairside assisting procedures including intraoral functions that are legally delegable to dental assistants in Iowa. All procedures are taught to the level of laboratory competence, and some procedures are taught to clinical competency levels. A study of patient behavior and considerations for special patients is also included.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in DEA513.

DEA556 Assisting Clinic I

4 credits—This course provides students with selected clinical experiences in those basic chairside dental assisting procedures commonly performed in a general dental office. Facilities used will be primarily the school dental clinic and private dental offices. Students will assist dentists in accomplishing necessary dental procedures for patients while

rotating through the clinical areas to obtain maximum clinical exposures and experiences. All clinical procedures are performed with supervision of participating dentists and instructors.

Lecture Hours: 0 **Lab Hours:** 0 **Clinic Hours:** 192

Prerequisite(s): A minimum grade of C in all Dental Assisting first semester courses and/or departmental approval. Current CPR and Health Sciences department Exposure Control program, OSHA training, and HIPAA training.

DEA578 Dental Assisting Clinic II

5 credits—Application of knowledge and skill as students rotate through dental offices. General and specialty practices are included in rotations.

Lecture Hours: 0 **Co-op Hours:** 320

Co-requisite(s): DEA591

DEA591 Dental Assisting Seminar

1 credits—Discussion and problem-solving from clinical practice. Provides an awareness of types of office situations and discussion of clinical aspects of dental assisting and dentistry. Oral reports and weekly evaluations are required.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in DEA263, DEA417, DEA514, DEA556, DEA603, and DEA702.

Co-requisite(s): DEA578

DEA603 Dental Specialties (Effective Fall 2016)

2 credits—This course provides students with knowledge and understanding of dental procedures in the specialties of Endodontics, Oral Surgery, Prosthodontics, Pediatric Dentistry, Orthodontics and Periodontics. Students are introduced to assisting responsibilities, instrumentation, and procedures of each of these specialties. Dental Public Health and Oral Pathology, as dental specialties, will also be included.

Lecture Hours: 32

DEA603 Dental Specialties (Effective Spring 2017)

2 credits—This course provides students with knowledge and understanding of dental procedures in the specialties of Endodontics, Oral Surgery, Prosthodontics, Pediatric Dentistry, Orthodontics and Periodontics. Students are introduced to assisting responsibilities, instrumentation, and procedures of each of these specialties. Dental Public Health and Oral Pathology, as dental specialties, will also be included.

Lecture Hours: 16 **Lab Hours:** 32

DEA702 Dental Office Procedures

2 credits—This course is a study of basic responsibilities of dental office receptionists. Procedures included in the course are: management of patient records, filing, completion of insurance claim forms, basic bookkeeping, banking, appointment control, recall management, inventory control, credit and collection, and employer records management. Instruction is provided in computer applications relating to these office management procedures. Also included in this course is a study of office design and office management concepts.

Lecture Hours: 32

DHY115 Head and Neck Anatomy for Dental Hygiene

2 credits—This course familiarizes the student with the anatomy of the head and neck, oral structures. Knowledge of the anatomy of the head and neck and oral structures is an essential prerequisite of such courses as clinical dental hygiene.

Lecture Hours: 32

Prerequisite(s): Admission to Dental Hygiene program.

DHY116 Tooth Morphology

1 credits—This course will teach the anatomy and structure of each individual tooth crown and root. Permanent and primary dentitions will be studied with emphasis on identification, numbering systems, function, and application of instrumentation skills to each tooth surface.

Lecture Hours: 16

Prerequisite(s): Must be in program major.

DHY121 Oral Histology and Embryology

2 credits—This course presents the anatomy of the tooth and its surrounding tissues on a microscopic level. The formation of the face before birth is studied and is followed by an examination of each part of the tooth and its surrounding structures during formation, eruption and function of both the primary and permanent dentitions.

Lecture Hours: 32

Prerequisite(s): Admission to Dental Hygiene program.

DHY131 Pharmacology

2 credits—This course will provide the student with an academic background in the area of pharmacology with relation to the drugs used in the dental practice. The metric system, terminology, drugs and their specific reactions will be presented.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in BIO173 and CHM132.

DHY141 General and Oral Pathology

3 credits—This lecture course addresses concepts of both General and Oral Pathology. General Pathology content provides information regarding human disease and reviews major diseases of the human body, discussed by system. Oral Pathology content emphasizes pathological conditions of the head, neck and oral structures and relates this information to the Dental Hygiene Model

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in DHY121.

Pre/Co-requisite(s): A minimum grade of C in BIO173.

DHY162 Oral Radiology

2 credits—Oral Radiology teaches the basic techniques of exposure of common types of dental radiographs, film processing procedures, setup and care of the darkroom, science

of the x-ray beam, and operation of standard and panoramic x-ray equipment. Lifelike manikins for student practice are utilized, and emphasis is placed on radiation safety procedures for both patient and operator.

Lecture Hours: 16

Prerequisite(s): Admission to the Dental Hygiene program.

DHY175 Fundamentals of Clinical Dental Hygiene

6 credits—This course serves as a foundation to Clinical Dental Hygiene II, III, and IV. The student will learn the skills of dental hygiene practice and client management through simulated clinical situations as well as in lecture/discussion sessions.

Lecture Hours: 48

Prerequisite(s): Admission to the Dental Hygiene program.

DHY187 Clinical Dental Hygiene II

3 credits—This course is the first of three in a sequence that provides clinical experience. The student applies the Dental Hygiene Process of Care while working with actual clinic clients. The emphasis of this course is to achieve competency in basic assessment and preventative dental hygiene treatment skills.

Clinic Hours: 144

Prerequisite(s): A minimum grade of C in DHY175 and DHY162.

Pre/Co-requisite(s): DHY188

DHY188 Clinical Dental Hygiene II Seminar

1 credits—Dental Hygiene Practicum II complements Clinical Dental Hygiene II by supplying the theory behind the Dental Hygiene Process of Care. This course also introduces the theory behind basic procedures needed to provide comprehensive dental hygiene care.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in DHY175 and DHY162.

Pre/Co-requisite(s): DHY187

DHY210 Introduction To Periodontology

1 credits—This course will provide first year students the basic concepts and fundamentals of periodontal health and disease. The student will be able to relate this knowledge to the clinical setting.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in DHY121.

Pre/Co-requisite(s): DHY141

DHY211 Periodontology

2 credits—An in-depth study of the healthy and diseased periodontium is covered in this course. The student will be able to relate this knowledge to the clinical setting.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in DHY141 and DHY210.

DHY222 Biomaterials for the Dental Hygienist

3 credits—This course introduces the dental hygiene student to the materials commonly employed in the practice of dentistry and, in particular, to those materials utilized by the dental hygienist. Through lecture sessions, the makeup and properties of the various materials such as plaster and stone, impression material, amalgam and cements are presented, as well as their relationship to one another. Through laboratory experience, the student learns techniques in preparation, mixing, handling and storage of these materials.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CHM122.

Co-requisite(s): A minimum grade of C in CHM132.

DHY240 Ethics and Jurisprudence

1 credits—This course presents background on the theory, philosophy and ethics for dental hygiene and the profession. Legal aspects of practice are presented as well as aspects of entry into practice and job seeking skills.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in DHY175.

DHY254 Community Oral Health I

2 credits—The purpose of this course is to provide the student with a background in the development and functions of federal, state and local health systems, and to prepare the student to participate in community health activities.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in DHY188 and SOC110.

DHY259 Community Oral Health Service Learning Experience

1 credits—This course is designed to provide the students with experience developing and evaluating community oral health programs.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in DHY254.

DHY262 Special Needs Patient Education

1 credits—This course provides basic concepts of learning for behavioral change and the care of patients with special needs.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in DHY175.

DHY271 Pain Control

2 credits—This course provides the knowledge and skills necessary for the student to perform pain control techniques competently. The course will discuss both the content

needed to perform local anesthesia and to perform nitrous oxide/oxygen administration and monitoring.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in DHY113 and DHY185.

Co-requisite(s): A minimum grade of C in DHY131.

DHY272 Interdisciplinary Health Care

2 credits—This course will use specialists in the varied health fields to make the student aware of the interrelationships between these specialties and dental hygiene. Additionally, the course promotes an understanding of the potential dental hygiene practice settings through observations made in rotation in the community.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in DHY254 and DHY297.

DHY297 Clinical Dental Hygiene III

4 credits—This course enables the students to provide comprehensive dental hygiene care to meet the total oral health needs of each client, including referrals for treatment. Students will progressively increase their clinical abilities toward levels of proficiency required for entry level as measured by fulfillment of the clinic competencies for the semester.

Clinic Hours: 192

Prerequisite(s): A minimum grade of C in DHY187 and DHY188.

Co-requisite(s): DHY211 and DHY298

DHY298 Clinical Dental Hygiene III Seminar

2 credits—This course will: Introduce adjunctive dental hygiene procedures/techniques and disease control theory along with research methodology. The course also expands on instrumentation techniques, case-based problem solving and radiographic interpretation.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in DHY187 and DHY188.

Co-requisite(s): DHY271 and DHY297

DHY307 Clinical Dental Hygiene IV

4 credits—This course is the final preparation for the students in clinical practice. When the course is completed, the student will have the proficiency and skill to maintain the ideals of the dental hygiene profession.

Clinic Hours: 192

Prerequisite(s): A minimum grade of C in DHY271, and DHY197, and DHY298.

DHY308 Clinical Dental Hygiene Seminar IV

1 credits—This course will incorporate dental hygiene care with critical thinking and case studies for the students as they prepare for dental hygiene licensure.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in DHY271, and DHY197, and DHY298.

Co-requisite(s): DHY307

DHY901 Independent Study Clinical Dental Hygiene

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course

May be taken for up to 3 credits.

Lab Hours: 32

DHY924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

DHY928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course

May be taken for up to 5 credits.

Lecture Hours: 16

DRA107 Theatrical Arts and Society

3 credits—This course introduces students to a literary appreciation of drama throughout history. Emphasis will be on reading, discussing, and evaluating various plays representative of their era and genre along with discussion of live theatre, film and television performances and how these kinds of dramatic narratives interrelate with societies of the past and present.

Lecture Hours: 48

DRA110 Introduction to Film

3 credits—This course introduces students to the various language systems of film, including film-making techniques, creators, genres, narratives, ideology, and film theory/criticism. Students will explore the cultural importance of cinema as art by analyzing selected movies and clips which demonstrate artistic excellence.

Lecture Hours: 48

DRA130 Acting I

3 credits—This course introduces the basic acting techniques with emphasis on concentration, movement, voice, and play analysis. Through monologue and scene work, as well as exercises, students will experience the acting process.

Lecture Hours: 48

DRF110 Introduction to Technical Drafting

2 credits—This course introduces the student to the drafting environment and includes basic knowledge and fundamental skills of manual drafting. Special emphasis is placed on reproducible line quality, lettering, geometric constructions and layout techniques.

Lecture Hours: 16 **Lab Hours:** 32

DSL312 Fundamentals of Diesel Engines, Transmissions, and Differentials

12 credits—Students are introduced to diesel engine application, design, construction, theory and operating principles of diesel engines, transmissions and differentials. This course also covers diagnosis, disassembly, and assembly of diesel engines, transmission and differentials.

Lecture Hours: 80 **Lab Hours:** 224

DSL377 Diesel Engine Rebuild (Effective Fall 2016)

7 credits—Students are introduced to diesel engine application, design, construction, theory, and operating principles. This course also covers diagnosis, disassembly, and assembly of diesel engines.

Lecture Hours: 80 **Lab Hours:** 96

DSL377 Diesel Engine Rebuild (Effective Spring 2017)

7 credits—Students are introduced to diesel engine application, design, construction, theory, and operating principles. This course also covers diagnosis, disassembly, and assembly of diesel engines.

Lecture Hours: 48 **Lab Hours:** 128

DSL447 Diesel Fuel Systems (Effective Fall 2016)

7 credits—This course focuses on diagnosis, theory and repair of mechanical and electronic fuel systems used in transportation, agriculture, and construction equipment.

Lecture Hours: 80 **Lab Hours:** 96

DSL447 Diesel Fuel Systems (Effective Spring 2017)

7 credits—This course focuses on diagnosis, theory and repair of mechanical and electronic fuel systems used in transportation, agriculture, and construction equipment.

Lecture Hours: 48 **Lab Hours:** 128

DSL807 Diesel Truck Equipment Repair (Effective Fall 2016)

7 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects. Also included is theory and operation, diagnosis, and repair of heating and air conditioning systems. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 80 **Lab Hours:** 96

Prerequisite(s): AGM107, AGM113, AGM104, DSL447, DSL377, AGM327, AGM333, and AGM224.

DSL807 Diesel Truck Equipment Repair (Effective Spring 2017)

7 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects. Also included is theory and operation, diagnosis, and repair of heating and air conditioning systems. Instruction will also cover use of computers for maintenance scheduling.

Lecture Hours: 48 **Lab Hours:** 128

Prerequisite(s): A minimum grade of D- in AGM107, AGM113, AGM104, DSL447, DSL377, AGM327, AGM333, and AGM224.

ECE103 Introduction to Early Childhood Education

3 credits—Gives students a historical and philosophical foundation of the field of early childhood education. Includes an overview of assessment and trends that influence best practices. Explores careers in the field. Addresses influences of families and diversity.

Lecture Hours: 48

ECE120 Communication with Families

2 credits—This course is designed to give students a basic understanding of good working relationships with educators, families and community resources. The value of this relationship to all parties involved is examined.

Lecture Hours: 32

ECE122 Parenting Relationships

2 credits—An introduction to the general subject matter of family relations. Students will study family systems and parenting in a changing society.

Lecture Hours: 32

ECE125 School Age Care

2 credits—This course focuses on the unique care necessary for school-age children. Criteria for organizing a positive physical environment coupled with state licensing regulations, center policies, and interactions with families are examined. Students will look at the needs of school-age children and explore methods of addressing these needs in a group care setting.

Lecture Hours: 32

ECE133 Child Health, Safety, and Nutrition

3 credits—Focuses on current concepts in the fields of health, safety and nutrition and their relationship to the growth and development of the young child ages birth to eight. Blends current theory with practical applications and assessments. Includes the influences of families and diversity on health, safety, and nutrition in early childhood settings.

Lecture Hours: 48

ECE158 Early Childhood Curriculum I

3 credits—Focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students prepare to utilize developmentally appropriate practices in a context of family and culturally sensitive care. Emphasis is on understanding children's development stages and developing appropriate learning opportunities, interactions and environments in the following areas: dramatic play, art, music, fine and gross motor play.

Lecture Hours: 48

ECE159 Early Childhood Curriculum II

3 credits—Focuses on the development, implementation and assessment of appropriate environments and curricula for young children ages three through eight. Students prepare to utilize developmentally appropriate practices in a context of family and culturally sensitive care. Emphasis is on understanding children's development stages and developing appropriate learning opportunities, interactions and environments in the following areas: emergent literacy, math, science, technology and social studies.

Lecture Hours: 48

ECE170 Child Growth and Development

3 credits—Reviews typical and atypical development of children from conception to adolescence in all developmental domains. Presents interactions between child, family and society within a variety of community and cultural contexts. Examines theories associated with our understanding of children.

Lecture Hours: 48

ECE221 Infant/Toddler Care and Education

3 credits—Focuses on care, education, and assessment of children from birth to thirty-six months. Prepares students to utilize developmentally appropriate practices including responsive caregiving, routines as curriculum, importance of relationships with diverse families, and a focus on the whole child in inclusive settings.

Lecture Hours: 48

ECE243 Early Childhood Guidance

3 credits—Focuses on effective approaches and positive guidance strategies for supporting the development of all children. Emphasizes supportive interactions and developmentally appropriate environments. Uses assessment to analyze and guide behaviors. Studies impact of families and diversity on child guidance.

Lecture Hours: 48

ECE250 Advanced Curriculum Planning

3 credits—This course acquaints students with center environment planning and evaluation. It addresses the role of the teacher as well as program evaluation for early childhood centers. Students also look at community resources for expanding the center environment.

Lecture Hours: 48

Prerequisite(s): EDE158 and ECE159

ECE260 Current Topics and Issues in Child Care

2 credits—National, state and local topics and issues impacting childcare are examined.

Lecture Hours: 32

ECE274 Field Experience I

2 credits—Supervised experience in selected early childhood settings serving children ages birth through eight. Includes integration of theory, research, and reflective practice. Provides an understanding of developmentally appropriate practices and the

developmental stages of diverse populations of young children and families. Emphasizes professional relationships and behavior, appropriate adult/child interactions, basic curriculum planning, and program routines.

Lecture Hours: 0 **Co-op Hours:** 128

Prerequisite(s): ECE221

Co-requisite(s): ECE994

Pre/Co-requisite(s): ECE158, ECE159, ECE170, and ECE243

ECE284 Field Experience II

2 credits—The field experience provides on-the-job training, practical application of knowledge gained in the classroom, documenting observations of children, and an opportunity to participate with a child care team involved with children ages 3 through 5.

Co-op Hours: 128

Prerequisite(s): A minimum grade of D in ECE274 and ECE944.

Co-requisite(s): ECE945

ECE290 Early Childhood Program Administration

3 credits—Skills in planning, implementing, and evaluating programming are introduced. Staff supervision and evaluation, in-service training and orientation, and harmonious working relationships, are other topics included in this course.

Lecture Hours: 48

Prerequisite(s): ECE158 and ECE159

ECE298 Child Development Career Strategies

2 credits—Child Development Career Strategies prepares students for becoming an employee and employer in child care settings. It includes the strategies involved in seeking and securing a position in child care, along with recruiting and employing a child care worker. Included for the job seeker will be an introduction to the job search process, including resume writing, developing cover letters and the interview process. Included for the employer will be recruitment procedures, laws governing the hiring of child care employees, screening of applicants and conducting and evaluating interviews.

Enrollment limited to Early Childhood Education students.

Lecture Hours: 32

ECE924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

ECE944 Field Experience Seminar I

1 credits—Field Experience Seminar 1 provides support for the systemic refinement of skills necessary for a successful experience in the field. Professional relationships and

behaviors, appropriate adult/child interactions, curriculum planning, and experiences in the field will be emphasized.

Lecture Hours: 16

Co-requisite(s): ECE274

ECE945 Field Experience Seminar II

1 credits—Field Experience II Seminar provides support for the systematic refinement of the skills necessary for a successful Field Experience II experience through receiving feedback on assignments and engaging in discussions of relevant topics with instructors and peers.

Lecture Hours: 16

Co-requisite(s): ECE284

ECN110 Introduction to Economics

3 credits—This is a one-semester survey course covering basic economic issues and applications. The course includes such topics as supply, demand, pricing and production decisions by firms, consumer decision making, national income and output determination, unemployment and inflation, Classical and Keynesian theories, money and banking, and fiscal and monetary policies. International issues will also be discussed. (No credit given if credit earned in ECN120 or ECN130.)

Lecture Hours: 48

ECN120 Principles of Macroeconomics

3 credits—Principles of supply and demand and the price mechanism will be presented. Descriptions and interactions of the consumer, business, government, and international sectors will be studied as well as their effects on output, employment, and growth in the economy. The course includes a study of the banking system and monetary policy, fiscal policy, economic growth, differing macroeconomic viewpoints, and international issues.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in MAT063 or appropriate math placement score.

ECN130 Principles of Microeconomics

3 credits—Principles of supply and demand, elasticity, and pricing will be studied. The course includes such topics as resource allocation of firms, pricing and output decisions in different market structures, and consumer choice theory. International issues and the world economy will be integrated into the course.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in MAT063 or appropriate math placement score.

EDU214 Exploring PK-12 Education

2 credits—This course is designed to give students the opportunity to gain insight into the teaching profession and examine what it means to be a PK-12 teacher. Students will critically evaluate teaching as their chosen or possible profession. An overview of the skills and knowledge they will need to be successful professionals will be investigated. Current and future trends in public education will be examined.

Lecture Hours: 32

EDU216 Introduction to Teaching

3 credits—The course Introduction to Teaching: The Teaching Profession is designed to help students become aware of the foundations of teaching, understand the realities of teaching, and gain insight into the process of teaching. It is provided for students who may be undecided about teaching. The course will investigate the tools and information necessary to make a rational and thoughtful choice about pursuing the teaching profession.

Lecture Hours: 48

EDU223 Multicultural Education

3 credits—This course introduces conceptual, theoretical, and philosophical issues in Multicultural Education (MCE). Students learn instructional strategies for making their future multicultural classrooms into effective learning communities that are collaborative, inclusive, developmentally appropriate, and globally oriented.

Lecture Hours: 48

EDU235 Children's Literature

3 credits—The course is designed to present the dynamics of children's literature. It promotes the selection and evaluation of literature for children as well as how to engage young readers in a variety of literary genres. The course will emphasize literature as a key element of the reading curriculum, grades Preschool-8 and beyond. The course will be relevant to those interested in education and literacy.

Lecture Hours: 48

EDU240 Educational Psychology

3 credits—The study of learning as it relates to cognitive, affective, and psychomotor processes; personal, social and moral development; abilities and exceptionalities and motivation, measurement and classroom management.

Lecture Hours: 48

Prerequisite(s): PSY111 and PSY121

Co-requisite(s): EDU920

EDU246 Including Diverse Learners

3 credits—Students are introduced to the issues and practices regarding the inclusion of diverse student populations in general education settings. The needs of all students including general education, special education, and gifted will be emphasized. Strategies for adapting curriculum and the classroom will be examined. Support services that are available to teachers and students will be explored.

Lecture Hours: 48

EDU255 Technology in the Classroom

3 credits—This is a basic course in the planning and practical use of technology resources to enhance and extend the learning process in the face to face classroom, hybrid and online learning. Students will be exposed to various ways of thinking about educational media and its applications in the classroom. The course is designed to provide the student with experiences that will enable them to select, arrange, utilize, and produce a variety of resources to enhance student learning through their creation of a Thematic Unit.

Lecture Hours: 48

Prerequisite(s): EDU240 or EDU235

EDU800 Exploring Math and Science Teaching

1 credits—Exploring Math and Science Teaching gives the student a chance to hear from effective, successful teachers of math and science on a weekly basis. With assistance from a cooperating K-12 teacher, the student will experience an opportunity to conduct a lesson in an authentic math or science classroom in elementary settings. This class provides an opportunity to sample the world of teaching math or science. Tuition for this one credit course is refunded upon successful completion of the class through the Iowa Math And Science Education Partnership.

Lab Hours: 32

EDU901 Academic Service Learning Experience

1 credits—Students in this course develop and/or implement service learning projects to help the college's community including the surrounding local community under the supervision of college faculty and in cooperation with the staff of community organizations and agencies.

Lab Hours: 32

EDU920 Field Experience

1 credits—This course provides an observation and participation experience to explore duties, roles and responsibilities of teachers to the school community. This takes place in area schools under the direction and guidance of classroom teachers.

Lab Hours: 32

EDU924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

EGR410 PLTW - Principles of Engineering

3 credits—This course explores technology systems and manufacturing processes using the methodology of project-based engineering problem solving. Learning activities explore a variety of engineering disciplines and address the social and political consequences of technological change.

Lecture Hours: 16 **Lab Hours:** 64

EGR450 PLTW - Computer Integrated Manufacturing

3 credits—This course enhances computer modeling skills by applying principles of robotics and manufacturing automation to the creation of models of three-dimensional designs.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): EGR400

EGR945 Special Topics in Engineering

5 credits—This course is for students who are interested in a combination of rigorous science and engineering fundamentals, entrepreneurship, and innovation. Students use technical knowledge to create solutions to world problems. The class will include a broad introduction to industry-based engineering, with a focus on college and career readiness and employability skills. Students will also learn the essential components of Engineering including design processes. All students will have hands-on, active learning opportunities with a full immersion in real-world projects developed in conjunction with local business partners.

Lecture Hours: 32 **Co-op Hours:** 192

EGT108 Principles of Engineering

3 credits—This course explores technology systems and manufacturing processes using the methodology of project-based engineering problem solving. Learning activities explore a variety of engineering disciplines and address the social and political consequences of technological change.

Lecture Hours: 16 **Lab Hours:** 64

EGT140 Fluid Power

2 credits—This is a course of study in the basic fluid power principles and components of fluid power systems.

Lecture Hours: 16 **Lab Hours:** 32

EGT144 Fluid Power Applications

2 credits—This course is a continuation study of fluid power systems and applications with particular emphasis on troubleshooting and performance evaluations.

Lecture Hours: 16 **Lab Hours:** 32

EGT149 Fluid Power Systems II

3 credits—This is a continued study of fluid power components, their operations, and functions in circuit application, as well as graphic circuit print reading.

Lecture Hours: 16 **Lab Hours:** 64

Pre/Co-requisite(s): EGT140

EGT152 Advanced Fluid Power and Servo Systems

2 credits—This course will teach the principles of electrohydraulic servo systems and how these systems are applied, installed, operated, and maintained in the field. Servo systems, transducers, valve characteristics, control and performance will be covered.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): EGT149 and EGT144

EGT243 Statics and Strength of Materials

3 credits—Statics deals with forces on structural members at rest. Topics include vector and scalar quantities, resultants of coplanar force systems, free-body diagrams, equations of equilibrium, equilibrium in force systems. Strength of materials deals with centroids and moments of inertia, the relationship between stress and strain; shear, moments and deflections in beams; columns; and welded and bolted connections.

Lecture Hours: 16 **Lab Hours:** 64

Pre/Co-requisite(s): A minimum grade of D- in PHY162 or PHY183.

EGT400 PLTW - Introduction to Engineering Design

3 credits—This course uses a design development process while enriching technical and engineering problem-solving skills; students create and analyze models using specialized computer software (AutoCAD Inventor)

Lecture Hours: 16 **Lab Hours:** 64

EGT410 PLTW - Principles of Engineering

3 credits—This course explores technology systems and manufacturing processes using the methodology of project-based engineering problem solving. Learning activities explore a variety of engineering disciplines and address the social and political consequences of technological change.

Lecture Hours: 16 **Lab Hours:** 64

EGT420 PLTW - Digital Electronics

3 credits—This course teaches applied logic through work with electronic circuitry, which students also construct and test for functionality.

Lecture Hours: 16 **Lab Hours:** 64

EGT450 PLTW - Computer Integrated Manufacturing (Effective Fall 2016)

3 credits—This course enhances computer modeling skills by applying principles of robotics and manufacturing automation to the creation of models of three-dimensional designs.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): EGT400

EGT450 PLTW - Computer Integrated Manufacturing (Effective Spring 2017)

3 credits—This course enhances computer modeling skills by applying principles of robotics and manufacturing automation to the creation of models of three-dimensional designs.

Lecture Hours: 16 **Lab Hours:** 64

EGT460 PLTW - Civil Engineering and Architecture

3 credits—This course introduces students to the interdependent fields of civil engineering and architecture; students learn project planning, site planning, and building design using specialized computer software (AutoDesk Revit).

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): EGT460

EGT470 PLTW - Engineering Design and Development (Effective Fall 2016)

3 credits—This course is a research course that requires students to formulate the solution to an open-ended engineering question. With a community mentor and skills

gained in their previous courses, students create written reports on their applications, defend the reports, and submit them to a panel of outside reviewers.

Lecture Hours: 16 **Lab Hours:** 64 **Clinic Hours:**

Prerequisite(s): EGT410, EGT420, EGT450, or EGT460

Pre/Co-requisite(s): EGT400

EGT470 PLTW - Engineering Design and Development (Effective Spring 2017)

3 credits—This course is a research course that requires students to formulate the solution to an open-ended engineering question. With a community mentor and skills gained in their previous courses, students create written reports on their applications, defend the reports, and submit them to a panel of outside reviewers.

Lecture Hours: 16 **Lab Hours:** 64

ELE194 Power Generators and Transformers

2 credits—The Power Generators and Transformers course will provide students with a working knowledge of how generators and transformers function. Training will cover the safety aspects of high voltage/power generators and transformers as they connect to the utility grids.

Lecture Hours: 16 **Lab Hours:** 32

ELE218 Motion Control

2 credits—This course is an introduction to electronic motion control system components and programming of a motion control system through a PLC.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in ELT139.

ELT104 Electronics Drafting

3 credits—An introduction to drafting fundamentals including: two-dimensional, orthographic, and sectional. Auxiliary and pictorial; electronic symbols, devices, circuitry and systems, using CAD.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in EGT108 or EGT140.

ELT120 Schematics for Electromechanical Techs

3 credits—This course is to train factory electricians and mechanics to read most under-roof factory schematics in the food, manufacturing, warehousing, and energy production industries.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in ELT139, EGT140, ELT215, and ELT234, or instructor approval.

ELT133 Electric Motor Drives

2 credits—This course is an introduction to the fundamental principles of electronic motor drive technologies. Topics to be presented will include servo-motor theory, encoders, tachometers, electronic and mechanical brakes/clutches, and closed-loop systems. Specific drives to be studied will include DC servo, AC variable-frequency, and AC servo.

Lecture Hours: 16 Lab Hours: 32

ELT139 Electrical Systems

3 credits—Students will gain knowledge and hands-on experience in DC and AC circuits and principles, electrical measurement instruments, electrical safety, conductor sizes and types, wiring applications, wiring techniques, and troubleshooting.

Lecture Hours: 16 Lab Hours: 64

Pre/Co-requisite(s): MAT772

ELT156 Industrial Electronics (Effective Fall 2016)

5 credits—This course covers the theory and application of devices and circuits used in industrial and commercial electronics.

Lecture Hours: 48

ELT156 Industrial Electronics (Effective Spring 2017)

5 credits—This course covers the theory and application of devices and circuits used in industrial and commercial electronics.

Lecture Hours: 32 Lab Hours: 96

ELT192 Introduction to Computer Science

3 credits—This course will introduce the student to the basic use of the personal computer. The course will include a study of DOS, Word Processing, Spreadsheet, and BASIC programming language.

Lecture Hours: 32 Lab Hours: 32

ELT215 Motors and Controls

2 credits—This class stresses motor control systems, devices, circuit design and construction, and troubleshooting techniques. Specific topics will include electrical safety, lockout/tagout procedures, relays, timers, pilot devices, and solid state control technologies. Extensive laboratory exercises using industrial-grade components will enhance classroom studies.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): ELT139

ELT216 DC Controls Circuits

2 credits—The course is an introduction DC control components and DC control systems used in industrial applications. Both stand-alone circuits and PLC circuits are covered.

Lecture Hours: 16 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in ELT139.

ELT234 PLC Programming

2 credits—An introduction to the fundamental principles of programmable controller operation. Topics to be presented will include basic system configurations and hardware, relay-equivalent instructions, timers and counters, data manipulation commands, and searching/program documentation.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in ELT139.

Pre/Co-requisite(s): ELT215

ELT239 Advanced Electrical Systems

3 credits—This class stresses electrical distribution systems, electrical transformers, AC and DC motor theory, operation and repair, motor testing and sizing procedures, manual and magnetic starters, and motor overload protection. Specific topics will include types of electrical distribution systems, transformer theory and operation, electrical safety related to motor systems, lockout/ tagout techniques, use of motor testing devices, and construction, sizing, and installation of motor overload devices. Extensive laboratory exercises will enhance classroom studies.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of C- in ELT139.

ELT240 PLCs II

2 credits—As modern manufacturing becomes more computer-control oriented the industrial programmable controller plays an increasingly important role. In this course the learner will study advanced programming commands, sequencers, file moves, arithmetic functions, and data communications; advanced PLC architectures; as well as interfacing, troubleshooting, and applications.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in ELT234.

ELT245 PLCs III

2 credits—An introduction to the programmable controller operation using Siemens PLC systems. Topics to be presented will include system configurations and hardware, relay-equivalent instructions and timers and counters for ladder logic programming, and function block diagram programming concepts.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in ELT139.

ELT290 DC Electricity

4 credits—This course presents basic concepts of electricity and electronics and the application of these concepts to direct current circuits. This course assumes no previous knowledge of electricity or electronics. An understanding of algebra is required.

Lecture Hours: 32 **Lab Hours:** 64

Pre/Co-requisite(s): A minimum grade of D- in MAT504.

ELT291 AC Electricity

4 credits—This course presents basic concepts of electricity and electronics and the application of these concepts to alternating current circuits. This course is a continuation of the DC Electricity course. An understanding of algebra is required.

Lecture Hours: 32 **Lab Hours:** 64

Pre/Co-requisite(s): A minimum grade of D- in ELT290 or MAT504.

ELT311 Digital Circuits and Systems

4 credits—This course provides students with knowledge and understanding of digital logic circuit design and operation using integrated circuits. Studies include combinatorial logic circuits, flip-flops, arithmetic circuits, counters and registers, and logic families, with introduction of hardware and software of microcontrollers.

Lecture Hours: 32

Prerequisite(s): MAT514

Pre/Co-requisite(s): ELT526

ELT315 Digital Logic for Industrial Applications

2 credits—This course provides students with knowledge and understanding of digital logic functions in industrial applications. Topics of study include combinatorial logic circuits, flip-flops, counters, registers and semiconductor memory devices.

Lecture Hours: 16 **Lab Hours:** 32

Co-requisite(s): A minimum grade of C- in ELT139.

ELT320 Electronic Devices (Effective Fall 2016)

5 credits—This course is an introduction to electronic devices and their uses. This course provides the foundation for advanced courses in electronics circuit and systems by teaching the operating characteristics of electronic devices and circuit design using those devices.

Lecture Hours: 48 **Lab Hours:** 80 **Clinic Hours:** 48

Prerequisite(s): ELT291

Pre/Co-requisite(s): MAT514

ELT320 Electronic Devices (Effective Spring 2017)

5 credits—This course is an introduction to electronic devices and their uses. This course provides the foundation for advanced courses in electronics circuit and systems by teaching the operating characteristics of electronic devices and circuit design using those devices.

Lecture Hours: 32 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in ELT291.

Pre/Co-requisite(s): A minimum grade of D- in MAT514.

ELT321 Operational Amplifiers

3 credits—This course is an introduction to operational amplifiers and their uses. This course provides the foundation for advanced courses in electronics circuit and systems by

teaching the operating characteristics of operational amplifiers and circuit design using those devices.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): ELT291

Pre/Co-requisite(s): MAT514

ELT403 Visual Basic

3 credits—This course introduces students to Visual Basic programming languages. The objective of this course is to provide students with the understanding of high level programming languages and programming techniques used in problem solving.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in ELT600.

ELT415 Communication Circuits I

5 credits—This course is an introduction to communication circuits, with an in depth study of A.M. and F.M. transceiver theory.

Lecture Hours: 16 **Lab Hours:** 128

Prerequisite(s): A minimum grade of D- in ELT320.

ELT416 Communication Circuits II

5 credits—This course is continuation of Communication Circuits I. This course includes the study of frequency synthesis, transmission line theory, digital communication techniques, antennas and microwave devices.

Lecture Hours: 48

Prerequisite(s): ELT415

ELT417 Computer Systems

3 credits—This course provides the students with the understanding of personal computer hardware systems and administration of various computer operating systems. Also microcomputer troubleshooting and maintenance is covered.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in EGT108, EGT410, ELT469, or EGT420.

ELT444 Industrial Networking

2 credits—This course introduces the student to networking industrial equipment such as PLC's, Variable Frequency Drives, control components and computers. Industry-standard connectivity is covered and actual networks are set up.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in ELT234.

ELT469 Digital Circuits and Systems

5 credits—This course provides students with knowledge and understanding of digital logic circuit design and operation using integrated circuits. Some topics included are combinatorial logic circuits, flip-flops, arithmetic circuits, counters, registers, and logic families, with an introduction to hardware and applied C programming of Microcontrollers.

Lecture Hours: 32 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in ELT320 and ELT600.

ELT494 Data Acquisition Systems

5 credits—This course includes signal conditioning, transducer characteristics, microcontroller input/output and interfacing using C programming language and applications.

Lecture Hours: 32 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in ELT600.

ELT497 Communication Circuits II

6 credits—This course is continuation of Communication Circuits I. The course also includes the study of microwave communications.

Lecture Hours: 48 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in ELT415.

ELT532 Semiconductors for Industrial Applications

2 credits—This course provides an introduction to electronic devices and their uses. Applications of semiconductors in power electronics circuits for control are covered. This course provides the foundation for advanced courses in electronics systems.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in ELT139.

ELT600 Applied Computer Programming (Effective Fall 2016)

3 credits—This course introduces students to Visual C and LabView programming languages. The objective of this course is to provide students with the understanding of high level programming languages and programming techniques used in problem solving.

Lecture Hours: 32 **Lab Hours:** 48

Prerequisite(s): EGT108 or EGT410

ELT600 Applied Computer Programming (Effective Spring 2017)

3 credits—This course introduces students to Visual C and LabView programming languages. The objective of this course is to provide students with the understanding of high level programming languages and programming techniques used in problem solving.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in EGT108 or EGT410.

ELT701 Embedded Processors

3 credits—This course is an introduction to microcontroller theory and applications. The objective of this course is to provide students with the basic microcontroller theory

necessary to understand the operation and interfacing characteristics. This includes typical microcontroller architecture with C programming, Input/output and interfacing concepts, hardware/software interaction and applications.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): ELT409

ELT703 Introduction to Networking (Effective Fall 2016)

2 credits—This course introduces the student to the fundamental building blocks that form a modern computer network, such as protocols, topologies, hardware, and network operating systems. The course then provides in-depth coverage of the most important concepts in contemporary networking, such as client/server architecture, TCP/IP, Ethernet, wireless transmission and security.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in ELT409.

ELT703 Introduction to Networking (Effective Spring 2017)

2 credits—This course introduces the student to the fundamental building blocks that form a modern computer network, such as protocols, topologies, hardware, and network operating systems. The course then provides in-depth coverage of the most important concepts in contemporary networking, such as client/server architecture, TCP/IP, Ethernet, wireless transmission and security.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in ELT494.

ELT704 Embedded Processors

2 credits—This course is an introduction to microcontroller theory and applications. The objective of this course is to provide students with the basic microcontroller theory necessary to understand the operation and interfacing. This includes typical microcontroller architecture with C programming, input/output and interfacing concepts, hardware/software interaction and applications.

Lecture Hours: 0 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in ELT494.

ELT736 Instrumentation and Control

2 credits—With the increase in computer-controlled systems in modern business and industry the study of instrumentation and transducers is vital to a maintenance technicians education. This course will concentrate on the types of instrumentation currently available, interfacing and cabling techniques, signal conditioning, noise control, and applications and troubleshooting of complete systems.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in ELT139.

ELT802 Electronics Design Project I

1 credits—This course is the first of a series of two design courses. This course will introduce the student to design concepts and procedures as related to the design of electronics equipment. This course will require the student to identify an electronics design project as an individual or as a member of a team that will be completed during this course

and the Electronics Design Project II course. All design projects will be subject to instructor approval.

Lab Hours: 32

ELT803 Electronics Design Project II

1 credits—This course is a continuation of ELT802 Electronic Design Project I. The student will complete the design project that was identified and started in Electronic Design Project I. This course will require the student to design, prototype, troubleshoot, and debug an electronics related project based on technology presented throughout the EET program.

Lab Hours: 32

Prerequisite(s): ELT802

Pre/Co-requisite(s): ELT156

EMS114 Emergency Medical Responder

2 credits—This course provides the student with the necessary skills and knowledge to identify and treat life-threatening emergencies, wounds and fractures, medical and environmental emergencies and patient access and handling. This course utilizes a combination of classroom lecture and skills practice.

Lecture Hours: 16 **Lab Hours:** 32

EMS201 Emergency Medical Technician

7 credits—This course is for individuals who anticipate working with an ambulance service, hospital emergency department, fire department or other occupational field where emergencies are common. Course includes topics related to assessment and treatment of illness and injury. This course also includes a clinical and field component.

Lecture Hours: 64 **Lab Hours:** 64 **Co-op Hours:** 64

Prerequisite(s): A minimum grade of C in ENG060, ENG061, COM781, ENG105, or ENG106 or meet requirement with equivalent assessment score. A minimum grade of C in RDG039 or RDG040 or meet requirement with equivalent assessment score.

EMS541 Clinical I

3 credits—This course will provide clinical atmosphere for performance of psychomotor skills as described by the National Highway Traffic Safety Administration, National Standard Paramedic Curriculum. To successfully complete this course, students must demonstrate competency in skills for patients of all ages within the scope of practice. The student will participate in and document patient contacts and field experience. Additional contact hours (up to 3 times stated minimum) may be needed to meet the course competencies. Permission of instructor required.

Lecture Hours: 0 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of C in HSC113.

Co-requisite(s): A minimum grade of C in EMS610, EMS619, EMS641, and EMS678.

EMS546 Clinical II

3 credits—This course will provide clinical atmosphere for performance of psychomotor skills as described by the National Highway Traffic Safety Administration, National Standard Paramedic Curriculum. To successfully complete this course, students must

demonstrate competency in skills for patients of all ages within the scope of practice. The student will participate in and document patient contacts and field experience. Additional contact hours (up to 3 times stated minimum) may be needed to meet the course competencies. Permission of instructor required.

Lecture Hours: 0 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of C in EMS541, EMS610, EMS619, EMS641, and EMS678.

EMS610 Paramedic Pharmacology and Medication Administration

4 credits—This is a required course in Hawkeye's National Paramedic Education Program. This course prepares the paramedic to administer medications per the paramedic scope of practice.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in BIO168, BIO173, and HSC113.

EMS619 Airway and Patient Assessment

4 credits—The course includes Module 2 (Airway Management and Ventilation) and Module 3 (Patient Assessment) of the DOT National Standard Curriculum for EMT Paramedics. Content will include advanced airway management physical assessment, field assessment, clinical decision making, documentation and the assessment and management of respiratory emergencies. The lab component of this course includes skills in airway management and ventilation, history taking, techniques of physical examination, patient assessment, clinical decision making, communication and AHA ACLS. All will be practiced and demonstrated.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in BIO168, BIO173, and HSC113.

EMS641 Introduction to Paramedicine

3 credits—Provides an overview of paramedic roles and responsibilities and the emergency medical service system. Includes discussion of medicolegal and ethical issues in EMS, agents of trauma and disease, and career opportunities for paramedics. Provides discussion and demonstration of proper documentation in EMS, emergency vehicle operations, and non-patient care aspects of EMS.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in BIO168, BIO173, and HSC113.

EMS650 Medical and Psychological Emergencies

4 credits—Lecture and case-based teaching in the pathophysiology, recognition and advanced life support assessment and management of emergencies involving the nervous, endocrine, renal, and gastrointestinal systems. Assessment and intervention in psychological emergencies.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in EMS541, EMS610, EMS619, EMS641, and EMS678.

EMS654 EMS Operations

2 credits—This course will prepare the learner to function in EMS operations in the out-of-hospital environment and includes emergency vehicle operator and HAZMAT operations certifications.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in EMS546.

EMS655 Transition to Paramedic Practice

4 credits—This course will provide a platform for the student to apply cognitive, psychomotor, and affective skills to actual practice during a field internship. This course will also include comprehensive psychomotor exercises in a lab setting to prepare the paramedic student for national certification.

Lecture Hours: 0 **Lab Hours:** 32 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of C in EMS546.

EMS674 Cardiology for the Paramedic

4 credits—Cardiology for the Paramedic will focus on assessing the prehospital cardiac patient, interpreting electrocardiograms, and formulating treatment regimens for these patients.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in EMS641, EMS678, EMS541, EMS610, and EMS619.

Co-requisite(s): EMS650

EMS677 Special Populations for the Paramedic

4 credits—Special Patient Populations for the Paramedic explores illness and injury in the obstetric/gynecologic, neonatal, pediatric, geriatric, and chronically ill patient populations.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in EMS619, EMS641, EMS610, EMS541, and EMS678.

EMS678 Traumatic Emergencies for the Paramedic

3 credits—Traumatic Emergencies for the Paramedic explores the science of traumatic injuries, their detection and treatment. Major topics include: soft tissue, shock, hard tissue, nervous system, and internal injuries.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in BIO168, BIO173, and HSC113.

EMS856 Management of Emergency Medical Services

3 credits—This course is for students interested in the practice and principles of Emergency Medical Services (EMS) systems management and the processes that contribute to the effectiveness of day-to-day operations within an EMS organization. This course introduces the EMS professional to topics that include government structure, strategic planning, injury prevention, risk management and safety, customer service, human resources management, financial management, fleet management, career development, quality management, data collection and research, labor relations, and special operations.

Lecture Hours: 48

EMS900 Education in EMS

3 credits—This course is for students interested in Emergency Medical Services (EMS) education. This course introduces the EMS professional to the education system as it relates to EMS education. Students explore issues in curriculum development, teaching, program direction, and development. Successful completion of this course is required for EMS instructor endorsement in Iowa.

Lecture Hours: 48

ENG060 College Preparatory Writing I

3 credits—This course is the first in the college writing sequence. It provides students with opportunities to read and comprehend increasingly difficult texts in a variety of genres; to think more deeply and critically about the issues and ideas presented in these texts; and to respond to those texts in writing with increasing fluency, confidence, and clarity. Students should connect personally with assigned reading material and communicate their thoughts clearly in writing using Standard English. This course emphasizes responses grounded in the writer's personal interaction with the assigned text. It prepares students for the next level in their writing sequence.

Lecture Hours: 48

Prerequisite(s): Appropriate placement scores or equivalent.

ENG061 College Preparatory Writing II

3 credits—This course encourages students to improve their critical thinking skills, reading comprehension, and writing proficiency for inquiry, learning, thinking, and communication. Students will read, discuss, and respond to a variety of texts of different genres so as to analyze texts and write for different purposes. Students will work individually and collaboratively to produce, revise, and edit written work. Central to the objective of this course is developing a personal writing process: generating ideas, producing multiple drafts, revising, and editing. This course prepares students to advance into their appropriate program writing sequence.

Lecture Hours: 48

Prerequisite(s): ENG060 or appropriate COMPASS scores or equivalent.

ENG105 Composition I

3 credits—Composition I emphasizes fluency, thesis-driven organization, the use of supporting details, and research techniques. Writing is approached as a recursive process that includes prewriting strategies, drafting, revising, and editing. The course helps students shape writing to serve readers' needs and define a sense of purpose in their writing. It also gives students strategies for reading college-level material.

Lecture Hours: 48

Prerequisite(s): Appropriate COMPASS scores or equivalent.

ENG106 Composition II

3 credits—Composition II aims to review and extend writing principles learned in Composition I to analytical, argumentative, and research-based writing. This course emphasizes critical reading, evaluation, and precise and responsible source citation.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in ENG105.

ENG221 Creative Writing

3 credits—Creative Writing is a beginning course for students interested in writing poetry, short stories, and creative non-fiction. The course will focus on introducing and developing some of the technical skills of the craft, with an emphasis on methods for generating topics and content.

Lecture Hours: 48

ENG235 Playwriting and Screenwriting

3 credits—Playwriting and Screenwriting is a writing workshop that offers students practical experience in the creative process of producing stage-worthy plays and marketable screen plays. Through the study and discussion of published and produced plays, students will learn appropriate techniques for the dramatic form and will use the writing process to apply the techniques to develop and present their own work.

Lecture Hours: 48

ENV115 Environmental Science

3 credits—This natural science course addresses the manner in which we approach our environment today and how it will affect the world we live in tomorrow. This course examines the challenges of: developing sustainable energy sources, maintaining the quality of our air, water, and soil, and preserving the remaining biodiversity and habitat, and human population pressures as they relate to the environment. As these challenges are examined, possible solutions will be evaluated.

Lecture Hours: 48

ENV116 Environmental Science Lab

1 credits—This laboratory course provides a hands-on approach to understanding challenges to our environmental health. The course examines population growth, a framework for understanding the extent of habitat loss and degradation and its impact on biodiversity; water quality and treatment; soil quality and management practices; examination of energy consumption and alternatives; and an evaluation of ecosystem interactions.

Lab Hours: 32

Pre/Co-requisite(s): ENV115

ENV155 Residential Energy Auditing

4 credits—The Residential Energy Auditing course covers residential energy auditing and associated heating and air-conditioning equipment. The concepts of heat flow, energy audit software, building science, building envelope diagnostics, construction practices, material costs, moisture concerns, proper insulation and airsealing techniques, energy pricing, energy modeling, and residential HVAC systems. Equipment selection, layout, piping techniques, troubleshooting, codes, preventive maintenance, diagnostics, multiple systems, and accessories are also covered.

Lecture Hours: 32 **Lab Hours:** 64

ENV170 Photovoltaic and Hybrid Electrical Systems

2 credits—The Photo-voltaic and Hybrid Electrical systems course will provide students with an opportunity to size, construct, maintain, and analyze residential sized hybrid systems. Students will gain first hand experience working with electrical energy systems

consisting of wind generators, photo-voltaic arrays, battery storage systems, inverters and system controllers.

Lecture Hours: 16 **Lab Hours:** 32

ENV185 Solar Photovoltaic Design and Installation

2 credits—Introduces solar photovoltaic system requirements, design and configurations, installation techniques and their application in residential and commercial construction.

Lecture Hours: 16 **Lab Hours:** 32

ESL005 ESL Reading for Academic Purpose I

4 credits—This is the first of two courses designed for non-native speakers of English to acquire basic reading skills. The course introduces students to effective reading strategies, approaches to reading in a variety of genres, strategies to expand vocabulary, and basic library research. Students are also encouraged to improve their reading fluency through extensive reading.

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores or equivalent.

ESL011 ESL Writing for Academic Purpose I

4 credits—This is the first of two courses designed for non-native speakers of English in the acquisition of basic grammatical structures of English and writing skills. The primary focus of the course is to develop students' competence and confidence in writing for academic purposes. Students will review basic grammatical rules and structures, understand the elements of paragraph through process writing, practice writing for different purposes, expand vocabulary, and develop fluency in writing.

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores or equivalent.

ESL014 ESL Listening and Speaking for Academic Purpose I

4 credits—This is the first of two courses designed for non-native speakers of English to acquire basic aural and oral skills. The primary focus of the course is to prepare students for academic content. Students will be involved in a variety of communicative activities to increase their confidence in understanding and communicating with others, to improve fluency as well as accuracy, to expand vocabulary, to practice note-taking skills, and to learn about American culture.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): Appropriate placement scores or equivalent.

ESL020 English as a Second Language Lab

2 credits—The purpose of the course is to provide the non-native speaker of English with a variety of realistic laboratory tasks that will improve and expand their English fluency. The primary focus of the course is to expand vocabulary, improve pronunciation, and to provide the students with experiences that will enhance their confidence in their English ability. This course can be used to prepare the ESL student for either the ESL I or ESL II course in the fall. It is designed to accommodate students at both the intermediate and advanced levels.

Lab Hours: 64

Prerequisite(s): Instructor approval.

ESL083 ESL Writing for Academic Purpose II

4 credits—This is a course for non-native speakers of English in the acquisition of advanced grammatical structures and writing skills (necessary for academic English). The course is especially designed to develop advanced writing skills that will be needed in order to successfully complete transferable academic classes. Students will review problems in English grammar, analyze academic writing, practice writing for different purposes, and be introduced to different documentation styles.

Lecture Hours: 64

Prerequisite(s): ESL011 or appropriate placement scores or equivalent.

ESL084 ESL Reading for Academic Purpose II

4 credits—This is a course in continuing the acquisition of reading skills in English for non-native speakers. The primary goal of the course is to prepare students to become independent readers and to manage academic texts. Students are given opportunities to apply reading strategies effectively, to improve comprehension skills, to expand vocabulary, and to develop library research skills needed for academic study.

Lecture Hours: 64

Prerequisite(s): ESL005 or appropriate placement scores or equivalent.

ESL089 ESL Listening and Speaking for Academic Purpose II

4 credits—This is a course in continuing the acquisition of aural and oral skills in English for non-native speakers. The course is designed to help students develop listening and speaking skills that will be needed to be successful in fully transferable college courses. Skills taught include listening strategies, note taking, oral presentations, and vocabulary development. Students will also develop a deeper understanding of American culture through various activities.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): ESL014 or appropriate placement scores or equivalent.

FIN121 Personal Finance

3 credits—This course enables students to achieve high standards and competencies in economic principles in contexts of high relevancy and applicability to their individual, family, professional, and community lives. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes will integrate course topics. Upon completion, students should be able to better understand scarcity, supply and demand, market structures, the role of government, money and the role of financial institutions, economic stabilization and cycles, investing and financial markets, and consumer credit.

Lecture Hours: 48

FIR124 Building Construction

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.

Lecture Hours: 48

FIR127 Fire Behavior and Combustion

3 credits—This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled.

Lecture Hours: 48

FIR130 Fire Prevention

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.

Lecture Hours: 48

FIR139 Fire Fighter I

4 credits—After completing the course the student will have met the sections required for a Firefighter I in the NFPA® 1001, Standard for Fire Fighter Professional Qualifications, and the requirements for National Fire Protection Association's (NFPA) 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents for the for the Awareness and Operational Levels.

Lecture Hours: 48 **Lab Hours:** 32

FIR145 Strategy and Tactics

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.

Lecture Hours: 48

FIR149 Fire Protection Hydraulics and Water Supply

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.

Lecture Hours: 48

FIR200 Occupational Safety/Health in Emergency Services

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.

Lecture Hours: 48

FIR213 Principles of Emergency Services

3 credits—This course provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics.

Lecture Hours: 48

FIR214 Legal Aspects of Emergency Services

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.

Lecture Hours: 48

FIR235 Fire Investigation I

3 credits—This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire-setter, and types of fire causes.

Lecture Hours: 48

FIR236 Fire Investigation II

3 credits—This course is intended to provide the student with advance technical knowledge on rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation and testifying.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in FIR235.

FIR291 Fire Fighter II Certification

3 credits—After completing the course the student will have met the sections required for a Firefighter II in the NFPA® 1001, 2013 edition, Standard for Fire Fighter Professional Qualifications. Students who successfully complete the certification process will be certified as a Firefighter II.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in FIR139.

FIR300 Principles of Fire and EMS Administration

3 credits—This course introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in FIR213.

FIR400 Emergency Safety and Survival

3 credits—This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

Lecture Hours: 48

FLF145 French I

5 credits—This course is an introduction to the basic vocabulary and key structures of the French language. The course will help students develop the four basic skills of listening, speaking, reading, and writing and will provide the beginning steps toward the acquisition

of the French language. The course also focuses on making the student more culturally aware.

Lecture Hours: 80

FLF245 French II

5 credits—This course continues to introduce basic vocabulary and key structures of the French language. The course will help students to continue to develop the four basic skills of listening, speaking, reading, and writing and will provide additional steps toward the acquisition of the French language. The course continues to focus also on making the student more culturally aware.

Lecture Hours: 80

Prerequisite(s): FLF145

FLS128 Conversational Spanish

3 credits—Elementary speaking skills used in everyday conversations. Progresses toward the ability to converse in more varied and complex settings. Not for students who plan to major in foreign language.

Lecture Hours: 48

FLS151 Elementary Spanish I

5 credits—This course is student-centered introductory instruction in the basic components of the Spanish language. The course will help students develop the skills necessary for the acquisition and perfection of the primary concepts of reading, writing, listening, and speaking in the Spanish language.

This course is not recommended for students who have completed one year or more of high school Spanish or the equivalent.

Lecture Hours: 80

FLS152 Elementary Spanish II

5 credits—Provides continued instruction in the basic and necessary linguistic elements of Spanish to enable the learner to communicate verbally and in writing within the limits of the language presented.

Lecture Hours: 80

Prerequisite(s): FLS151 or equivalent course or instructor approval.

FLS241 Intermediate Spanish I

4 credits—This course is student-centered instruction that reviews essential grammatical elements in the language and introduces new topics as a continuation of the first year of Spanish. Instruction will enable learners to further develop proficiency in speaking, listening, writing, reading, and cultural understanding of Spanish speaking countries.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in FLS152.

FLS242 Intermediate Spanish II

4 credits—This course is student-centered instruction that promotes further linguistic development as a continuation of Intermediate Spanish I. Instruction will enable learners to

expand their understanding of Spanish culture while increasing grammatical knowledge and spontaneous vocabulary usage.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in FLS241.

GEO115 Human Geography

3 credits—The course introduces basic fields of study, concepts, and research strategies of human geography. As a social science course it examines the interaction of humans and geographical space while exploring topics such as cultural diversity, urban centers, political boundaries, migration, land/water modification, erosion, and pollution.

Lecture Hours: 48

GEO121 World Regional Geography

3 credits—This introductory course builds an understanding of the physical and social aspects of geography by examining the major regions of the world and their connections. This will be accomplished by a geographic regional "tour" of the world examining the basic relationship between the physical environment and the cultural aspects within these regions.

Lecture Hours: 48

GEO131 Physical Geography

3 credits—An introduction to one of the major sub-fields of geography. Physical geography is the study of how and why physical phenomena vary spatially at and near the earth's surface. This course will emphasize describing the spatial distribution of the earth's natural features, patterns of solar energy receipt, atmospheric pressure, winds and precipitation around the earth. Introductory laboratory exercises complement the lecture.

Lecture Hours: 48

GEO132 Physical Geography Lab

1 credits—An introductory laboratory course to complement GY110T Physical Geography. The course explores the concepts, resources, and specialized methods necessary to understand the major elements of Physical Geography.

Lab Hours: 32

Pre/Co-requisite(s): GEO131

GRA105 Drawing and Composition

4 credits—This course introduces the student to a variety of art-making materials and media, provides a broad range of drawing experiences designed to expand the student's artistic perception, and enhances the student's ability to develop appropriate art-based solutions to common graphic design problems.

Lecture Hours: 32 **Lab Hours:** 64

GRA124 Electronic Illustration

4 credits—This course provides students with the knowledge, skills, and experiences needed to create vector artwork. Students will utilize the leading vector drawing software to develop essential vector art rendering techniques.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): GRA133

GRA133 Desktop Publishing

4 credits—This course introduces the student to computer generated layout and design production skills using electronic publishing software. Emphasis is a "hands-on" introduction to the leading page-layout application program utilized in the graphic communications industry.

Lecture Hours: 32 **Lab Hours:** 64

GRA142 Graphic Imaging

4 credits—This course provides students with the knowledge, skills, and experiences needed to create raster graphics. Students will utilize the leading digital imaging software to develop essential image manipulation techniques.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): GRA133

GRA150 Introduction to Web Design

3 credits—This course introduces students to the fundamentals of Website design and development. Emphasis is placed on designing cross-browser compatible interfaces and standards compliant Websites. Domain registration, Website hosting, search engine optimization, accessibility, usability, and interoperability will be discussed.

Lecture Hours: 32 **Lab Hours:** 32

GRA162 Web Page Graphics

3 credits—This course provides students with the knowledge, skills, and experiences needed to create Website graphics. Students will utilize digital imaging software and emerging Web technologies to develop skills in constructing and implementing Web page graphics.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in GRA150.

GRA196 Design and Layout I

4 credits—This course emphasizes the fundamentals of design and layout in visual communications. The course provides experience in the type selection process for design application.

Lecture Hours: 32 **Lab Hours:** 64

Pre/Co-requisite(s): A minimum grade of D- in GRA133.

GRA197 Design and Layout II

4 credits—This course applies the principles and methods of design and layout to creating solutions for design problems. The process involved with communicating a client's product, service or image to a specific or general audience is explored in project application.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in GRA196 and GRA133.

GRA200 Applications of Color

3 credits—This course provides students with the knowledge, skills, and experiences needed to color manage digital art and make logical decisions with regard to choosing color during the design process.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): GRA133

GRA205 Design and Layout III

4 credits—This course expands the dimension of the process of design to include specific information and experiences pertaining to advertising design and other advanced design formats.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA124 and GRA197.

GRA206 Advanced Design and Layout

4 credits—This course expands the dimension of the process of design to include specific information and experiences pertaining to advertising design and other advanced design formats.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA142, GRA197, and GRA200.

GRA221 Principles of Illustration

3 credits—This course develops an understanding of illustration within the context of graphic communications. Students will have the opportunity to produce original illustrations using a variety of media, tools and techniques.

Lecture Hours: 32 Lab Hours: 32

GRA227 Interactive Multimedia

4 credits—This course emphasizes designing interactive presentations using multimedia. Students will conceptualize, design and deliver interactive content.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): GRA150

GRA231 Photo Direction

2 credits—This course presents an overview of the process involved with working with a commercial photographer. Working environment conditions, procedures and expectations for the designer will be covered. An introduction of the basics of digital photography will be provided.

Lecture Hours: 32

GRA238 Web Design and Layout

4 credits—This course provides students with the knowledge, skills, and experiences needed to design and layout a static Website. Students will utilize the leading Website design software and Web design formatting languages to develop skills in designing, building, publishing, and maintaining a static Website.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in GRA150.

GRA239 CMS Web Design

3 credits—This course provides students with the knowledge, skills, and experiences needed to develop a dynamic Website. Students will utilize an open source Web Content Management System and leading Website design software to develop skills in implementing, administering, and designing a CMS based Website.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in GRA 150 Introduction to Web Design

GRA285 Production Processes

3 credits—This course will utilize desktop pre-press production techniques used for preparing artwork for printing. One color to multi-color techniques will be covered.

Lecture Hours: 32 **Lab Hours:** 32

Pre/Co-requisite(s): GRA200

GRA290 Portfolio Preparation

3 credits—The course is intended to advance student knowledge in portfolio and resume construction and job search strategies.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in GRA142, GRA200, and GRA197

GRA924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

HCM138 Food Fundamentals

3 credits—Studies the composition of foods and the scientific principles involved in food preparation. Emphasizes basic food handling competencies and cookery techniques. Students work with herbs, spices, dairy, eggs, fruits, vegetables, starches, stocks, sauces and soups, learning to produce quality products. Focuses on the development of proper kitchen procedures, use and care of equipment, sanitation, safety, cost control and efficient work methods.

Lecture Hours: 48

HCM200 Dining Room Service

2 credits—Students will learn basic serving strategies, side work, service methods, styles of food service dining room etiquette, sanitation techniques POS systems dining room functions and the use of sound management techniques and quality customer service.

Lecture Hours: 16 **Lab Hours:** 32

HCM240 Menu Planning and Design

2 credits—This course applies the principles of menu planning and layout to the development of menus for a variety of types of facilities and service. The course will also examine the kitchen design, and facility layout.

Lecture Hours: 32

HCM242 Event Planning and Customer Service

2 credits—This course will cover all aspects of event planning and customer service relating to the restaurant and hospitality fields. Student will engage in a hands on learning experience of dealing with real life customers and planning events such as company parties, graduations, and wedding receptions.

Lecture Hours: 32

HCM251 Purchasing, Receiving, and Inventory

2 credits—Studies principles in purchasing, receiving, issuing and inventory management. Emphasizes cost management techniques. Students practice skills in a clinical lab experience supervised by the purchasing manager.

Lecture Hours: 32

HCM309 Hospitality Safety and Sanitation

3 credits—Studies basic principles of bacteriology, food borne illness, sanitation, workplace safety, personal hygiene, food security, health regulations and inspections. Emphasizes the importance of sanitary equipment and facilities, and pest control. This course includes instruction in preparation for ServSafe Certification and Certified Pool Operator (CPO). Students will complete certification examinations for both areas.

Lecture Hours: 48

HCM589 Introduction to Restaurant Management

3 credits—Students will develop fundamental skills necessary to begin a career in the restaurant field of hospitality. Topics include customer service, management and scheduling. General overviews of both front and back of the house will be covered.

Lecture Hours: 48

HCM602 Introduction to Food and Bar Operations

3 credits—Focuses on the management of food and beverage operations in lodging establishments. Includes stewarding, banquets, restaurant, beverage and room service. Prepares students for internships in lodging operations.

Lecture Hours: 48

HCM605 Hotel Administration

2 credits—A management course that introduces the student to advanced studies of property management, catering, sales, legal aspects, security and maintenance of all departments of the hotel.

Lecture Hours: 32

HCM608 Introduction to Hospitality

3 credits—Introduction to the food service, lodging, and tourism components of the hospitality industry. Background information, current issues, resume writing, and future challenges in various segments of the industry.

Lecture Hours: 48

HCM905 Hospitality Internship

3 credits—This course will provide students with an opportunity to gain hands on experience in the hospitality industry.

Can be taken for up to 5 credit hours.

Lecture Hours: 0 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of C- in HCM608, HCM605, and HCM589.

HCR111 Residential Forced Air Heating Systems

3 credits—This course presents application of energy sources and equipment as they apply to heating, ventilation, air humidification and filtration systems.

Lecture Hours: 16 **Lab Hours:** 64

HCR113 Boiler Fundamentals

2 credits—This class informs students of the concepts, terms, and the major components of steam systems. Topics include the basic steam heating cycle. Also covered in this course are the safety procedures necessary when working on low-pressure steam boilers and systems. Students will be able to install and maintain specific steam straps and recognize the common piping configurations used with steam heating systems.

Lecture Hours: 32

Co-requisite(s): HCR414, HCR275, and HCR516

HCR114 Boiler Fundamentals

4 credits—This class informs the students of the concepts, terms, and the major components of steam systems. Topics include the basic steam heating cycle. Also covered in this course are the safety procedures necessary when working on low-pressure steam boilers and systems. Students will be able to install and maintain specific steam straps and recognize the common piping configurations used with steam heating systems.

Lecture Hours: 16 **Lab Hours:** 96

Co-requisite(s): HCR282, HCR415, and HCR517

HCR126 Solar Thermal Installation

2 credits—The Solar Thermal Installation course introduces solar thermal system requirements, design and configurations, installation techniques, operation and their application in residential and commercial construction.

Lecture Hours: 16 **Lab Hours:** 32

HCR127 Hydronic Heating Systems

2 credits—To provide experiences in the operation, layout, and selection, and troubleshooting of residential and light commercial boilers.

Lecture Hours: 16

Co-requisite(s): HCR429, HCR602, HCR852, and HCR912

HCR137 Hydronic Heating Systems

3 credits—To provide experiences in the operation, layout, selection, and troubleshooting of residential and light commercial boilers.

Lecture Hours: 16 **Lab Hours:** 64

Co-requisite(s): HCR429, HCR602, and HCR283

HCR181 Introduction to HVACR

3 credits—The HVACR course will introduce students to the environmental function control of temperature, moisture content, air quality and air circulation in a conditioned space. Our labs allow the learner to view and examine various types of HVACR systems with respect to installation, components, and characteristics.

Lecture Hours: 16 **Lab Hours:** 64

HCR200 Manual J and D HVAC Design

1 credits—The Manual J and Manual D Residential HVAC Design course will provide students with the necessary skills to analyze a building's heating and cooling loads and design appropriate ductwork systems. Students will begin the process using manual worksheets and then finish by using Manual J and Manual D software programs.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in CON102.

HCR201 Manual J and D HVAC Design

3 credits—The Manual J and Manual D Residential HVAC Design course will provide students with the necessary skills to analyze a residential building's heating and cooling loads, and design appropriate ductwork systems. Students will begin the process using pencil and paper worksheets and Excel spreadsheets; then finish using Manual J and Manual D dedicated software programs.

Lecture Hours: 32 **Lab Hours:** 32

HCR281 Applied Practices I

5 credits—This course provides students with practice in servicing and repair of the equipment in the HVACR lab to develop basic proficiency.

Lecture Hours: 0 **Lab Hours:** 160

HCR282 Applied Practices II

3 credits—This course provides students with opportunities to apply the theory to practice to become proficient in the service and repair of the equipment in the HVACR lab area.

Lecture Hours: 0 **Lab Hours:** 96

Co-requisite(s): HCR114, HCR415, and HCR517

HCR283 Applied Practices III

3 credits—This course provides the students a capstone opportunity to apply the theory to practice on the equipment in the HVACR lab to gain entry level proficiency in service and repair.

Lecture Hours: 0 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in HCR282.

Co-requisite(s): HCR137, HCR429, and HCR602

HCR414 Controls for HVACR

4 credits—This course presents a more advanced study of electrical controls and their applications, an introduction electronics and the controls used in the H.V.A.C.R. systems.

Lecture Hours: 64

Prerequisite(s): ELT139 and ELT149

HCR415 Controls for HVACR

3 credits—This course presents a more advanced study of electrical controls and their applications in the HVACR industry.

Lecture Hours: 16 **Lab Hours:** 64

Pre/Co-requisite(s): A minimum grade of D- in HCR455.

HCR429 HVAC App Controls w/Automated Systems (Effective Spring 2017)

2 credits—This course is a study of electronic controls and circuitry systems for H.V.A.C.R.

Lecture Hours: 32

Co-requisite(s): HCR127, HCR602, HCR852, and HCR912

HCR429 HVAC App Controls w/Automated Systems (Effective Summer 2017)

2 credits—This course is a study of electronic controls and circuitry systems for H.V.A.C.R.

Lecture Hours: 16 **Lab Hours:** 32

Co-requisite(s): HCR127, HCR602, HCR852, and HCR912

HCR455 Applied Electricity for HVACR

4 credits—This course presents the basic electrical characteristics, reading and developing circuit graphics, test equipment, controls and circuit application.

Lecture Hours: 16 **Lab Hours:** 96

HCR516 HVACR Systems II

6 credits—This course presents a continuing and advanced study of systems used in heating, ventilation, air cooling and refrigeration.

Lecture Hours: 96

Co-requisite(s): HCR275 and HCR414

HCR517 HVACR Systems II

5 credits—This course presents a continuing and advanced study of systems in heating, ventilation, air conditioning, and refrigeration.

Lecture Hours: 16 **Lab Hours:** 128

Co-requisite(s): HCR282 and HCR415

HCR602 HVACR Systems III (Effective Spring 2017)

2 credits—This course presents alternative application of energy sources and equipment as they apply to heating, ventilation, air-cooling and refrigeration systems.

Lecture Hours: 32

Prerequisite(s): HCR516

Co-requisite(s): HCR429 and HCR912

HCR602 HVACR Systems III (Effective Summer 2017)

2 credits—This course presents alternative application of energy sources and equipment as they apply to heating, ventilation, air-cooling and refrigeration systems.

Lab Hours: 64

Prerequisite(s): HCR516

Co-requisite(s): HCR429 and HCR912

HCR852 Operation Strategies (Effective Fall 2016)

2 credits—This course presents customer relations and principles of successful business techniques. The job search and interview process will also be covered.

Lecture Hours: 32

Prerequisite(s): IND181 and HCR110

HCR852 Operation Strategies (Effective Spring 2017)

2 credits—This course presents customer relations and principles of successful business techniques. The job search and interview process will also be covered.

Lecture Hours: 32

Co-requisite(s): HCR114, HCR415, HCR517, and HCR282

HCR911 HVACR Field Experience I

1 credits—This course places students in professional settings in the HVACR industry. Emphasis is on observation and participation in the business practices of the HVACR industry.

Lecture Hours: 0 **Co-op Hours:** 64

Co-requisite(s): HCR283, HCR429, HCR602, and HCR137

HCR912 HVACR Field Experience II

2 credits—This course places students in professional settings for experiences in the Heating, Cooling and Air-Conditioning trades. Emphasis is given to observation of and participation in: troubleshooting, installation document preparation, and business practices. This course is repeatable with different content.

Lecture Hours: 0 **Co-op Hours:** 128

Prerequisite(s): All first and second semester program courses and a current program 2.00 cumulative GPA.

Co-requisite(s): HCR429 and HCR602

HEQ100 Introduction to Construction Equipment Operation

1 credits—The Introduction to Construction Equipment Operation Course will provide students with the knowledge of basic requirements and skillsets necessary to become entry level equipment operators in the construction industry. Students will explore the various types of equipment and unique operating characteristics of each. Jobsite safety and preparation will be discussed as well as PPE and communications with employers, fellow workers, and the public.

Lecture Hours: 16

HEQ102 Preoperational Inspection

2 credits—This Preoperational Inspection Course will give students practice in completing, documenting, and maintaining, inspections and records for the machines they will operate. This course is an introduction in to the proper methods and routines needed to insure that a particular machine is safe to operate as well as properly lubricated and in good working order according to manufacturers' specifications. Students will practice completing daily inspections reports and the steps necessary to report defects. Maintaining records of inspections and repairs will also be covered.

Lecture Hours: 16 **Lab Hours:** 48

HEQ104 Equipment Maintenance I

2 credits—This course will assist students in the basic knowledge and skills necessary to perform routine maintenance and repairs on different types of construction equipment. Individual component and systems service intervals will be discussed and analyzed. Students will receive practice in fluid and filter replacing as well as recognizing, troubleshooting, replacing and repairing defective and worn components and parts. The need for ongoing operator input and involvement in the maintenance process will be explored.

Lecture Hours: 16 **Lab Hours:** 48

HEQ105 Skid Steer Operation

3 credits—The Skid Steer Equipment Operation Course will give students access to the hands-on operation of Skid Steer equipment used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate equipment in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, leveling, grading, digging, trenching, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lecture Hours: 16 **Lab Hours:** 96

HEQ106 Compact Excavator Operation

3 credits—The Compact Excavator Operation Course will give students access to the hands-on operation of compact excavators used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate equipment in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, leveling, grading, digging, trenching, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lecture Hours: 16 **Lab Hours:** 96

HEQ107 Wheel Loader Operation

2 credits—The Wheel Loader Operation Course will give students access to the hands-on operation of Wheel Loaders used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate loaders in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, leveling, grading, digging, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lab Hours: 96

HEQ108 Backhoe Operation

3 credits—The Backhoe Operation Course will give students access to the hands-on operation of equipment used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate equipment in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, leveling, grading, digging, trenching, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lecture Hours: 16 **Lab Hours:** 96

HEQ109 All Terrain Lifts Operation

2 credits—The All-Terrain Lifts Operation Course will give students access to the hands-on operation of all-terrain lifts and platforms used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate equipment in all sorts of workplace settings and environments. Students will gain practice in operating by completing exercises in moving materials, loading and unloading materials from trucks, and operating the work platform safely in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. Students will obtain an OSHA Certificate in Fork Lift Operation as part of this program.

Lecture Hours: 16 **Lab Hours:** 48

HEQ110 Support Equipment Operation

2 credits—The Support Equipment Operation Course will introduce students to various types of mechanized machines and devices used on jobsites. Types of equipment include plate compactors, tampers, portable air compressors, jack hammers, concrete buggies, power trowels, concrete saws, and others. Students will gain practice in the safe operation and care of these types of machines.

Lecture Hours: 16 **Lab Hours:** 48

HEQ111 Jobsite Certifications

4 credits—The Jobsite Certifications Course will introduce students to the various training and certifications required by state and federal agencies for persons actively working on different types of jobsites. They will become familiar with the federal and state agencies that have regulatory authority over the construction industry.

Lecture Hours: 64

HEQ113 Equipment Maintenance II

3 credits—This course will assist students in the basic knowledge and skills necessary to perform routine maintenance and basic repairs on different types of construction equipment. Individual component and systems repair will be discussed and practiced. Students will gain hands-on practice in testing and repairing basic machine components. Arc welding and flame cutting will be introduced.

Lecture Hours: 16 **Lab Hours:** 96

HEQ114 Track Equipment Operation

3 credits—The Track Equipment Operation Course will give students access to the hands-on operation of track equipped machines used in the construction industry. Students will be able to develop the motor skills and competencies necessary to safely operate track equipped machines in all sorts of workplace settings and environments. Students will be exposed to the unique operating characteristics of track machines by completing exercises in moving materials, leveling, grading, digging, trenching, and loading trucks, in all types of terrain and jobsite conditions. Students will demonstrate proper inspection, start up, operating and shut down procedures on a daily basis. The ability to set up and complete projects according to a written site plan will be practiced.

Lecture Hours: 16 **Lab Hours:** 96

HEQ201 Utility Equipment Operation

3 credits—The Utility Equipment Operation Course will introduce students to the operation of machines used in the construction industry when working in close proximity to buildings, underground utilities, and jobsites with limited operational spaces. Students will operate various machines such as Skid Steer Loaders, Mini Excavators, Loader Backhoes, All-Terrain Forklifts, Aerial Lifts, and related attachments. Students will gain experience digging over, under, and around underground utilities, excavating next to foundations and walls, and undercutting slabs for utility installations. The installation and operation of attachments, trenchers, breakers, soil conditioners, posthole digger, materials forks, and others will be introduced and practiced. Students will gain knowledge of pre-operational inspections, loading and securing equipment for transport and required licensure for various truck-trailer combinations and weight ratings.

Lecture Hours: 16 **Lab Hours:** 64

HEQ905 Workplace Experience

3 credits—This course provides students with opportunities to gain on-the-job experience in the construction industry. Students will gain an understanding of qualities and skills needed for success in the equipment operating field. Coordination and guidance will be provided by department instructors.

Co-op Hours: 192

HIS117 Western Civilization I: Ancient and Medieval

3 credits—Western Civilization I traces the development of Western Civilization from prehistory to 1300 C.E., the end of the High Middle Ages. The role of the Humanities is emphasized. The course explores major political, social, economic, scientific, intellectual,

cultural, and religious developments contributing to Western societies. These include the significant events and contributions of early Middle Eastern civilizations, classical and Hellenistic Greece, the Roman Empire, its successors, the rise of the Western Christian church, and Medieval Europe.

Lecture Hours: 48

HIS118 Western Civilization II: Early Modern

3 credits—Western Civilization II surveys the development of Western Civilization, covering the end of the High Middle Ages of Europe to the French Revolution. The role of the Humanities is emphasized. The course will examine the major political, social, economic, intellectual, cultural, and religious developments contributing to the emergence of modern Western European Society. This includes the significant events and contributions of the Renaissance, the Reformation, the Columbian exchange, the Scientific Revolution, and the Enlightenment.

Lecture Hours: 48

HIS119 Western Civilization III: The Modern Period

3 credits—Western Civilization III will continue exploring the development of Western Civilization, covering the period from the French Revolution until the present. The role of the Humanities is emphasized. The course will examine the major political, social, economic, intellectual, cultural, and religious developments contributing toward Western Society. Included are such major developments as the industrial revolution, the French revolution, Romanticism, European colonialism, World War I, World War II, the Cold War, the new European order, and the world of the Twenty-first Century.

Lecture Hours: 48

HIS151 U.S. History to 1877

3 credits—This United States history course examines the country's Colonial experience, Revolutionary period, and 19th Century history through Reconstruction. The course includes political, economic, and social history of this period, as well as the development of American thought.

Lecture Hours: 48

HIS152 U.S. History Since 1877

3 credits—This United States history course examines the period from the end of reconstruction to the present. Emphasis is placed upon industrialization and its impact, the development of a strong federal government, an aggressive foreign policy, and a growing involvement in an international economy. The course includes political, economic, and social history of this period, as well as the development of American thought.

Lecture Hours: 48

HIS201 Iowa History

3 credits—This history course is a survey of social, political, economic and cultural developments in Iowa from pre-historic times to the present.

Lecture Hours: 48

HIS251 U.S. History 1945 to Present

3 credits—This United States history course examines the American experience from the end of World War II to the present. This course will include the political, diplomatic, intellectual, economic, and social history of the period.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in HIS152.

HIS257 African American History

3 credits—This course examines the experiences of African-American society in the United States from origins in Africa to the present.

Lecture Hours: 48

HIS277 History of Women in the U.S.

3 credits—United States history from the perspective of women starting in the colonial period through the present day. The course examines the historical development of women's role in the family, concepts of sexuality, economic and political roles, and intellectual tradition. A comparative analysis of women's roles in other areas of the world is also provided.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in HIS151, HIS152, or WST101.

HIS924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

HIT125 Essentials of Health Records

2 credits—This course familiarizes students with the origin, uses, content and format of health records, including both paper and electronic health records. It covers required standards for health records, organization of records, and analysis of health record data.

Lecture Hours: 32

HIT215 Introduction to CPT

2 credits—Introduces the use of the CPT classification system with emphasis on coding in the physician's office for reimbursement purposes.

Lecture Hours: 32

Co-requisite(s): A minimum grade of C- in HSC116.

HIT240 Advanced Coding and Classification

3 credits—Enables students to accurately apply more advanced ICD-CM codes to diseases and procedures in compliance with reimbursement and prospective payment system guidelines with use of coding resources.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in HIT250.

HIT250 Coding I

3 credits—This course introduces the concepts necessary for entry-level coding of diseases, injuries, and hospital procedures

Lecture Hours: 48

Pre/Co-requisite(s): A minimum grade of D- in HSC116.

HIT280 CPT-4 Coding

3 credits—Continues more complex concepts of procedural coding utilizing the Current Procedural Terminology, 4th Edition (CPT-4) classification system. Includes practical application of coding outpatient/ambulatory records.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in HIT215.

HIT510 Coding Certification Review

2 credits—This course reviews and summarizes the information received in the medical billing/coding program to prepare students for a national coding certification exam.

Lecture Hours: 32

Co-requisite(s): A minimum grade of D- in HIT240 and HIT280.

HSC108 Introduction to Health Professions

2 credits—This course introduces the student to the healthcare system and provides an opportunity to explore a wide variety of health careers/professions. Students will explore ethical and legal responsibilities within the healthcare system including expectations for professional behavior. This course will allow for certification in common healthcare requirements.

Lecture Hours: 32

HSC113 Medical Terminology

2 credits—This course presents the foundation necessary to develop a basic medical terminology vocabulary. Emphasis on the components of terms as related to each body system will be provided. The course further provides the student with the opportunity to properly spell, pronounce and utilize medical terms in relation to pathological conditions, tests, and procedures. Common medical abbreviations will also be discussed for each system.

Lecture Hours: 32

HSC116 Beginning Medical Terminology

4 credits—This course introduces the concepts necessary for building a basic medical vocabulary.

Lecture Hours: 32 **Lab Hours:** 64

HSC124 Advanced Medical Terminology

4 credits—The course continues to build a medical vocabulary through the study of anatomy and physiology, common diseases and surgeries of the body systems.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of C- in HSC116.

HSC217 Introduction to Pathology

3 credits—Introduces the study of pathology. Includes description, etiology, signs and symptoms, diagnostic procedures, current medical treatment, progress and prevention of disease in each body system, with emphasis on basic concepts and terminology.

Lecture Hours: 48

Pre/Co-requisite(s): A minimum grade of C- in HSC116.

HUM130 Holocaust Perspectives: Confronting the Future

3 credits—The Holocaust, or Shoah, will be studied from a combination of historical, sociological, scientific, literary, and artistic approaches. The course will examine how this Twentieth Century genocide was used as a technique of political control and racial persecution. It will also look at the causes and functions of the Holocaust to draw parallels to the current resurgence of similar events and ideologies based on race, religion, and other prejudices.

Lecture Hours: 48

HUM140 Shakespeare: Dramatist, Psychologist, Historian

3 credits—This course will include a study of several plays by William Shakespeare, including two tragedies, two histories, and two comedies. Study of these plays will start with an examination of the historical period, which provides both the context in which the plays were written and the settings within the plays. Focus will then shift to a dramatic analysis of recurring themes, ideas, characterizations, and psychological profiles. It will end with a discussion of the contributions of Shakespeare to Western civilization and humanity as a whole. Also taught as LIT 145.

Lecture Hours: 48

HUM924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

IND100 Basic Mechanical Systems

2 credits—This course provides the student with introductory knowledge, skills in use of tools, and components by mechanics.

Lecture Hours: 16 **Lab Hours:** 32

IND111 Industrial Safety Mechanical Systems

1 credits—This course provides students with information required to understand industrial safety issues and procedures. Studies include job hazard awareness, lock-out/tag-out, egress, fire extinguishers, OSHA 10, material handling, and Globally Harmonized System of Classification and Labeling of Chemicals (SDS Sheets).

Lecture Hours: 16

IND145 Mechanical Power Transfer

2 credits—This course provides the student with the knowledge and skills necessary to troubleshoot maintain and repair mechanical power systems. Such as bearings, gears, clutches, belts and seals.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in IND100.

IND157 Introduction to Computers

2 credits—This is an introductory course in the use of a personal computer. Students will gain a general understanding of computer hardware and software. Students will be given hands-on experiences with operating system navigation, word processing and spreadsheet software, and industrial applications.

Lecture Hours: 16 **Lab Hours:** 32

IND181 Heating, Ventilating, and Air Conditioning

2 credits—The Heating, Ventilating, and Air Conditioning Systems (HVAC) course will introduce students to the environmental function control of temperature, moisture content, air quality and air circulation in a conditioned space. Our labs allow the learner to view and examine various types of HVAC systems with respect to installation, components, and characteristics.

Lecture Hours: 16 **Lab Hours:** 32

IND949 Special Topics

1 credits—This course is designed for secondary industrial technology educators to develop and enhance knowledge and skills in specific emerging practices, issues, and technical content areas in the manufacturing industry.

May be taken for up to 6 credits.

Lab Hours: 32

LIT101 Introduction to Literature

3 credits—This course studies multiple literary forms and genres. Students will be introduced to literary terminology, analysis and interpretation of literature, and a variety of authors and literary styles. Instruction will emphasize the process of reading to develop and interpret meaning and classroom discussions encouraging students to share interpretations. Students will also respond to literature through informal and formal written assignments that foster skill in analysis and interpretation.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in RDG040 and ENG061 or appropriate placement scores.

LIT133 Minority Voices in U.S. Literature

3 credits—This course will explore the issues and themes developed in the literature written by minority authors, often underrepresented in the traditional literary canon. We will focus on works by various dispossessed groups, including African-Americans, Latinos, Native Americans, Asian-Americans, women, and gays/transgender/lesbians. Genre to be read will include short stories, poetry, and novels with emphasis on the ideas and issues shared in common by the various silenced groups and the unique perspective of each. Class activities will build on students' skills in reading, discussing and writing about literature acquired in Introduction to Literature.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in LIT101.

LIT142 Major British Writers

3 credits—This course is designed to give the freshman and/or sophomore level student a survey of the major author/trends in British Literature from Anglo-Saxon times to contemporary. Prose, poetry, and drama will be the featured genres. The course is designed to trace the development, achievements, and traditions of the British literary art. Major authors include Chaucer, Shakespeare, Donne, Johnson, Wordsworth, Shelley, Dickens, George Eliot, Lawrence, Shaw, and Conrad.

Lecture Hours: 48

LIT189 Women and Literature

3 credits—Women and Literature examines the predominant ways in which women have been portrayed by both male and female writers. It will also focus on the effects these recurring images may have on expectations for real women.

Lecture Hours: 48

LIT949 Special Topics in Literature

1 credits—This course will explore literature focused on a specific theme, genre, or author; introducing the specified topic and seeking to develop appreciation of the selected literature. Selected topics may include but are not limited to: detective fiction, science fiction, short stories, regional writers, or the work of a specific author.

May be taken for up to 3 credits.

Lecture Hours: 16

MAP132 Medical Transcription

2 credits—This course continues to build and strengthen skills involving grammar, punctuation, spelling, and use of reference materials by transcribing a variety of medical reports.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in HSC116, ADM148, and ADM159.

MAP141 Medical Insurance

3 credits—This course is an introduction to various details and forms relative to medical insurance programs and CPT coding.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in HIT250.

MAP152 Computer Patient Billing

2 credits—An introduction to an automated patient billing software will be covered in this course.

Lecture Hours: 16 **Lab Hours:** 32

Pre/Co-requisite(s): A minimum grade of D- in MAP141.

MAP511 Pharmacology for the Medical Secretary

1 credits—The basic knowledge, understanding, and skills necessary to use common pharmaceutical references and spell commonly used drugs.

Lecture Hours: 16

Prerequisite(s): HSC116

MAT045 Fundamentals of Math

4 credits—This course is designed to help students meet minimum competencies for their basic skills in mathematics in the areas of whole numbers, fractions, decimals, percent, and ratio/proportion. Critical thinking, problem solving, and conceptual development are emphasized. Students will be prepared for learning higher order mathematical concepts

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores or equivalent

MAT048 Preparatory Math for Elementary Algebra

4 credits—This course is designed to prepare students for Elementary Algebra. The course will provide instruction in arithmetic and introduce algebra. Students successfully completing the course will meet competencies in basic arithmetic with whole numbers, integers, fractions, and decimals. Successful completion will assure skills needed for basic algebraic problems and a variety of application problems.

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores

MAT052 Pre-Algebra

3 credits—This course is designed to combine both classroom instruction and individualized instruction to prepare students for Elementary Algebra. Teacher-student interaction as well as student interaction with one another will be provided for and encouraged.

Lecture Hours: 48

Prerequisite(s): MAT045

MAT063 Elementary Algebra

4 credits—This course is designed to combine both classroom instruction and individualized instruction to provide students with the critical thinking skills necessary for their subsequent courses and programs. Teacher-student interaction, as well as student interaction with one another, will be provided for and encouraged.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D in MAT048 or MAT052.

MAT102 Intermediate Algebra

4 credits—This course will prepare the student for College Algebra and Trigonometry or other equivalent course work. Topics include properties of real numbers, linear and quadratic equations, graphs of polynomial functions, systems of equations, polynomial and rational expressions, inequalities, integral and rational exponents, radicals, and complex numbers.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in MAT063 or appropriate placement scores.

MAT110 Math for Liberal Arts

3 credits—This is a one semester, liberal arts mathematics course that satisfies the minimum general education requirement for math. The course is designed to impart math skills which are helpful in everyday life as well as to expose students to areas of mathematics they may not have seen before. Topics include problem-solving skills, set theory, algebra, consumer mathematics, probability, and statistics. Other topics may be included.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in MAT063 or equivalent COMPASS score.

MAT122 College Algebra

5 credits—Begins a two semester sequence to prepare students for the calculus sequence. The central theme is the concept of functions, their properties, graphs and applications. Functions studied include polynomial, rational, exponential, and logarithmic functions.

Lecture Hours: 80

Prerequisite(s): MAT102 or equivalent COMPASS score.

MAT128 Precalculus

4 credits—This one-semester pre-calculus course is intended for the student with a solid algebra background who intends to take calculus. It is also beneficial (but not required) for the student to have a background in trigonometry. The course will emphasize functions using an analytical, numerical, and graphical approach. The student will study linear, polynomial, rational, exponential, logarithmic and trigonometric functions along with their applications.

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores

MAT134 Trigonometry and Analytic Geometry

3 credits—The second course of a two-semester pre-calculus sequence. Topics include trigonometry and applications, vectors, analytic geometry, and polar and parametric equations.

Lecture Hours: 48

Prerequisite(s): MAT122 or equivalent COMPASS score.

MAT151 Math Reasoning for Teachers I

3 credits—This course explores mathematics as problem solving, communication, connections, and reasoning with regard to tasks involving numeration, relationships, estimation, and number sense of whole and rational numbers, probability and statistics. Activities and models appropriate to elementary school mathematics are used to represent these topics. This course does not count toward the mathematics requirement for the AA or AS degree.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in MAT063 or equivalent COMPASS score.

MAT156 Statistics

3 credits—This course is a study of descriptive statistics including graphical representation, central tendency, correlation and regression, intuitive treatment of probability and inferential statistics including hypothesis testing.

Lecture Hours: 48

Prerequisite(s): MAT063

MAT210 Calculus I

4 credits—The first in a calculus sequence, this course covers topics including functions and their graphs, limits, derivatives, applications of the derivative, and integrals.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in MAT134 or MAT128 or appropriate placement scores.

MAT216 Calculus II

4 credits—A continuation of MAT-210, this course covers topics including integration techniques, applications of integration, infinite series, conic sections, parametric and polar equations.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in MAT210.

MAT219 Calculus III

4 credits—This course covers topics including integration and differentiation techniques related to vectors, vector-valued functions, functions of several variables, multiple integration, and vector analysis.

Lecture Hours: 64

Prerequisite(s): MAT216

MAT504 Electronics Math I

4 credits—This course presents algebraic concepts, trigonometric concepts and problem solving as applied to electronics. Specific topics included are: algebraic mathematical operations, equations manipulation and solving, quadratic equations, systems of equations, determinants and matrixes, special products and factoring, graphing, trigonometric functions, solutions of triangles, exponents and radicals, complex number systems and elements of plane vectors.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in MAT063 or equivalent COMPASS score.

Co-requisite(s): ELT291

MAT514 Electronics Math II

4 credits—This course presents logarithms as applied to electronics; number systems for computers, Boolean algebra, mapping and statistics as used in the electronic industry.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): MAT504

MAT744 Technical Math

4 credits—In this course students are exposed to the real number system, solution of linear equations, formula rearrangement, solution of word problems, functions and graphs, polynomials, factors and factorization, exponent functions and exponential equations. Emphasis is placed on critical thinking and problem solving skills.

Lecture Hours: 64

Prerequisite(s): MAT063 or equivalent COMPASS score

MAT747 Technical Math II

4 credits—In this course students continue the study of mathematics in various technical applications including trigonometry, geometry, polynomials, vectors, and complex numbers.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in MAT744.

MAT764 Math for Welders

2 credits—This course introduces the basic mathematics principles that are used in the welding and metal fabrication field. Topics include: whole numbers, common fraction, decimal fractions, measurement, percentages and the metric system. This course includes hands on measuring activities.

Lecture Hours: 32

MAT772 Applied Math

3 credits—This course is designed to present basic facts of arithmetic including whole numbers, fractions, decimals, powers, roots, English and metric measurement, ratio-proportion, percents, introduction to algebra, and introduction to geometry. Instruction includes use of scientific hand-held calculators and emphasis placed on critical thinking, problem solving skills.

Lecture Hours: 48

MAT778 Applied Geometry/Trigonometry

3 credits—This course emphasizes practical applications of algebra, geometry, and trigonometry. An understanding of mathematical concepts is stressed in all topics ranging from general arithmetic processes to trigonometry and compound angles. The use of a scientific calculator is introduced and developed throughout the course.

Lecture Hours: 48

Prerequisite(s): MAT772 or equivalent COMPASS score

MAT924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

MFG107 Introduction to 3D Modeling

3 credits—This course will introduce students to designing parts using AutoCAD Inventor software in addition to digitizer and 3-D printer technology. The course includes a basic overview of 3-D software capabilities applied to tooling design and precise machined parts.

Lecture Hours: 16 **Lab Hours:** 64

MFG122 Machine Trade Printreading I

3 credits—This course provides the student with the necessary knowledge to read and interpret basic prints used in the machining industry. It covers terminology, line-types, and drawing interpretation. First and third angle orthographic projection, dimensioning methods, and tolerancing are the major topics covered.

Lecture Hours: 48

MFG142 Geometric Dimensioning Tolerancing

3 credits—This course introduces the student to the use of Geometric Dimensioning and Tolerancing. It consists primarily learning the names, meanings and application of the symbols used on engineering drawings that include GD&T.

Lecture Hours: 48

Prerequisite(s): MFG122

MFG157 Introduction to CNC Programming I

2 credits—In this course students will create basic programs for CNC mills. Student will use a plain ASCII text editor (like Notepad) to input basic industry standard G and M code programs. Programs are run on verification software to ensure accuracy. Speed and feed calculations, operator notes and start-up lines, mill tooling types and procedures, rectangular coordinates, canned (drill) cycles, and file management are other areas of study.

Lecture Hours: 32

Co-requisite(s): A minimum grade of D in MFG302.

MFG158 Introduction to CNC Programming II

2 credits—In this course students will create programs for CNC mills using cutter diameter compensation, sub-routines, and sub-programs. Students will also write start-up lines and basic level programs on CNC lathes. Students will use a plain ASCII text editor (like Notepad) to input basic industry standard G and M code programs. Programs are run on verification software to ensure accuracy. Lathe tooling, typical turning procedures, cutter nose radius compensation, and tip orientation are other areas of study.

Lecture Hours: 32

Pre/Co-requisite(s): A minimum grade of D in MFG157 and MFG302.

MFG193 Machine Shop Processes

3 credits—This course is designed to develop basic skills in precision measurement and layout tools, machine operations for lathes, mills, drills and surface grinders.

Lecture Hours: 16 **Lab Hours:** 64

MFG211 Basic Machine Theory

2 credits—This course presents basic machining processes and concepts necessary to set-up and operate machine shop equipment.

Lecture Hours: 32

MFG214 Advanced Machine Theory

2 credits—Learn advanced machining processes and concepts used while operating machine shop equipment.

Lecture Hours: 32

Prerequisite(s): MFG211 and MFG222

MFG222 Machine Operations I

4 credits—An introductory machining course presenting basic machining operations. Student will perform basic operations on lathes, horizontal + vertical-milling machines, drilling machines, saws, various types of grinders, and precision measuring equipment.

Lecture Hours: 0 **Lab Hours:** 128

Pre/Co-requisite(s): A minimum grade of D in MFG211.

MFG228 Machine Operations II (Effective Fall 2016)

4 credits—This is an advanced hands-on machining course.

Lecture Hours: 32 **Lab Hours:** 96

Prerequisite(s): MFG211 and MFG222

Co-requisite(s): MFG214

MFG228 Machine Operations II (Effective Spring 2017)

4 credits—This is an advanced hands-on machining course.

Lecture Hours: 0 **Co-op Hours:** 128

Prerequisite(s): A minimum grade of D in MFG211 and MFG222.

Pre/Co-requisite(s): A minimum grade of D in MFG214.

MFG302 CNC Fundamentals

3 credits—Covers computer numerical control (CNC) as it relates to milling machines, lathes, and related software. Emphasis on machine set-up and operation, inspection of parts, and communication of peripherals.

Lecture Hours: 0 **Lab Hours:** 96

MFG306 CNC Operations II

2 credits—This program is similar to CNC Operations I except Students will run Hawkeye's CNC Lathes and Machining Centers individually rather than in groups to prove individual understanding of CNC machine operation. Manual equipment will be utilized to perform secondary operations. Manual and CMM inspection equipment will also be experienced. Students will back-plot, set-up, and run unproven programs to ensure the student can find and correct CNC program errors.

Lab Hours: 96

Prerequisite(s): MFG305 and MFG308

MFG309 CNC Programming Theory II (Effective Fall 2016)

4 credits—This course teaches mid-level CNC programming including controller specific canned/auto cycles, cutter compensation, and using subroutine + sub-programs. Machine capabilities such as mirror imaging, axis rotation, and part size scaling will be discussed. Optimizing speeds and feeds by using insert manufacturer's test data.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D- in MFG157 and MFG158.

Co-requisite(s): MFG335

MFG309 CNC Programming Theory II (Effective Spring 2017)

4 credits—This course teaches mid-level CNC programming including canned/auto cycles, cutter compensation, and using subroutine + sub-programs. Machine capabilities such as mirror imaging, axis rotation, and part size scaling will be discussed. Students will draw basic part prints on our CAD/CAM software. Prints will be dimensioned and part drawings will be extruded into solids.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D in MFG308.

Co-requisite(s): MFG335

MFG320 Computer Aided Machining

3 credits—Computer-Aided Machining provides an opportunity to study all steps in the computer-aided design and computer-aided manufacturing processes. This includes drawing, dimensioning, creating solids, creating tool-paths, back-plotting, and program correction. Students utilize CAD/CAM software in creating and running functional CNC programs.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in MFG309.

MFG335 CNC Operations

3 credits—This course is similar to CNC Fundamentals except students will run Hawkeye's CNC lathes and machining centers individually, rather than in groups to prove individual understanding of CNC machine operation. Manual equipment will be utilized to perform secondary operations. Manual and CMM inspection equipment will also be experienced. Students will back-plot, set-up, and run unproven programs to ensure the student can find and correct CNC program errors.

Lecture Hours: 0 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D- in MFG302, MFG157, and MFG158.

MFG364 Hydraulic Jigs and Fixtures

4 credits—A course in building using blueprints, knowledge and skills developed in basic machine concepts and operations. Students are required to build and run jigs and fixtures working within the tolerance of the print.

Lecture Hours: 16 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D in MFG214 and MFG228.

MFG365 General CNC Lathe Maintenance

2 credits—This course is designed for the student who has little or no hands on training for CNC lathes. The course covers the separate subsystems and how they work together. Students will practice: preventive maintenance required to keep the machine running in top condition; diagnosis of problems using existing technical skills supplemented with the training manuals provided with this course. Students will become familiar with the machines' self-checking diagnostics, and how to proceed with troubleshooting and repair as recommended by the manuals or the equipment distributor's service staff.

Lecture Hours: 16 **Lab Hours:** 32

MFG366 General CNC Mill Maintenance

2 credits—This course is designed for the student who has little or no hands on training for CNC mills. The course covers the separate subsystems and how they work together. Students will practice: preventive maintenance required to keep the machine running in top condition; diagnosis of problems using existing technical skills supplemented with the training manuals provided with this course. Students will become familiar with the machines' self-checking diagnostics, and how to proceed with troubleshooting and repair as recommended by the manuals or the equipment distributor's service staff.

Lecture Hours: 16 **Lab Hours:** 32

MFG380 EDM Fundamentals

2 credits—This course covers the basics of wire and ram type EDMing. Classroom instruction includes the theory and fundamentals of EDMing, wire and electrode materials, the role of deionized water and dielectric fluids, power supplies, computer numerical control (CNC) EDM. Lab work consists of fabrication of electrodes and setup and operation of EDM machine tools.

Lecture Hours: 16 **Lab Hours:** 32

MFG404 Basic Diemaking

6 credits—This is a course in basic tool and die theory, building procedures and techniques. Units of instruction include principles of piercing, blanking and bending as well as die terminology and construction applications.

Lecture Hours: 32

Prerequisite(s): A minimum grade of D in MFG211, MFG222, MFG214, and MFG228.

Co-requisite(s): MFG410

MFG408 Basic Diemaking (Effective Fall 2016)

8 credits—This is a course in basic tool and die theory, building procedures and techniques. Units of instruction include principles of piercing, blanking and bending as well as die terminology and construction applications.

Lecture Hours: 48 **Lab Hours:** 240

Prerequisite(s): MFG228

MFG408 Basic Diemaking (Effective Spring 2017)

8 credits—This is a course in basic tool and die theory, building procedures and techniques. Units of instruction include principles of piercing, blanking and bending as well as die terminology and construction applications.

Lecture Hours: 32 **Lab Hours:** 192

Prerequisite(s): A minimum grade of D in MFG214, MFG228, and MFG364

Pre/Co-requisite(s): A minimum grade of D in MFG410.

MFG410 CAD Die Design

3 credits—This course is the study of die assembly prints correlated with work sequencing and procedures used to efficiently produce and assemble dies. Activities include the use of CAD software to derive design information needed to build components in the die for a variety of die designs. The course will develop student skill in using assembly print information to plan the build process for various types of stamping dies.

Lecture Hours: 16 **Lab Hours:** 64

MFG431 Die Revision and Repair

5 credits—This course will train students on common maintenance, repair and revision techniques performed on manufacturing tooling such as stamping dies, injection molds, fixtures and jigs. The student will also learn about the maintenance schedule for manufacturing tools, the function and installation of safety sensors, secondary operation components, and gage and inspection components in production tooling.

Lecture Hours: 16 **Lab Hours:** 128

Prerequisite(s): A minimum grade of D in MFG408.

MFG452 Moldmaking

3 credits—The student is presented with the basic fundamentals of plastic mold construction and molding processes. Experienced individuals may contact instructor to gain admittance to this course.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D- in MFG408.

MFG525 CMM Inspection and SPC

3 credits—This course instructs the student on the capabilities and basic operation of a Coordinate Measuring Machine used in manufacturing to inspect precision machined parts. Students will also be introduced to using inspection data in the Statistical Process Control method of insuring quality production. SPC fundamentals and software applications will be introduced in this course.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of D in MFG142.

MFG924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

MGT101 Principles of Management

3 credits—A study of current theory and practice of leading a complex business organization toward the accomplishment of organizational objectives.

Lecture Hours: 48

MGT110 Small Business Management

3 credits—A study of current theory and practices in creating and running a small business. The course includes the study of management functions as well as a discussion of business startup, including the creation of a business plan.

Lecture Hours: 48

MGT142 Problems and Issues in Supervision and Management

3 credits—This course provides students in the Human Resource Management program with the opportunity to reinforce their learning experiences from preceding HRM courses. Emphasis is placed on application of day-to-day HRM functions by completing exercises, cases, and simulations. Upon completion, students should be able to determine the appropriate actions called for by typical events that affect the status of people at work.

Lecture Hours: 48

MGT170 Human Resource Management

3 credits—A study of the theory, principles, concepts and practices of developing and utilizing personnel within business organizations.

Lecture Hours: 48

MGT174 Training and Employee Development

3 credits—This course covers developing, conducting, and evaluating employee training with attention to adult learning principles. Emphasis is placed on conducting a needs assessment, using various instructional approaches, designing the learning environment, and locating learning resources. Upon completion, students should be able to design, conduct, and evaluate a training program.

Lecture Hours: 48

MGT177 Staffing

3 credits—This course introduces the basic principles involved in managing the employment process. Topics include personnel planning, recruiting, interviewing and screening techniques, maintaining employee records, and voluntary and involuntary separations. Upon completion, students should be able to acquire and retain employees who match position requirements and fulfill organizational objectives.

Lecture Hours: 48

MGT178 Employment Law

3 credits—This course introduces the principle laws and regulations affecting public and private organizations and their employees or prospective employees. Topics include fair employment practices, Equal Employment Opportunity (EEO), affirmative action, and employee rights and protections. Upon completion, students should be able to evaluate organization policy for compliance and assure that decisions are not contrary to law.

Lecture Hours: 48

MGT180 Management and Labor Relations

3 credits—This course covers the history of the organized labor movement and the contractual relationship between corporate management and employees represented by a union. Topics include labor law and unfair labor practices, the role of the National Labor Relations Board (NLRB), organizational campaigns, certification/decertification elections, and grievance procedures. Upon completion, students should be able to act in a proactive and collaborative manner in an environment where union representation exists.

Lecture Hours: 48

MGT190 Employee Compensation and Benefits Management

3 credits—This course will develop knowledge in the area of compensation and benefit practices including job evaluation, salary surveys, individual and group performance based pay plans, health insurance, wellness programs, pensions, and the associated legal environment. Compensation and benefit management theories will be integrated with organizational goals and objectives serving as the overall foundation for development and implementation.

Lecture Hours: 48

MGT210 Management Decision Making

3 credits—A capstone course which uses case studies to review all aspects of the Marketing Management program. Emphasis is placed on decision making and is to be taken in the student's final semester.

Lecture Hours: 48

MGT222 Golf Club Operations

3 credits—Students will study strategic, tactical and operational practices regarding golf courses. Key determinates as to why some golf courses are successful and others struggle.

Lecture Hours: 48

MIL103 Military Survival Skills

2 credits—Basic military survival principles are discussed in class and demonstrated during a Survival Weekend. Concepts taught are: shelter building, water and food gathering, land navigation, first aid, and rescue signaling. Discussion, 1 hr./wk.

Lecture Hours: 16 **Lab Hours:** 32

MIL110 Leadership and Personal Development

1 credits—Introduces students to the personal challenges and competencies that are critical for effective leadership in the military. Students learn how the personal development of life skills such as goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the Army profession. Discussion, 1 hr./wk.

Lab Hours: 32

MIL115 Foundations of Tactical Leadership

1 credits—Examines the challenges of leading in complex contemporary military operational environments. Dimensions of the cross-cultural challenges of military

leadership in a constantly changing world are highlighted and applied to practical leadership tasks and situations. Discussion 2 hrs./wk.

Lecture Hours: 16

MIL120 Innovative Team Leadership

2 credits—Explores the dimensions of creative and innovative military leadership strategies and styles by studying historical case studies and engaging in interactive student exercises. Students practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises. Discussion, 2 hrs./wk.

Lecture Hours: 16 **Lab Hours:** 32

MIL122 Leadership in Changing Environment

2 credits—

Lecture Hours: 32

MKT110 Principles of Marketing

3 credits—An overview of the processes, problems and activities associated with the planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges.

Lecture Hours: 48

MKT140 Principles of Selling

3 credits—Planned learning activities and experiences emphasize the psychology of selling, the selling process, sales techniques, and selling as a professional career.

Lecture Hours: 48

MKT142 Consumer Behavior

3 credits—Consumer behavior is the course within a marketing curriculum that most directly applies concepts, principles, and theories from the various social sciences to the study of the factors that influence the acquisition, consumption, and disposition of products, services, and ideas.

Lecture Hours: 48

MKT152 Advertising and Visual Merchandising

3 credits—This course presents the fundamentals of advertising and visual merchandising as promotional tools. It incorporates the Integrated Marketing Communication (IMC) concept.

Lecture Hours: 48

MKT160 Principles of Retailing

3 credits—Organized learning activities emphasize the status of retail environments, operations, locations, merchandising, pricing and promotions.

Lecture Hours: 48

MKT198 Sports Marketing

3 credits—This course will explain the basics of sports marketing, research, and delivery.

Lecture Hours: 48

MKT924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 3 credits.

Lecture Hours: 16

MLT101 Introduction to Lab Science

2 credits—This course familiarizes the student with the MLT program and the field of laboratory medicine. The organization and role of the clinical laboratory are explored, as well as medical ethics and conduct, employment opportunities, and professional organizations.

Lecture Hours: 32

MLT103 Lab Mathematics

3 credits—Mathematical calculations applicable to the clinical laboratory are studied in this course. Emphasis is on the Metric System and calculations involved in the preparation of laboratory solutions and dilutions.

Lecture Hours: 32 **Lab Hours:** 32

MLT110 Fundamental Lab Techniques

3 credits—This course is directed toward developing the knowledge and technical skill necessary to perform basic laboratory tests. Emphasis is placed on use and maintenance of laboratory equipment, quality control, and safety techniques.

Lecture Hours: 32 **Lab Hours:** 32

MLT120 Urinalysis

3 credits—This course includes the study of urine formation and methodology determining the physical, chemical, and microscopic properties of urine in normal and abnormal states.

Lecture Hours: 32 **Lab Hours:** 32

MLT130 Hematology

3 credits—Hematology is the study of the formed elements of the blood—red blood cells, white blood cells, and platelets. Development and characteristics of these, methods of measurement, and abnormalities are covered.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in MLT110.

MLT230 Advanced Hematology

3 credits—This advanced course is a sequel to Hematology I, and includes an in-depth study of various anemias, leukemias, and other hematologic disorders.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in MLT130.

MLT233 Hemostasis and Thrombosis

2 credits—This course emphasizes the mechanism by which the body prevents loss of blood from the vascular system. There is a focus on chemical responses of blood vessels, platelet activation and biochemical reactions that lead to clot formation and dissolution. Students learn to perform the tests used to detect coagulation deficiencies and abnormalities.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in MLT110.

MLT240 Clinical Chemistry I

7 credits—The student will learn the analytical techniques for precise measurement of chemical constituents of the blood and other body fluids. Clinical correlation of test results with states of health and disease will also be covered.

Lecture Hours: 64 **Lab Hours:** 96

Prerequisite(s): A minimum grade of C in CHM122, MLT110, and MLT103.

MLT250 Clinical Microbiology

4 credits—The emphasis in this course is on bacteria of medical importance, with respect to their cultivation, isolation, identification, and pathogenicity. The student learns techniques of specimen collection, media preparation, culture, staining, biochemical testing, and antibiotic susceptibility testing. Mycology and virology are introduced.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of C in BIO185.

Co-requisite(s): A minimum grade of C in MLT110.

MLT252 Parasitology

1 credits—This course includes a study of medically important human parasites with respect to life cycle, pathogenicity, and laboratory identification.

Lecture Hours: 16

MLT260 Immunoematology

4 credits—Blood grouping, typing, antibody screening and identification, and compatibility testing are covered, along with an overview of hemolytic disease of the newborn, processing of donor blood, and blood component therapy.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): A minimum grade of C in MLT110.

MLT270 Immunology and Serology

2 credits—In this course, the focus is on the reactions of the body's immune system to foreign substances. There is emphasis on reactions between antigens and antibodies and students will learn to detect diseases such as syphilis, infectious mononucleosis, rheumatic fever and others.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in MLT110.

MLT283 Clinical Practicum: Urinalysis

1 credits—This course is a continuation of Urinalysis I and is designed to provide the student with clinical experience in the performance of routine urinalysis. Comparison of methodology with that covered in Urinalysis I is stressed.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C in MLT120.

MLT284 Clinical Practicum: Immunohematology

2 credits—This course is a continuation of Immunohematology I and is designed to provide the student with clinical experience in specimen collection and performance of immunohematologic tests. Comparison and contrast with methodology of Immunohematology I is stressed.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C in MLT260.

MLT285 Clinical Practicum: Chemistry

4 credits—This course is a continuation of Clinical Chemistry I and is designed to provide the student with clinical experience in specimen collection and performance of clinical chemistry tests. Comparison and contrast with methodology of Clinical Chemistry I is stressed and there is emphasis on use of automatic equipment.

Lecture Hours: 16 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of C in MLT240.

MLT286 Clinical Practicum: Immunology and Serology

1 credits—This course is a continuation of Immunology and Serology I and is designed to provide the student with clinical experience in the performance of serologic testing. There is emphasis on the comparison and contrast of methodology with Immunology and Serology I.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C in MLT270.

MLT287 Clinical Practicum: Hematology

4 credits—This course is a continuation of Hematology I and Advanced Hematology. It is designed to provide the student with clinical experience in specimen collection and performance of routine hematology and coagulation tests. Comparison and contrast with methodologies of Hematology I and Advanced Hematology is stressed and experience with automation is provided.

Lecture Hours: 16 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of C in MLT130 and MLT230

MLT288 Clinical Practicum: Microbiology

4 credits—This course is a continuation of Clinical Microbiology I and Parasitology. It is designed to provide the student with experience in bacteriologic, mycotic and parasitologic studies in a clinical setting. Practices and procedure of Clinical Microbiology I are compared and contrasted with clinical practice.

Lecture Hours: 16 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of C in BIO185, MLT250, and MLT252.

MLT291 Lab Survey and Review

1 credits—This course is designed to give the student an opportunity, at the end of the clinical practicum, to review all departments of the laboratory. Class time is provided for review of didactic materials and preparation for the comprehensive examination. Clinic time is provided for review or additional experience in any or all departments of the laboratory.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C in MLT283, MLT284, MLT285, MLT286, MLT287, and MLT288.

MMS103 Basic Digital Photography

3 credits—An introduction to DSLR camera operation, including exposure control and modes, focus techniques, and white balance. Artistic issues like framing, camera angle, use of color and composition will be addressed as well. Students will produce final images using industry standard software. Students must furnish an approved DSLR camera.

Lecture Hours: 32 **Lab Hours:** 32

MMS105 Audio Production

3 credits—This course examines the principles of sound and acoustics and basic audio capture techniques. The equipment for recording as well as production and editing audio will be analyzed and employed. Sound quality and final output issues will be addressed.

Lecture Hours: 32 **Lab Hours:** 32

MMS111 Video Production I

3 credits—This course will provide an introduction to the basics of video production, camera handling, digital exposure, and workflow. Emphasis is on how to handle image workflow to produce a professional video output.

Lecture Hours: 32 **Lab Hours:** 32

MMS117 Social Media for Business

3 credits—This course examines using social media outlets for promoting and doing business. The course will investigate issues and strategies related to social media environments, customer relationships, marketing, managing your communication, sustainability and what social media may look like in the future.

Lecture Hours: 48

MMS124 Survey of Commercial Video

3 credits—This course examines how to produce a variety of types of videos for commercial use including promotional videos, music videos, weddings, corporate videos and live events

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in MMS111.

MMS128 Digital Print Production

3 credits—This course will introduce students to the skills and software used for digital production of printed materials including still photos, brochures, flyers, poster, business cards and other materials printed from original digital creations.

Lecture Hours: 32 **Lab Hours:** 32

MMS134 Media Writing

3 credits—This course will focus on writing for media outlets including newspaper, television, radio, internet and public relations. Emphasis will be on writing clearly for both general and targeted audiences in order to communicate the desired message efficiently.

Lecture Hours: 48

MMS138 Introduction to Website Dynamics

3 credits—This course will introduce students to basic web design principles, content management, marketing theory and system management practices.

Lecture Hours: 32 **Lab Hours:** 32

MMS208 Sound for Film and Video

3 credits—This course will cover the fundamental elements of producing, designing and editing sound for film and video. Students learn the basics of audio recording, sound editing and multi-track sound design specifically for the moving image. Topics covered include microphone techniques, field and studio recording, ADR, Foley techniques and using digital audio multi-tracking software.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in MMS105 and MMS111.

MMS213 Video Production II

3 credits—This course will explain advanced video production techniques.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in MMS111.

MMS214 Audio Production II

3 credits—This course is designed to assist the student in learning advanced principles and processes of audio production. The course builds on skills learned in Audio Production I will familiarize and inform the student on proper techniques in audio production for a variety of media outputs

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in MMS105.

MMS233 Intermediate Digital Photography

3 credits—This course expands on the theory and techniques taught in Basic Digital Photography and addresses a variety of commercial applications. The course will present further instruction in event photography, people and portrait photography and product and promotional photography. The course will include instruction on portable flash equipment, studio equipment, light modifiers and utilizing natural light to the photographer's benefit.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in MMS103.

MMS265 Mass Communications Law

3 credits—This course examines media law, including First Amendment, copyright and fair use. It focuses on social, political, and economic influences. It examines legal constraints for students planning to become professional communicators.

Lecture Hours: 48

MMS300 Cinematography

3 credits—In this course students will gain hands-on experience in digital cinematography. Students will plan and practice camera techniques used for interior and exterior lighting, composition and framing, green screen techniques and other aspects of visual storytelling. Students will practice mechanical aspects of the lens: f-stops, depth of field and rack focus shots. Terminology and theory specific to cinematography will be explored as well as the strategies for common production and photography obstacles will be addressed and put into practice. Projects will be completed in groups as well as individual efforts.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in MMS111 and MMS213 .

MMS302 Solo Video Journalism

3 credits—This course examines and explains the techniques for working in the field of video journalism as a sole practitioner.

Lecture Hours: 32 **Lab Hours:** 32

Pre/Co-requisite(s): A minimum grade of D in MMS111.

MMS303 Scriptwriting

3 credits—Introduces professional scriptwriting techniques, with focus on properly formatting scripts for film, television and radio, including narrative, commercial and broadcast copy. The student will be required to develop scripts using professional screenplay and scriptwriting software.

Lecture Hours: 32 **Lab Hours:** 32

MMS310 Independent Film Production

3 credits—This course provides students with skills to write, produce, direct and edit fictional and non-fictional videos in a narrative format. Students will be instructed on methods and hands-on-skills to construct videos with emphasis on low-budget techniques to better understand the independent film/video market. This includes formulating a story with an angle, structure, content and style. Scriptwriting, budgeting, interviewing, and researching methods are demonstrated through hands-on exercises. Students will view/critique various contemporary documentaries and low budget films as they relate them to their own projects.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in MMS111 and MMS213.

MMS320 Recording Studio I

3 credits—Course will introduce students to the basic operations of a recording studio. The course will detail proper methods for wiring of a studio, discuss studio acoustics, analyze studio design and address proper monitoring. The course will also demonstrate proper microphone placements and advanced compression methods.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS105 and MMS214 .

MMS330 Motion Graphics for Video

3 credits—This course explains the theory and execution of motion graphics in a video production environment. Instruction in use of and methods for constructing a variety of motion graphics and animation techniques will be delivered. Media management and output formats will also be addressed.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS111 and MMS213 .

MMS400 Video Production for Web Streaming

3 credits—This course will provide students technical application and training in producing, shooting and broadcasting via web streaming. It will offer students an advanced understanding of traditional television studio environments, as well as field production. Students will experience hands-on training and team-oriented tasks in studio floor positions, studio lighting, 3-camera operating setup, microphone setups, floor management and set design. In addition, technical aspects of control room duties, live and archival streaming processes will be covered.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS111 and MMS213 .

MMS410 Film Editing

3 credits—In this course, students are introduced to digital (computer) editing. A brief overview of the editing process is covered. Students learn the basics of capturing video and/or digital files, basic editing techniques, basic color effects, audio with video, and storing in a non-destructive style of editing. Students will produce their own edited versions of supplied footage.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS111 and MMS213 .

MMS420 Recording Studio II

3 credits—Course will be an advanced study in producing within the studio environment. The course will provide hands-on use of the studio equipment including mics, mixing boards and digital audio software. Advanced recording techniques will be employed. Production of a variety of music styles and the proper steps involved in recording and mixing and outputting each will be addressed.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS105, MMS214, and MMS320.

MMS430 Documentary Film

3 credits—This course will introduce students to the art of documentary filmmaking and to develop the professional skills used in the field. The class explores a variety of

components of non-fiction filmmaking from the conceptualization of an idea through postproduction.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in MMS111 and MMS213.

MMS901 Portfolio Production

3 credits—The course is intended to advance student knowledge in portfolio and resume construction and job search strategies.

Lecture Hours: 32 **Lab Hours:** 32

MMS905 Digital Mass Media Internship

1 credits—Students will intern at media agencies and outlets in the region and state, focusing on internal operations and client relations. May take for up to three credits.

Lecture Hours: 0 **Co-op Hours:** 64

Prerequisite(s): A minimum grade of D in MMS111, MMS105, MMS103, and MMS138.

MMS949 Special Topics

3 credits—This course offers a specialized study or project under the supervision of a faculty member and approved by the division chair. It may not duplicate any course already in the catalog. Students earn credit based upon the agreed upon credit and contact hours. Instructor permission required.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in MMS103, MMS105, MMS111, and MMS138.

MUA101 Applied Voice

1 credits—This course offers one half-hour lesson of private instruction per week, with a minimum of 30 minutes of practice per day. The goal is the development of both fundamental and advanced vocal techniques. The presentation of the standard repertoire for the specific voice is required. This course can be repeated with different content for credit.

Lecture Hours: 16

MUA106 Class Voice

1 credits—This course provides instruction in fundamental vocal techniques. Breath support, diction, posture, vowel formation, tone production and stage presence will be explored through standard vocal repertoire chosen for each student's voice type.

Lab Hours: 32

MUA119 Class Piano

1 credits—This course is designed for the student with no background in piano. It is especially recommended for the music student without piano experience, as well as the student who wishes to learn something of the piano for enjoyment. The student will begin to learn to read musical notation, develop the rudiments of technique, and become familiar with the keyboard. A minimum of three (3) hours of practice per week is essential. This course can be repeated with different content for credit.

Lab Hours: 32

MUA120 Applied Piano

1 credits—Individualized instruction in piano for the beginning, intermediate, or advanced student. Requires fourteen 25 minute lessons during the semester. Additional outside practice/preparation is required. This course can be repeated with different content for credit. No prior musical experience is necessary.

May be repeated once.

Lecture Hours: 16

MUA121 Applied Piano II

2 credits—This course provides applied lessons and guided instruction in tone production, technique, and musicianship skills. Students advance their skills through weekly lessons and regular practice of fundamental techniques and appropriate repertoire. This course can be repeated with different content for credit.

Lecture Hours: 32

MUA180 Applied Percussion

1 credits—Individualized instruction in percussion/drum set for the beginning, intermediate or advanced student. Requires 30 minute weekly lessons during the semester. Additional outside practice/preparation is required. This course may be repeated with different content for credit. No prior musical experience is necessary.

Lecture Hours: 16

MUA181 Applied Percussion II

1 credits—Individualized instruction in percussion/drum set for the beginning, intermediate or advanced student. Requires 30 minute lessons during the semester. Additional outside practice/preparation is required. This course can be repeated with different content for credit.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C- in MUA180.

MUA319 Applied Voice II

1 credits—Provides applied lessons and guided instruction in tone production, technique, musicianship, and performance practice. Students advance their skills through weekly lessons and regular practice of fundamental techniques and solo repertoire. This course can be repeated with different content for credit.

May be repeated once.

Lecture Hours: 16

MUS100 Music Appreciation

3 credits—An introduction to the musical arts through listening to and studying the music of various periods. Some sections of the course may be presented by live musicians. Allied arts, including dance, painting, and literature, may be used to demonstrate the relatedness of music to the larger scope of human experience.

Lecture Hours: 48

MUS102 Music Fundamentals

3 credits—Introduction to Music Theory. Basic skills and vocabulary. For non majors with limited background in music fundamentals, or as preparation for music major theory courses. Emphasis on notation, key/time signatures, rhythm, and aural training. (Variable)

Lecture Hours: 48

MUS154 Chorus

1 credits—This course is designed for the student to participate in group performances. The performing group meets regularly and presents a wide variety of choral literature throughout the year. This course can be repeated with different content for credit.

May be repeated once.

Lab Hours: 32

MUS202 World Music

3 credits—This course is an exploration and comparative examination of non-western music and cultural traditions. Formatted for the general student and music major, the course will include fundamentals of music, basic elements of global music, and study of societal and cultural influence of music traditions on a nation/country.

Lecture Hours: 48

NET109 A+ Certification Prep Course

4 credits—This course will teach basic knowledge of desktop and laptop operating systems. This course will teach the important knowledge and skills necessary to competently install, build, configure, upgrade, troubleshoot and repair personal computer compatible hardware including troubleshooting basic network and internet connectivity, dial-up, DSL, and cable. Additionally, this course will also cover the latest memory, bus, peripherals, and wireless technologies.

Lecture Hours: 32 **Lab Hours:** 64

NET152 Advanced Network Technologies

3 credits—This course will cover the advanced topics of networking topologies, management utilities, performance monitoring and management, construct network security, develop and maintain network documentation and determine appropriate action for common problems. Students will learn skills associated with network remote access, performance monitoring and extension of network services via wireless technologies. This course will build and expand upon Cisco 1-4 concepts and skills.

Lecture Hours: 48

NET213 CISCO Networking

4 credits—This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. Labs use a ?model Internet? to allow students to analyze real data without affecting production networks. Packet Tracer (PT) activities help students analyze protocol and network operation and build small networks in a simulated environment. At the end of the course, students build simple LAN topologies by applying basic principles of cabling, performing basic configurations of network devices such as routers and switches, and implementing IP addressing schemes.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in MAT063.

NET225 Routing and Switching Essentials

4 credits—This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single area and multi-area OSPF, virtual LANS, and inter-VLAN routing in both IPv4 and IPv6 networks.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in NET213.

NET268 CCNA Routing and Switching: Scaling Networks

3 credits—This is the third of four courses leading to the Cisco Certified Network Associate (CCNA) designation. This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in NET225.

NET269 CCNA Routing and Switching: Connecting Networks

3 credits—This is the fourth of four courses leading to the Cisco Certified Network Associate (CCNA) designation. This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in NET268.

NET310 Virtual Machines

3 credits—This course will cover the concepts of virtualization including hardware and software. Topics will include benefits vs. risks analysis, installation and configuration, operation and maintenance and disaster recovery.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in NET313.

NET313 Windows Server

3 credits—This course provides the core foundation for supporting network based servers. Students will learn the skills necessary to install, configure, customize, optimize, network, integrate and troubleshoot a server based operating system. Students will study the design, implementation, and support a Network Server network including specialized servers that are common to most networks.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in NET109 and NET213.

NET320 Advanced Server Configuration

3 credits—This course provides advanced concepts for supporting network based servers. Students will learn the skills necessary to install, configure, and manage network server technologies typically implemented with a server based operating system. Students will study the design, implementation, and optimization of both advanced and emerging services that a network server commonly provides for business networks.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in NET313.

NET346 Windows Exchange Server

3 credits—This course provides students with the knowledge and skills that are needed to update and support a reliable, secure messaging infrastructure. This infrastructure is used for creating, storing, and sharing information by using Microsoft Exchange Server in a medium-sized to large-sized (100 to 5,000 seats) messaging environment. This course offers a significant amount of hands-on practices, discussions, and assessments that assist students in becoming proficient in the skills that are needed to update and support Exchange Server.

Lecture Hours: 32 **Lab Hours:** 32

Pre/Co-requisite(s): NET313

NET412 Linux System Administration

3 credits—This course will introduce students to the Linux Operating System and is designed for students with little or no previous experience with Linux. Students will gain experience and understanding of basic setup and installation, configuration, navigation, permissions, command shells, and GUI environments available on Linux systems.

Lecture Hours: 32 **Lab Hours:** 32

NET474 Certification Preparation

1 credits—Course is designed as a review and final preparation for students taking Information Technology certification tests.

Lecture Hours: 16

Prerequisite(s): Instructor approval required. Must have satisfactory grades in supporting classes and demonstrate motivation to attain certification.

NET475 Certification Preparation

2 credits—Course is designed as a review and final preparation for students taking Information Technology industry certification exams.

Lecture Hours: 32

Prerequisite(s): Instructor approval required. Must have satisfactory grades in supporting classes and demonstrate motivation to attain certification.

NET612 Fundamentals of Network Security

3 credits—This course is designed to provide student with a fundamental understanding of network security principles and implementation. Students examine the technologies used and principles involved in creating a secure computer networking environment.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): NET313

NET710 SQL Database

2 credits—This course is designed to give the student the basics of computer database administration. To teach the student what a database server is and how it is used in a modern computer network. The course will inform the student about the components of the database and the tools used to tune the database software for optimum performance.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): CIS303 and NET313

NET916 Experiential Learning

5 credits—This course will allow students to put the skills obtained in the program to practical use in a simulated real world environment. In addition, students will refine teamwork skills and learn to conduct their actions in an appropriate manner for the business world.

Lecture Hours: 16 **Lab Hours:** 128

Prerequisite(s): Instructor consent is needed to verify that students are getting the correct section for their major and that only fourth semester graduating students take this course.

NET932 Internship

2 credits—This course provides students with the opportunity to gain practical work experience, while applying skills and techniques learned in their program of study, under the supervision of an employer, manager, or supervisor.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C in NET109. Must be in program major and completed 30 credits in one of the following programs: Network Administration and Engineering, Information Systems Management, and Web Design and Development.

NET949 Special Topics

1 credits—This course, usually offered on a limited basis only, provides an in-depth study on a topic of general interest pertaining to this department.

May be taken for up to 3 credits.

Lecture Hours: 16

OTA102 Human Movement and Occupation

3 credits—Study of the interrelationship between the central nervous system, peripheral nervous system, and musculoskeletal system and analysis of functional movement required for engagement in occupation. Formal and informal biomechanical assessment methodologies are presented. Students will gain skill in utilizing assessment data for the occupational therapy process in collaboration with the occupational therapist.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): Admission to Phase II of the Occupational Therapy Assistant program.

OTA103 Task Analysis

3 credits—The development and emergence of human occupational performance throughout the lifespan is examined by exploring areas of occupation, occupational roles, habits and routines. Students will learn to analyze occupational tasks and functional activity demands, grade and adapt activities, and build the basic skills necessary for teaching therapeutic activities to meet the needs of occupational therapy consumers, either individually or in groups. Emphasis will be placed on the use of occupation-based media as a means of understanding a client's cognitive and functional performance. The significance of context and environment will also be explored in relationship to program planning and implementation of therapeutic interventions. Additional topics include an introduction to note writing and goal development.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): Admission to Phase II of the Occupational Therapy Assistant program.

OTA104 Assistive Tech and EM

2 credits—An introduction to the role of assistive technology and environmental modification used to facilitate occupational performance. Topics will include: determination of need, selection of and instruction in use of assistive technology and/or environmental modification, low vs. high tech equipment options, and assessment of client safety during occupational performance.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): Admission to Phase II of the Occupational Therapy Assistant program.

OTA201 Pediatrics and Occupation

3 credits—The first in a sequence of courses addressing conditions causing disruption of occupational behaviors, skills, and life roles in humans throughout the lifespan. This course presents occupational and developmental frameworks for understanding the occupational nature of infants and children through the adolescent period, their families and caregivers. Means of applying the occupational therapy process by the occupational therapy assistant is studied within the contexts of a variety of disorders, conditions, and circumstances affecting this period of human development.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in OTA102, OTA103, and OTA104.

OTA202 Pediatric OTA Skills

3 credits—Structured experiential learning will provide opportunities for the student to solidify knowledge, develop and practice professional skills and behaviors utilized in the occupational therapy process with infants and children through the adolescent period and their families in a variety of settings.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of C in OTA102, OTA103, and OTA104.

OTA203 Level I Fieldwork Pediatrics

2 credits—Students will be participant-observers in settings providing occupational therapy services to children and/or adolescents. Emphasis will be placed on development of professional work habits and supervisory collaboration.

Lecture Hours: 16 **Co-op Hours:** 64

Prerequisite(s): A minimum grade of C in OTA102, OTA103, and OTA104.

OTA204 Pediatric Psychosocial Conditions and Occupations

1 credits—The first in a sequence of courses addressing psychosocial conditions causing disruption of occupational behaviors, skills, and life roles in humans throughout the lifespan. This course presents occupational and developmental frameworks for understanding the occupational nature of infants and children through the adolescent period, their families and caregivers. Means of applying the occupational therapy process by the occupational therapy assistant is studied within the contexts of a variety of mental health disorders, conditions, and circumstances affecting this period of human development.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in OTA102, OTA103, and OTA104.

OTA302 Physical OTA Skills

3 credits—Structured experiential learning will provide opportunities for the student to solidify knowledge, develop and practice professional behaviors utilized in the occupational therapy process for individuals experiencing disruption in motor and sensory-perceptual abilities needed for adaptive occupational performance.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of C in OTA311, OTA312, OTA313, and OTA501.

OTA310 Adult Physical Conditions and Occupations

3 credits—The second in a sequence of courses addressing conditions causing disruption of occupational skills and life roles in humans throughout the lifespan. This course presents theoretical frameworks and models of practice for understanding the occupational nature of early to middle adulthood at home, work and in the community. Approaches for applying the occupational process by the occupational therapy assistant is studied within the contexts of a variety of physical disorders, conditions, and circumstances affecting this period of human development.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in OTA311, OTA312, OTA313, and OTA501.

OTA311 Adult Psychosocial Conditions and Occupations

2 credits—The second in a sequence of courses addressing psychosocial conditions causing disruption of occupational behaviors, skills, and life roles in humans throughout the lifespan. This course presents theoretical frameworks and models for understanding the occupational nature of early to middle adulthood at home, at work, and in the community. Approaches to applying the occupational process by the occupational therapy assistant is studied within the contexts of a variety of psychosocial disorders and conditions, and circumstances affecting this period of human development.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in OTA201, OTA202, OTA203, and OTA204.

OTA312 Adult Psychosocial OTA Skills

2 credits—Structured experiential learning will provide opportunities for the student to solidify knowledge, develop and practice professional skills and behaviors utilized in the

occupational therapy process for individuals experiencing disruption in social, emotional and interactional abilities needed for adaptive occupational performance. Both individual and group intervention strategies are explored.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in OTA201, OTA202, OTA203, and OTA204.

OTA313 Level I Fieldwork Psychosocial

1 credits—Students will be participant-observers in settings providing occupational therapy services to adult consumers with psychosocial conditions. Emphasis will be placed on development of professional work habits and supervisory collaboration.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C in OTA201, OTA202, OTA203, and OTA204.

OTA401 Elders and Occupation

2 credits—The third in a sequence of courses addressing conditions causing disruption of occupational behaviors, skills and life roles in humans throughout the lifespan. This course presents theoretical frameworks and models for understanding the occupational nature of late adulthood at home, at work, and in the community. Approaches to applying the occupational therapy process by the occupational therapy assistant is studied within the context of a variety of disorders, conditions, and circumstances affecting this period of human development.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in OTA311, OTA312, OTA313, and OTA501.

OTA402 OTA Skills for Elders

2 credits—Structured experiential learning will provide opportunities for the student to solidify knowledge, develop and practice professional skills and behaviors utilized in the occupational therapy process with elder consumers in a variety of settings.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in OTA311, OTA312, OTA313, and OTA501.

OTA403 Level I Fieldwork Physical Dysfunction

1 credits—Students will be participant-observers in settings providing occupational therapy services to adult consumers with physical dysfunction. Emphasis will be placed on development of professional work habits and supervisory collaboration.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C in OTA311, OTA312, OTA313, and OTA501.

OTA501 Professional Practice for OTA

3 credits—This course speaks to the management and service roles of the occupational therapy assistant, as well as ongoing responsibilities of a career as an occupational therapy healthcare professional. Active learning strategies requiring the student to transcend from a student to entry level practitioner.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in OTA201, OTA202, OTA203, and OTA204.

OTA502 Level II Fieldwork A

5 credits—The first of two courses consisting of 8 weeks of full-time community-based clinical education. Students will participate in the delivery of occupational therapy services, in collaboration and with supervision from a currently licensed or credentialed occupational therapist or occupational therapy assistant. They will work with individuals at different point of the lifespan, experiencing disruption of occupational performance.

Co-op Hours: 320

Prerequisite(s): A minimum grade of C in OTA310, OTA302, OTA401, OTA402, and OTA403.

OTA503 Level II Fieldwork B

5 credits—The second of two courses consisting of 8 weeks of full time community-based clinical education. Students will participate in the delivery of occupational therapy services, in collaboration and with supervision from a currently licensed or credentialed occupational therapist or occupational therapy assistant. They will work with individuals at different points of the lifespan, experiencing disruption of occupational performance.

Co-op Hours: 320

Prerequisite(s): A minimum grade of C in OTA502.

PEA102 Aerobic Fitness I

1 credits—This aerobic course, designed to improve physical fitness levels, starts at the beginner level with students progressing at their own pace. Participants will be given the opportunity to engage in various types of cardiovascular exercise, some being set to music. Abdominal and low-back exercises are also emphasized.

Lab Hours: 32

PEA117 Bowling I

1 credits—This skill course introduces students to the lifetime activity of bowling. The course will cover basic fundamentals of bowling such as rules and etiquette, approach, ball delivery, strikes, spares, and scoring. Individual, league, and tournament play will also be included.

Lab Hours: 32

PEA123 Circuit Training

1 credits—This aerobic course incorporates cross-training techniques allowing for an increased caloric expenditure with simultaneous improvement in muscular strength and endurance and flexibility. Alternating between resistance training, cardiovascular, and flexibility exercises provides the benefits of all three types of activities in one exercise session.

Lab Hours: 32

PEA125 Indoor Cycling

1 credits—This aerobic course introduces students to a low-impact, go at your own pace, cardiovascular workout with no complicated moves to learn. The class is set to music, conducted in a group format, and uses specially built stationary bicycles to improve current health and fitness levels.

Lab Hours: 32

PEA150 Powerwalking

1 credits—Power Walking is one of the most convenient forms of exercise. It takes minimal equipment and can be done anywhere. This course is designed to provide students with the opportunity to learn a lifelong physical activity. Power Walking is also an excellent way to start a fitness program.

Lab Hours: 32

PEA176 Volleyball I

1 credits—This skill course introduces students to the lifetime activity of volleyball. This will be a fundamental course, teaching the basics of the game from scoring to the actual playing. This course will also cover volleyball etiquette. The class will play two on two, three on three, and standard volleyball.

Lab Hours: 32

PEA187 Weight Training I

1 credits—This skill course introduces the student to basic principles of weight training and the effects of this type of exercise on the body. Personalized programs will be the focus while emphasizing proper lifting techniques and safety issues.

Lab Hours: 32

PEA191 Pilates

1 credits—This skill course is designed to provide students with the opportunity to learn Pilates principles and mat-based exercises from the beginner level, through the intermediate level, and finishing with the advanced level. Pilates is a form of exercise that focuses on core stability and strength while simultaneously lengthening and strengthening the muscles without adding "bulk".

Lab Hours: 32

PEA194 Vinyasa Yoga

1 credits—This skill course introduces the fundamentals of Vinyasa Yoga. Vinyasa Yoga focuses on balanced asana (posture) sequences, as well as the connection of the asanas and the breath. There are a host of associated benefits including, but not limited to, increased levels of body awareness, increased strength and flexibility, as well as the benefits shown to be associated with relaxation.

Lab Hours: 32

PEA196 Iron Yoga-Pilates Infusion

1 credits—This skills course provides students with an opportunity to contrast and compare yoga and Pilates, and use a host of equipment to compliment both. Emphasis will be placed on muscular strength and endurance, flexibility, physical balance and mind control.

Lab Hours: 32

PEC110 Coaching Ethics, Techniques, and Theory

1 credits—This is one of the four courses required to receive a coaching authorization or endorsement. This course meets the required hours for ethics. By the end of this course, participants should be able to explain methodology and responsibilities of a successful coach, apply teaching techniques to sports skills, connect how communication and motivation affect performance, and distinguish appropriate ethical behavior of coaches and students. Taking responsibility for their own learning, participants should be able to plan

for an effective and meaningful experience for the athlete that is supported by informed decision-making.

Lecture Hours: 16

PEC115 Athletic Development and Human Growth

1 credits—This is one of the four courses required to receive a coaching authorization or endorsement. This course will connect the participants to the basic concepts of growth and development of students in the 5th through 12th grade who would participate in school sponsored athletics. By the end of this course, participants should be able to explain how and when physical, social, emotional, and intellectual development occurs and how this development affects learning, behavior and performance. Taking responsibility for their own learning, participants should be able to plan for an effective and meaningful athletic experience for the adolescent that is supported by informed decision-making.

Lecture Hours: 16

PEC123 Anatomy for Coaching

1 credits—This is one of the four courses required to receive a coaching authorization or endorsement. By the end of this course, participants should be able to apply basic physiological concepts to athletics, connect how they affect movement, conditioning, and performance. Taking responsibility for their own learning, participants should be able to plan for an effective and meaningful experience for the athlete that is supported by informed decision-making.

Lecture Hours: 16

PEC127 Care and Prevention of Athletic Injuries

2 credits—This is one of the four courses required to receive a coaching authorization or endorsement. This course will describe the duties and responsibilities in protecting the health of athletes. The course is aimed at recognizing injuries and providing basic care for those injuries as well as techniques to prevent injuries from occurring.

Lecture Hours: 32

PEH111 Personal Wellness

3 credits—This is an introductory level course designed to explore wellness in all dimensions. Students will assess their overall level of wellness, assess current lifestyle choices, and be enabled with strategies that will lead to an improved lifestyle and overall level of wellness.

Lecture Hours: 48

PEH141 First Aid

2 credits—This course will use discussion and application to provide the layperson with the basic skills and knowledge necessary to provide First Aid, CPR, and AED to adult, child, and infant populations. Certification by the American Red Cross will be awarded to those who qualify.

Lecture Hours: 32

PEH266 Leadership Techniques for Fitness Programs (Effective Fall 2016)

3 credits—This course will prepare students to develop and implement an individualized and group approach to exercise leadership in healthy populations. The student will also

become proficient in writing, leading, and demonstrating safe and effective methods of exercise by applying the fundamental principles of exercise science.

Lecture Hours: 32 **Lab Hours:** 32

PEH266 Leadership Techniques for Fitness Programs (Effective Spring 2017)

3 credits—This course will prepare students to develop and implement an individualized and group approach to exercise leadership in healthy populations. The student will also become proficient in writing, leading, and demonstrating safe and effective methods of exercise by applying the fundamental principles of exercise science.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in BIO163 or BIO168.

PHI101 Introduction to Philosophy

3 credits—An investigation of some of the fundamental problems of human existence-- human nature, the nature of reality, how and what we know, the existence of God, ethical behavior, justice and freedom. This will be undertaken through readings and discussions of major philosophical schools of thought in Western and non-Western traditions.

Lecture Hours: 48

PHI105 Introduction to Ethics

3 credits—Introduction to Ethics examines contemporary ethical conflicts and provides a grounding in the language, concepts, and traditions of ethics. This course provides students with the intellectual tools to analyze moral dilemmas in the fields they choose to pursue and participate in as members of society.

Lecture Hours: 48

PHI121 Classical/Medieval Philosophy

3 credits—This course will cover an intellectual history of Western civilization from the pre-Socratic philosophers through Scholasticism. The course will begin by looking at several philosophers preceding Socrates, as well as study Socrates, Plato, Aristotle, and the impact of Greek philosophy. It will then look at the development of early Christianity through Augustine, the early Medieval period through Thomas Aquinas, and the late medieval period through William of Occam.

Lecture Hours: 48

PHS120 Exploring Physical Science

4 credits—This course introduces the student to the concepts and processes of physics, chemistry, astronomy, and earth science. Students are presented with a general overview of theories that have an impact on their everyday lives.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D- in MAT063.

PHS142 Principles of Astronomy

3 credits—This physical science course explores the mysteries of the universe. Through scientific reason, the course will examine the following: the history of astronomy, the planets, stars, nebulae, galaxies, the creation and fate of the universe and our place in it. This course includes amateur observation techniques.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in MAT063 or appropriate placement score.

PHS152 Astronomy

4 credits—A basic course in descriptive astronomy dealing with the development of modern astronomy and with its present-day theories and observations. Topics covered include motions of solar system and deep sky objects, telescopes and other instruments, members of the solar system, nature of the sun, other stars, origin and development of stars and planets, our galaxy, other galaxies, and the organization of the universe.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C- in MAT063 or appropriate placement score.

PHS928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course

Lecture Hours: 16

PHT102 Photo Design I

3 credits—This course identifies the fundamental design and compositional elements contained in quality images used for professional photography. The course provides exposure to several photographic styles which can be drawn upon for each individual's photographic journeys.

Lecture Hours: 48

PHT106 Introduction to Image Editing

3 credits—This course will provide a basic introduction to raster based still digital image manipulation using industry standard software. This course is designed to provide students with a workable understanding of the digital software interface and tools used in imaging workflows.

Lecture Hours: 32 **Lab Hours:** 32

PHT108 Camera I

3 credits—This course is an introduction to the basics of camera handling, exposure and meter usage.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT108.

PHT109 Print I

3 credits—This course is an introduction to the basics of processing camera outputs and applying techniques used to produce a professional print. This course also emphasizes the fundamental print finishing methods used in the professional photography industry to enhance a photograph's overall presentation.

Lecture Hours: 32 **Lab Hours:** 32

Pre/Co-requisite(s): PHT108

PHT110 Camera II

3 credits—This course is an extension of Camera I and expands on camera captures, introducing editing workflows and image conversions. Additional camera accessories and optical image management are explained along with common problems with optics and what can be done to correct for them.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): PHT108

PHT111 Print II

3 credits—This course emphasizes color output and the need for a properly managed original image, and properly managed output devices that result in either physical prints or virtual presentations.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): PHT109 and PHT106

Pre/Co-requisite(s): PHT202 or PHT204

PHT132 Photo Design II

3 credits—This course presents the physical, physiological, and psychological dimensions of color and light as perceived by people. The interaction of colors is explored as it relates to studying the forms of color, color harmonies, and color contrasts.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in PHT102.

PHT202 Basic Portraiture

3 credits—This course presents an introduction and an overview of the professional portrait field. The course will introduce management techniques used in portrait studios. The course will include instruction on studio equipment and utilizing natural light and studio lighting to produce acceptable portraits.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT106, PHT108, and PHT109.

PHT204 Basic Commercial Photography

3 credits—This course presents an overview of a profession in commercial still photography. Techniques, assignment types, expectations, working conditions, types of photography products used, studio procedures and equipment requirements will be discussed. Simple commercial techniques will be applied in practical assignments.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT106, PHT108, and PHT109.

PHT208 Basic Photojournalism

3 credits—This survey of photojournalism as a profession leads to publishable photographs through practical assignments. The techniques and working style of outstanding photojournalists are presented in multi-image programs.

Lecture Hours: 48

PHT210 Visual Communication

3 credits—This course is a survey of the tools, materials and processes used for the production of visual messages in society. Course work includes practical application in the selection, utilization and implementation of materials in the preparation and design of messages.

Lecture Hours: 48

PHT215 Portrait Image Editing

3 credits—This course will deal with adjusting and enhancing images after capture and before final output using computer imaging software. Emphasis will be on images used in the portrait photography industry.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): PHT106

PHT216 Commercial Image Editing

3 credits—This course will deal with adjusting and enhancing images after capture and before final output using computer imaging software. Emphasis will be on images used in the commercial photography industry.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): PHT106 and PHT111

PHT217 Advanced Portrait Image Editing

3 credits—This course will deal with multiple images in portrait production giving a series of images that will be used together in an album or multi-image presentation a consistent look, or insuring a series of images that will be combined into a composite image will have appropriate balance.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): PHT215

PHT218 Advanced Commercial Image Editing

3 credits—This course will deal with multiple images in commercial production; giving a series of images that will be used together in a catalog or brochure a consistent look, or insuring a series of images that will be combined into a composite image will have appropriate balance.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): PHT216

PHT220 Intermediate Portraiture

3 credits—This course is designed to assist the student in learning advanced portrait techniques and the business tools needed to start and maintain a portrait studio. The course creates an awareness of the work environment the student will enter. This course builds on the skills learned in Basic Portraiture and will include portrait assignments incorporating the criteria for acceptable portraits while utilizing studio lighting and natural lighting.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT202.

PHT227 Intermediate Commercial

3 credits—This course builds on the theory and techniques learned in Basic Commercial Photography. Lighting and image control will be presented in a variety of situations both in the studio and on location.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT204.

PHT229 Intermediate Photojournalism

3 credits—This course prepares students to find employment with various publications and media outlets including newspapers, magazines, public relations departments and internet outlets. Portfolio presentation is required upon completion

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in PHT208.

PHT235 Tech. for Studio Promotion

3 credits—This course emphasizes fundamental promotional methods used in professional portrait photography studios and provides exposure to the various advertising and marketing strategies to promote the studio and raise public awareness.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT202 or PHT204.

PHT240 Portrait Production and Portfolio

3 credits—This course is designed to assist the student in learning production portrait techniques and the customer services needed to start and maintain a portrait studio. The course creates an awareness of the work environment. This course builds on the skills learned in Intermediate Portraiture and will include various portrait assignments in the studio, outdoors and on location. A portfolio presentation is required upon completion.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT220.

PHT241 Portrait Business

3 credits—This course overviews the day to day operations specific to a portrait photography business, including business structure, cost of doing business, invoicing, staffing and business taxes.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT202.

PHT242 Audio Visual Presentations

3 credits—This course introduces the student to the aspects of planning, producing, distributing and presenting computer based multimedia. Macintosh and PC computer platforms will be utilized to complete assignments. Students will integrate digital photography and digital audio to produce assignments.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT110 or MMS103.

PHT244 Wedding Photography

4 credits—This course presents an overview of the professional wedding field. The course will include instruction on equipment, lighting and posing utilized for photographing a wedding. The course will also cover marketing, sales techniques and the day-to-day business procedures needed to operate a wedding business.

Lecture Hours: 32 **Lab Hours:** 64

Prerequisite(s): PHT220

PHT245 History of Photography

3 credits—This course introduces the student to the history of the photographic profession and its ascent to the modern art form we know today. The people, processes, and their contribution to society throughout photography's short history will be discussed and studied. In addition, the medium's future will be examined.

Lecture Hours: 48

PHT247 Commercial Production and Portfolio (Effective Fall 2016)

3 credits—This course will look at a number of challenging situations likely to be encountered by commercial photographers, including ones that require advanced lighting solutions, large teams of people, or extensive planning and preparation. This course analyzes a variety of photographic styles and considers the importance of developing a personal photographic style. Students will be required to produce and present a portfolio of their commercial images.

Lecture Hours: 32

Prerequisite(s): PHT227

PHT247 Commercial Production and Portfolio (Effective Spring 2017)

3 credits—This course will look at a number of challenging situations likely to be encountered by commercial photographers, including ones that require advanced lighting solutions, large teams of people, or extensive planning and preparation. This course analyzes a variety of photographic styles and considers the importance of developing a personal photographic style. Students will be required to produce and present a portfolio of their commercial images.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in PHT227.

PHT248 Commercial Business

3 credits—This course overviews the day to day operations specific to a commercial photography business, including business structure, cost of doing business, invoicing, staffing and business taxes.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in PHT204.

PHT249 Advanced Commercial Lighting

3 credits—The course will cover advanced lighting theory and techniques, working with a number of both common and challenging lighting situations likely to be encountered by commercial photographers, on location and in studio.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT204.

PHT251 Fine Art Photography

3 credits—This course will present an overview of the Fine Art Photography field. Outlets will be identified for selling personal fine art photography. The course will also include instruction on how to apply to shows and give direction on how to present, display, and sell fine art photography.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of D in PHT111.

PHT252 Film and Print Scanning

3 credits—This course will study the conversion from analog film and prints into a digital format that can be used within electronic image editing and output.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): PHT215 or PHT216

PHT253 Art Direction

3 credits—This course will provide an overview of the working relationship between the photographer and the art director, as well as explore skills needed for good communication and collaboration.

Lecture Hours: 48

Pre/Co-requisite(s): A minimum grade of D in PHT204.

PHT928 Photography Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course

May be taken for up to 5 credits.

Lab Hours: 32

PHY100 Physics in Everyday Life

3 credits—Basic laws and concepts of physics introduced and demonstrated through operation of everyday devices and systems. Emphasis on understanding physical principles behind working of modern technologies and interplay between science and technology.

Lecture Hours: 48

PHY162 College Physics I

4 credits—This course covers the fundamental concepts, principles and laws of physics and their applications. It covers kinematics, dynamics, force, linear and rotational motion, fluids, sound, temperature, and heat.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in MAT747, MAT128, MAT134, or appropriate placement score to enroll in MAT210.

PHY172 College Physics II

4 credits—This course is the second semester continuation of General Physics I. The course studies the fundamental concepts, principles and laws of physics and their application. It covers electricity and magnetism, light and geometric optics, quantum and nuclear physics.

Lecture Hours: 48 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in PHY162.

PHY183 Applied Physics

3 credits—This course is an introduction to topics of classical physics such as motion, friction, gravitation, vibrational motion, thermodynamics, sound, light and optics.

Lecture Hours: 32 Lab Hours: 32

Prerequisite(s): A minimum grade of D- in MAT514 or MAT747.

PHY212 Classical Physics I

5 credits—This course introduces physics using calculus-level mathematics. Designed for students in Engineering, Mathematics, and Physics. The first semester of this sequence covers the topics of vectors, linear and rotational kinematics, statics, dynamics, oscillatory and wave motion, temperature, and heat.

Lecture Hours: 64 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in MAT210.

PHY222 Classical Physics II

5 credits—This course is the second semester continuation of Classical Physics I. This is a calculus-based course that studies the fundamental concepts, principles and laws of physics, and their applications. Topics include: electricity and magnetism, light and geometric optics, quantum and nuclear physics.

Lecture Hours: 64 Lab Hours: 32

Prerequisite(s): A minimum grade of C- in PHY212 and MAT216.

PNN100 Nursing Assistant

3 credits—This course is designed to meet the training requirements of the Omnibus Reconciliation Act of 1987 (OBRA) for aides working in nursing facilities (NF) and skilled nursing facilities (SNF). Emphasis in the course is on students achieving a basic level of knowledge and demonstrating skills to provide safe, effective resident/client care. This course parallels PNN-132 Nursing Fundamentals I.

Lecture Hours: 32 Lab Hours: 16 Clinic Hours: 32

PNN115 Introduction to Nursing

4 credits—Introduction to nursing is the initial course for the student entering the profession of nursing and begins with an introduction to the history of nursing and nursing as a profession. Components of the nursing process are described and utilized with implementation of nursing technologies. The student will learn aspects of infection control, hygiene, safety, body alterations, therapeutic communication and healthcare prevention.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C in HSC108, BIO168, and ENG105.

Co-requisite(s): A minimum grade of C in PNN116, PNN117, PNN207, BIO173, and MAT122.

PNN116 Introduction to Nursing Skills Lab

2 credits—This course provides the student with knowledge and practical application of basic nursing skills while incorporating concepts learned in Introduction to Nursing. Students learn and practice basic nursing skills in personal care, Infection control, safety, vital signs, sterile technique, patient safety, documentation, and medication administration. There is major emphasis on the critical elements of nursing procedures and the scientific rationale for performing the procedures correctly.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in HSC108, BIO168, and ENG105.

Co-requisite(s): A minimum grade of C in PNN115, PNN117, PNN207, BIO173, and MAT122.

PNN117 Nursing Clinical I

1 credits—This course provides students with an introduction to clinical nursing. Emphasis is placed on utilization of the nursing process as a basis for clinical decision making and development of critical thinking. Nursing professionalism and basic nursing skills such as infection control, hygiene, asepsis, vital signs, and physical assessment are introduced.

Clinic Hours: 48

Prerequisite(s): A minimum grade of C in HSC108, BIO168, and ENG105.

Co-requisite(s): A minimum grade of C in PNN115, PNN116, PNN207, BIO173, and MAT122.

PNN207 Introduction to Pharmacology

3 credits—This course introduces students to the basic principles of pharmacology and medication administration. The student will focus on the safe use, pharmacological principles, indications, and nursing implications related to drug therapy when caring for individuals and families across the life-span. General characteristics of selected medications including pharmacokinetics, pharmacogenomics, side effects, adverse effects, contraindications, and administration will be discussed.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in HSC108, BIO168, and ENG105.

Co-requisite(s): A minimum grade of C in PNN115, PNN116, PNN117, BIO173, and MAT122.

PNN214 Basic Health Alterations A

3 credits—This course builds on the knowledge attained in previous course work. Emphasis is placed on applying the nursing process to clients and families across the lifespan, in a variety of settings. The content is organized according to body systems, focusing on nursing implications for clients with predictable health problems, as well as related health promotion and disease prevention strategies. Systems included in this course are: Musculoskeletal; Integumentary; GI/GU; Renal; Endocrine and Sensory.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in PNN115, PNN116, PNN117, PNN207, BIO173, and MAT122. A minimum grade of C in MAT122, MAT 110, MAT102, MAT128, MAT134, MAT156, MAT210, MAT216, or MAT219.

Pre/Co-requisite(s): A minimum grade of C in PNN215, PNN216, PNN217, PNN311, and BIO151.

PNN215 Basic Health Alterations B

3 credits—This course builds on the knowledge attained in previous course work. Emphasis is placed on applying the nursing process to clients and families across the lifespan, in a variety of settings. The content is organized according to body systems, focusing on nursing implications for clients with predictable health problems, as well as related health promotion and disease prevention strategies. Systems included in this course are: hematologic, cardiovascular, respiratory, neurological, integumentary and immune.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in PNN115, PNN116, PNN117, PNN207, and BIO173. A minimum grade of C in MAT122, MAT 110, MAT102, MAT128, MAT134, MAT156, MAT210, MAT216, or MAT219.

Pre/Co-requisite(s): A minimum grade of C in PNN214, PNN216, PNN217, BIO151, and PNN311.

PNN216 Health Promotion and Maintenance Across the Lifespan

2 credits—This course builds on the knowledge attained in previous courses, emphasizing health promotion and maintenance across the lifespan. Exemplars from maternal-child nursing and mental health nursing will be used in demonstrating the integration of principles of the nursing process and health care agencies. Cultural, ethical and legal challenges will be discussed.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in PNN115, PNN116, PNN117, PNN207, and BIO173. A minimum grade of C in MAT122, MAT 110, MAT102, MAT128, MAT134, MAT156, MAT210, MAT216, or MAT219.

Pre/Co-requisite(s): A minimum grade of C in PNN214, PNN215, PNN217, BIO151, and PNN311.

PNN217 Nursing Clinical II

4 credits—This course is a study of nursing care of clients. The course stresses clinical and theoretical application as applied to clients throughout their life span. Emphasis is on the nursing process to develop critical thinking skills to implement a plan of care with a holistic, individualized approach in a structured clinical setting. The clinical experience will provide application of critical thinking skills, prioritizing, theoretical and legal issues, documentation and collaboration with other members of the healthcare team.

Lecture Hours: 0 **Clinic Hours:** 192

Prerequisite(s): A minimum grade of C in PNN115, PNN116, PNN117, PNN207, and BIO173. A minimum grade of C in MAT122, MAT 110, MAT102, MAT128, MAT134, MAT156, MAT210, MAT216, or MAT219.

Pre/Co-requisite(s): A minimum grade of C in PNN214, PNN215, PNN216, BIO151, and PNN311

PNN311 PN Issues and Trends

1 credits—This course is an overview of the role of the licensed practical nurse. This course introduces students to the history, educational preparation, legal and ethical requirements, cultural and spiritual sensitivity. Scopes of practice, career opportunities, and beginning the job search are addressed.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C in PNN115, PNN116, PNN117, PNN207, and BIO173. A minimum grade of C in MAT122, MAT 110, MAT102, MAT128, MAT134, MAT156, MAT210, MAT216, or MAT219

Pre/Co-requisite(s): A minimum grade of C in PNN214, PNN215, PNN216, PNN217, and BIO151.

POL111 American National Government

3 credits—The study of the United States national government, specifically its institutions, the process of governing, the means by which individual citizens and groups influence that process, and the output of that governing process.

Lecture Hours: 48

POL121 International Relations

3 credits—This course is an introduction to international politics. The course will examine the underlying forces that shape and constrain how countries behave in the international system, historical patterns of state behavior and the prospect of state cooperation and conflict in the future. Analysis of international relations will be done through the examination of historical events, current events, policy evaluation and scholarly theory.

Lecture Hours: 48

POL125 Comparative Government and Politics

3 credits—This course introduces the study of politics using a comparative structure. It examines the principles and operation of modern political systems. Emphasis is on the processes in a variety of political systems in the world including democratic, socialist, and totalitarian systems.

Lecture Hours: 48

PSY102 Human and Work Relations

3 credits—Human Relations is the study of self and social behavior. Emphasis is placed on the understanding and application of social science theories and research for the development of effective interpersonal and organizational relationships.

Lecture Hours: 48

PSY111 Introduction to Psychology

3 credits—This course provides an introduction to the study of behavior with emphasis in the areas of learning, cognition, motivation, personality, behavioral disorder, therapy, and social influence. An understanding of the impact of both theoretical perspectives and experimental evidence on the formulation of the science of human behavior is also stressed. Psychological theories and principles are utilized to explain and predict behavior.

Lecture Hours: 48

PSY121 Developmental Psychology

3 credits—This course presents a life span, developmental approach to the study of the developing person that identifies the behavioral dynamics of the physical, cognitive, social and affective domains of development with a view to the impact of family, school and community.

Lecture Hours: 48

PSY241 Abnormal Psychology

3 credits—Survey of the major classifications of psychological disorders. Emphasis will be on theoretical perspectives, descriptions of disorders, and therapeutic approaches.

Lecture Hours: 48

Prerequisite(s): PSY111

PSY251 Social Psychology

3 credits—Provides an introduction to the study of the interrelationship between the individual and social behavior with emphasis in the areas of social cognition, attribution, attitudes, group behavior, prejudice and discrimination, and interpersonal relationships. Basic psychological and sociological perspectives and research findings will be reviewed to better understand individual and social behavior.

Lecture Hours: 48

Prerequisite(s): PSY111 and SOC110 or instructor approval.

PSY261 Human Sexuality

3 credits—This course explores the biological, psychological, social, cultural and historical forces that influence human relationships and sexuality. Research and theory are utilized to examine the diversity of human sexual expression.

Lecture Hours: 48

PSY262 Psychology of Gender

3 credits—This course explores the meaning of gender. Research and theory in the areas of gender development, gender similarities and differences, and the nature and effects of gender roles and stereotypes is emphasized.

Lecture Hours: 48

Prerequisite(s): PSY111

PSY924 Honors Project

1 credits—"This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty."

May be taken for up to 3 credits.

Lecture Hours: 16

PTA111 PTA Fundamentals

4 credits—This course presents a current and historical perspective on the role of the PTA within the health care team. Activities will introduce posture, body mechanics, and gait analysis, along with positioning and transfer techniques. Concepts of documentation, manual muscle testing, and range of motion assessment are taught.

Lecture Hours: 32 **Lab Hours:** 64

PTA113 Fundamentals for PTA II (Effective Fall 2016)

3 credits—Introduction to physical disabilities and community barriers, independent activities of daily living, prosthetics, orthotics, static/dynamic splints, casts, braces, relaxation training, pulmonary function, airway clearance techniques, breathing exercises, functional assessment, functional exercise, balance assessment, and balance training.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA111.

PTA113 Fundamentals for PTA II (Effective Spring 2017)

3 credits—Introduction to physical disabilities and community barriers, independent activities of daily living, prosthetics, orthotics, static/dynamic splints, casts, braces, relaxation training, pulmonary function, airway clearance techniques, breathing exercises, functional assessment, functional exercise, balance assessment, and balance training.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA111, PTA194, PTA120, PTA150, PTA211, and PTA284 and pass PTA310.

PTA120 Kinesiology

3 credits—This course will present advanced anatomy of the musculoskeletal system with emphasis on joint mechanics, human movement, and palpation of anatomical landmarks. The student will learn the principles of normal and abnormal gait.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): Acceptance into Phase II of the Physical Therapist Assistant program.

PTA150 Pathophysiology

3 credits—Describes the etiology, signs, symptoms, and treatment of diseases and disorders commonly encountered in physical therapy.

Lecture Hours: 48

Prerequisite(s): Acceptance into Phase II of the Physical Therapist Assistant program.

PTA194 Therapeutic Agents I

3 credits—Introduction to the use of physical modalities for patient treatment. The principles of inflammation, cell repair, pain, and pain management will be introduced. The student will learn the physics, physiology, indications, contraindications, application, and patient preparation for the use of heat, cold, ultrasound, massage, vasocompression, wound care, hydrotherapy, and phonophoresis.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): Acceptance into Phase II of the Physical Therapist Assistant program.

PTA195 Therapeutic Agents II (Effective Fall 2016)

3 credits—This course continues with the study of the physics, physiology, indications, contraindications, and patient preparation for the use of modalities. Focus will be on electrical modalities including iontophoresis, biofeedback, transcutaneous electrical stimulation (TENS), neuromuscular electrical stimulation, high volt, interferential, and microcurrent. The course will also include mechanical traction, continuous passive motion, and laser.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA194.

PTA195 Therapeutic Agents II (Effective Spring 2017)

3 credits—This course continues with the study of the physics, physiology, indications, contraindications, and patient preparation for the use of modalities. Focus will be on electrical modalities including iontophoresis, biofeedback, transcutaneous electrical stimulation (TENS), neuromuscular electrical stimulation, high volt, interferential, and microcurrent. The course will also include mechanical traction, continuous passive motion, and laser.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA111, PTA194, PTA120, PTA150, PTA211, and PTA284 and pass PTA310.

PTA211 Musculoskeletal I

3 credits—This course will present the principles of tissue development, healing and response to physical therapy treatments. Common cervical spine and upper extremity orthopedic diagnosis, physical therapy interventions, and post-operative and injury care protocols will be discussed.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): Acceptance into Phase II of the Physical Therapist Assistant program.

PTA212 Musculoskeletal II (Effective Fall 2016)

3 credits—This course will present common lower extremity and thoracolumbar spine orthopedic diagnosis and physical therapy interventions. Post-operative and injury care protocols will be discussed.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA211.

PTA212 Musculoskeletal II (Effective Spring 2017)

3 credits—This course will present common lower extremity and thoracolumbar spine orthopedic diagnosis and physical therapy interventions. Post-operative and injury care protocols will be discussed.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA111, PTA194, PTA120, PTA150, PTA211, and PTA284 and pass PTA310.

PTA231 Therapeutic Exercise for PTA (Effective Fall 2016)

3 credits—This course covers the principles of exercise physiology, the application of exercise to treatment plans and injury prevention, equipment, and exercise interventions to improve flexibility, strength, motor control, special topics in women's health, and cardiovascular function.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA211 and PTA120.

Co-requisite(s): PTA212

PTA231 Therapeutic Exercise for PTA (Effective Spring 2017)

3 credits—This course covers the principles of exercise physiology, the application of exercise to treatment plans and injury prevention, equipment, and exercise interventions to improve flexibility, strength, motor control, special topics in women's health, and cardiovascular function.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA111, PTA194, PTA120, PTA150, PTA211, and PTA284 and pass PTA310.

PTA248 PTA Neurology (Effective Fall 2016)

4 credits—This course presents information on nervous system anatomy, function and normal/abnormal development; therapeutic approaches to central nervous system dysfunction throughout the life cycle; and assessment of the neurologically impaired patient.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA111 and PTA120.

PTA248 PTA Neurology (Effective Spring 2017)

4 credits—This course presents information on nervous system anatomy, function and normal/abnormal development; therapeutic approaches to central nervous system dysfunction throughout the life cycle; and assessment of the neurologically impaired patient.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in PTA111, PTA194, PTA120, PTA150, PTA211, and PTA284 and pass PTA310.

PTA284 PTA Professional Issues

2 credits—This course covers topics relevant to the professional development and communication. Topics include history of the physical therapy profession, cultural competence, learning and communications styles, ethical and legal aspects of care, structure and function of institutions, wellness, reimbursement systems and special topics in healthcare. Employment topics including resume writing, interviewing, performance appraisal and work/life issues will be covered. The course also introduces research literacy as it relates to evidence based practice.

Lecture Hours: 32

PTA310 PTA Clinical I

1 credits—This course consists of Health Care Provider level CPR and First Aid certification; HIPAA, OSHA Hazard Communication (includes blood borne pathogens), and Mandatory Reporter Training for Child and Dependent Adult Abuse; and introduction to the clinic during the first two weeks of the semester, followed by weekly on-site clinical experience in local settings. The course will allow for observation and application of physical therapy interventions and application of elemental principles of patient care to uncomplicated patients under direct supervision and at the discretion of the Clinical Instructor.

Co-op Hours: 64

Prerequisite(s): Acceptance into Phase II of the Physical Therapist Assistant program.

PTA311 PTA Clinical II (Effective Fall 2016)

1 credits—This course consists of clinical experiences throughout the semester. The students will have the opportunity to apply skills and knowledge developed in previous course work per the discretion of the Clinical Instructor.

Co-op Hours: 64

Prerequisite(s): PTA310

PTA311 PTA Clinical II (Effective Spring 2017)

1 credits—This course consists of clinical experiences throughout the semester. The students will have the opportunity to apply skills and knowledge developed in previous course work per the discretion of the Clinical Instructor.

Lecture Hours: 0 **Co-op Hours:** 64

Prerequisite(s): A minimum grade of C in PTA111, PTA194, PTA120, PTA150, PTA211, and PTA284 and pass PTA310.

PTA412 PTA Clinical III (Effective Fall 2016)

4 credits—This course consists of a full-time clinical rotation at one clinical site. The student will apply skills and knowledge from all previous coursework to patient care with the purpose of developing entry-level clinical competency. Clinical competencies will be continued. An oral presentation will be presented to the staff. The clinical site may require travel away from the local region, including out-of-state.

Co-op Hours: 256

Prerequisite(s): A minimum grade of C in PTA113, PTA195, PTA212, PTA231, PTA248, and PTA285. Successfully pass PTA311.

PTA412 PTA Clinical III (Effective Spring 2017)

4 credits—This course consists of a full-time clinical rotation at one clinical site. The student will apply skills and knowledge from all previous coursework to patient care with the purpose of developing entry-level clinical competency. Clinical competencies will be continued. An oral presentation will be presented to the staff. The clinical site may require travel away from the local region, including out-of-state.

Lecture Hours: 0 **Co-op Hours:** 256

Prerequisite(s): A minimum grade of C in PTA113, PTA195, PTA212, PTA231, and PTA248.

Pre/Co-requisite(s): A minimum grade of C in PTA284 and PTA311.

PTA413 PTA Clinical IV

4 credits—This course consists of a full-time clinical rotation at one clinical site. The student will continue to apply skills and knowledge obtained from all previous coursework and clinical experiences. Clinical competencies must be completed by the end of this rotation. An oral presentation will be presented to the staff that differs from Clinical III. A one day review of clinical questions and licensure examination details will follow the end of the clinical. Location of clinical sites may require travel away from the local region, including out-of-state.

Co-op Hours: 256

Prerequisite(s): PTA412

RCP100 Introduction to Respiratory Care

3 credits—This course introduces the student to the fundamentals of Respiratory Care. The field of Respiratory Care will be examined to determine opportunities and policies in the profession. It will establish a strong foundation in bedside assessment including vital signs, chest assessment, evaluating work of breathing, and patient history. Also covered will be the therapeutic uses of medical gases, infection control procedures, and proper maintenance of records. Humidity and aerosol therapy will be studied in detail.

Must complete all Pre-Respiratory courses with a cumulative GPA of 2.75.

Lecture Hours: 32 **Lab Hours:** 32

RCP260 Airway Maintenance Procedures

4 credits—This course will develop the skills required to assess, diagnose, and manage a patient's airway. It specifically describes the Respiratory Therapist's role in maintaining a patent airway by using lung expansion therapy, bronchial hygiene techniques, and suctioning. The insertion, maintenance, and removal of artificial airways, which include endotracheal tubes and tracheostomy tubes, will be discussed in detail.

Lecture Hours: 48 **Lab Hours:** 32

Co-requisite(s): A minimum grade of C in RCP100.

RCP315 Cardiopulmonary Therapeutics

4 credits—This course is a general review of the respiratory, circulatory, and renal systems as they apply to respiratory care. The procedure and analysis of arterial blood gas sampling will be discussed in detail along with the pharmacologic interventions used to ease the work of breathing. This course provides a foundation for the study of respiratory and cardiovascular disorders and the interventions made to alleviate them.

Lecture Hours: 48 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in RCP100 and RCP260.

Co-requisite(s): A minimum grade of C in RCP680.

RCP350 Pulmonary Pathology

3 credits—This course examines common medical disorders and the effect on the cardiopulmonary system. It includes disorder etiology, anatomic changes, and clinical presentation. Evaluation of signs and symptoms will allow the student to generate a diagnosis and design a multidisciplinary treatment plan. Patient case studies and clinical simulations will be a major focus.

Lecture Hours: 48

Pre/Co-requisite(s): A minimum grade of C in RCP315.

RCP410 Cardiopulmonary Diagnostics

3 credits—This course covers advanced cardiopulmonary diagnostic tests. It includes pulmonary function tests, stress tests, imaging studies, noninvasive monitors, bronchoscopies, cardioversions, polysomnography, indwelling lines, and pulmonary rehabilitation. Ethical issues for Respiratory Therapists will also be discussed.

Lecture Hours: 32 **Lab Hours:** 32

Co-requisite(s): A minimum grade of C in RCP565 or RCP690.

RCP561 Introduction to Ventilator Support

3 credits—This course prepares the student to initiate and manage invasive and noninvasive mechanical ventilation. Discussion topics will include modes of ventilation, ventilator settings, and ventilator alarm limits. Principles of mechanical ventilation and the effects of positive pressure will also be studied.

Lecture Hours: 16 **Lab Hours:** 64

Prerequisite(s): A minimum grade of C in RCP100 and RCP260.

Pre/Co-requisite(s): A minimum grade of C in RCP315 or RCP680.

RCP565 Intensive Respiratory Care

3 credits—This course expands the student's ability to oxygenate and ventilate a patient while managing a mechanical ventilator. The student will utilize ventilator graphics to change settings and troubleshoot problems as the patient improves or deteriorates. Special monitoring systems will be discussed, including indwelling arterial lines, cardiac monitors, hemodynamic monitors, transcutaneous monitors, and capnographs. Performance and interpretation of electrocardiograms are highlighted. Medications commonly given to critical patients in the Intensive Care Unit will also be discussed.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in RCP315 and RCP561.

Co-requisite(s): A minimum grade of C in RCP690.

RCP600 Neonatal/Pediatric Respiratory Therapy

3 credits—This course provides in-depth knowledge into the complex problems associated with the neonatal and pediatric population. Neonatal and pediatric assessment, monitoring, and respiratory intervention will be a major focus. Abnormal conditions that occur during the transition from fetal development, to the perinatal period, to the pediatric stages of life will also be discussed. Simulation will be used to demonstrate the ability to identify and treat common abnormalities found in this population.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in RCP100 and RCP260.

Pre/Co-requisite(s): A minimum grade of C in RCP680.

RCP680 Clinical Respiratory Care

4 credits—This course introduces the student to the hospital setting to develop important skills in communicating with patients and other health care personnel. The student will perform valuable patient assessments as well as basic respiratory care modalities. The

modalities included are: oxygen therapy, lung expansion therapy, medication delivery, bronchial hygiene, intubation, extubation, suctioning, tracheostomy care, and ABG sampling.

Clinic Hours: 192

Prerequisite(s): A minimum grade of C in RCP100 and RCP260.

RCP690 Clinical Intensive Care

8 credits—This course expands clinical situations into the intensive care units, which includes invasive and noninvasive ventilators and hemodynamically unstable patients. There will be a specialty rotation to develop awareness of different aspects of neonatal, pediatric, and adult ICUs, and other special procedures.

Clinic Hours: 384

Prerequisite(s): A minimum grade of C in RCP350, RCP561, and RCP680.

Pre/Co-requisite(s): A minimum grade of C in RCP565.

RCP875 Respiratory Care Applications

2 credits—This course is a summary course to combine textbook knowledge with application skills. It will test the student's ability in turning recalled information into better decision-making processes.

Lecture Hours: 16 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in RCP350, RCP561, and RCP315.

Pre/Co-requisite(s): A minimum grade of C in RCP410, RCP565, and RCP690.

RCP900 Clinical Preceptor

4 credits—This course prepares the student for real-life hospital situations. The student will be expected to complete a full work day doing the full workload of an assigned Staff Therapist (preceptor). The student is expected to handle all aspects of respiratory care including interruptions and new situations. The preceptor will monitor the student at all times and will offer support if needed.

Co-op Hours: 256

Prerequisite(s): A minimum grade of C in RCP680 and RCP690.

RCP910 Respiratory Care RRT Review

2 credits—This course is designed to test the student's ability to successfully earn passing scores on advanced-level examinations. Although advanced-level examinations will be the focus of this course, review of entry-level examination concepts will also be provided. Mock Board examinations will be administered after completion of a comprehensive review seminar.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in RCP875.

RDG038 College Preparatory Reading I

3 credits—This course is designed to help students improve their reading proficiency in order to manage college textbooks successfully.

Lecture Hours: 48

Prerequisite(s): Appropriate placement scores or equivalent

RDG039 College Preparatory Reading II

3 credits—This course is designed to help students expand their academic vocabulary and improve comprehension skills. Students will learn and utilize a variety of reading strategies to be used in the reading of varying materials and to further their learning in their program of choice.

Lecture Hours: 48

Prerequisite(s): RDG038

RDG040 College Preparatory Reading III

3 credits—This course provides students with instruction of the reading skills necessary for success in college. Through the use of college-level materials, students are afforded opportunity for demonstration and application of critical reading skills.

Lecture Hours: 48

Prerequisite(s): RDG039

REL101 Survey of World Religions

3 credits—An introductory survey of world religions that have had major impact on world culture and civilization: Hinduism, Taoism, Buddhism, Confucianism, Judaism, Christianity, Islam, and others. It will examine their cultural settings, sacred writings, key doctrines, central rituals, ethical values, and perspectives on gender roles.

Lecture Hours: 48

REL130 Intro to Religions of the East

3 credits—This course is an interdisciplinary course that will explore the emergence, development, and diversification of the three cultural regions' religious traditions. Student participants in the course will explore not only the basic beliefs and practices of these religions but also the ways in which they shape and are shaped by the cultures in which they are embedded. Emphasis will be placed upon understanding these religions as systems of meaning-creation.

Lecture Hours: 48

SDV108 The College Experience

1 credits—This course is designed to orient students to the college campus, resources, services, and expectations. This course also provides a brief overview and practice of study skills and academic strategies.

Lecture Hours: 16

SDV109 College 101

3 credits—This course provides students a thorough orientation to the college campus and resources. The course is designed to introduce students to the college culture while they examine what a "successful" student is. Students will be introduced to a variety of skills for academic success, academic planning, personal development, and study strategies.

Lecture Hours: 48

SDV116 Strategies for Online Academic Success

1 credits—This course prepares students to be successful in the online environment by introducing them to campus resources and academic strategies while equipping them with basic technology skills, such as file management, posting to discussion boards, and navigating a course website. It also gives them practical experience as an online or hybrid learner by using a Course Management System.

Lecture Hours: 16

SDV127 Study Strategies

1 credits—This course provides a focused examination of the strategies and skills needed for students to be successful at the college level. Students will be introduced to and given opportunity for practice of a variety of skills for academic success and study strategies.

Lecture Hours: 16

SDV131 Career Exploration

2 credits—This course is designed to increase students' knowledge of themselves, of theories about careers, and of various resources available to them which will assist them in the career decision making process. Students, at the completion of this course, will be better able to choose academic majors and careers. This course is specifically designed to follow the National Career Development Guidelines.

Lecture Hours: 32

SDV161 Portfolio Development

2 credits—This course provides students with the writing and research skill necessary to compile a personal portfolio documenting their prior education, occupational training and work experiences. Students will examine personal, educational, and occupational goals and develop a plan of study which supports their goals and fulfills the requirements of the General Technology program.

Lecture Hours: 32

SOC110 Introduction to Sociology

3 credits—This course surveys the basic principles, concepts, and research findings of social life from small groups to societies. The course examines a range of sociological explanations for the various forms of social behaviors and establishes a basis for reflection and further study in the field.

Lecture Hours: 48

SOC115 Social Problems

3 credits—This course introduces students to the sociological perspective and related critical thinking skills as a way of examining the cause and effect nature of contemporary social problems. Within this examination, emphasized are (a) the interdependence of social problems, (b) how social inequality is an inherent characteristic of all social problems, and (c) the relationship between definitions of social problems and social policies.

Lecture Hours: 48

SOC120 Marriage and Family

3 credits—Marriage and family is studied from a sociological viewpoint. Content areas focus on the history of family, gender roles, power in relationships, and functions of the

family and dysfunctions. Statuses such as being single to marriage to parenthood are emphasized, as are alternative lifestyles with respect to sexuality and family.

Lecture Hours: 48

SOC135 Death and Dying

3 credits—This course provides a basic background on historical and contemporary perspectives on death and dying. Attention is given to current American practices regarding death, as well as cross-cultural interpretation. Emphasis is also placed on the special situation of the terminally ill and bereaved.

Lecture Hours: 48

SOC160 Introduction to Social Work

3 credits—This course provides basic understanding of how American system of social services and the social work profession combine in order to meet the personal and social needs of persons who have been classified as "at risk" and in need of public assistance. Concepts relevant to social welfare, social change, social support, and structure are examined, including but not limited to legal aspects, systemic and professional goals and values, and various statuses and roles. In addition, various models and theories related to social work and social services will be examined. Lastly, this course includes a volunteer work experience within an agency setting.

Lecture Hours: 48

SOC195 Urban Studies

3 credits—This course is an interdisciplinary introduction to the study of urban issues and culture with an emphasis on the growth and development of urban areas. It utilizes a wide range of approaches: historical, political, social, spatial, economic and cultural to examine the unique qualities and problems of urban life.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in HIS152, SOC110, SOC115, GEO115, or POL111.

SOC200 Minority Group Relations

3 credits—This course examines racial and ethnic relations in the United States. Basic sociological concepts will be applied to historical and contemporary experiences of racial and ethnic groups, with particular attention paid to minority groups.

Lecture Hours: 48

SOC205 Diversity in America

3 credits—Introduction to the sociological study of group relations in the United States. Basic concepts such as culture, groups, inequality, prejudice and discrimination will be explored. Focus will be on class, race, and gender, however other statuses (such as sexual orientation, religion, age, and abilities) will also be discussed. Students will gain a better understanding of the relationship between individuals and society, as well as the experiences of minority groups.

Lecture Hours: 48

SOC208 Cultural Anthropology

3 credits—This course introduces the student to a comparative study of societies around the world. In this course cultural similarities and differences are explored to illustrate how

human beings construct and conduct their existence. It emphasizes the origin and maintenance of the human species by studying its evolution, cultural development, ecology, kinship, organizations, and symbolic expressions. (Same as ANT-105)

Lecture Hours: 48

SOC220 Sociology of Aging

3 credits—This introductory gerontology course examines the influence of an aging society, explores the process of aging, old age as a stage of life and the impact of aging both personally and on society as a whole.

Lecture Hours: 48

SOC230 Juvenile Delinquency

3 credits—This course is an investigation of the social and legal definitions of juvenile delinquency and its causes. It also focuses on the administration of juvenile court, probation and parole, and assessment of present and potential prevention programs.

Lecture Hours: 48

SOC240 Criminology

3 credits—This course explores the extent and causes of criminal behavior; analysis of crime in relationship to other social problems; and the nature of society's response to crime.

Lecture Hours: 48

SOC251 Social Psychology

3 credits—Provides an introduction to the study of the interrelationship between the individual and social behavior with emphasis in the areas of social cognition, attribution, attitudes, group behavior, prejudice and discrimination, and interpersonal relationships. Basic psychological and sociological perspectives and research findings will be reviewed to better understand individual and social behavior.

Lecture Hours: 48

Prerequisite(s): PSY111, SOC110, or instructor approval

SOC261 Human Sexuality

3 credits—This course explores the biological, psychological, social, cultural and historical forces that influence human relationships and sexuality. Research and theory are utilized to examine the diversity of human sexual expression.

Lecture Hours: 48

SOC820 Genography

3 credits—This course explores themes of identity, difference, and migration that are raised by the analysis of DNA samples. As a central aspect of this course, students will submit a DNA sample to the National Geographic Society's Genographic Project. That sample will be analyzed and the students provided with a mapping of the migration of their genetic lineage. The course will examine the underlying biology of this analysis; sociological notions of sameness and difference; historical processes that have formed and changed our understandings of where we come from, who we are, and what we might become.

Lecture Hours: 48

SOC850 Cultural Immersion Field Experience

1 credits—This course combines classroom and community-based learning to expand student understanding of the global society. Living within a diverse community and working with diverse groups of people, students will engage in an authentic and practical cultural immersion experience off-campus.

May be taken for up to 3 credits.

Lab Hours: 32

SOC924 Honors Project

1 credits—This course involves in-depth independent research on an approved topic under supervision of a faculty member. Upon project's completion, results will be shared with community of peers and faculty.

May be taken for up to 5 credits.

Lecture Hours: 16

SOC928 Independent Study

1 credits—This course provides opportunity for a student to focus previous course work and knowledge on a special issue as well as provide for individualized exploration of topics pertinent to the student's projected objectives within any recognized discipline. Faculty consultation is required prior to registration for this course

May be taken for up to 3 credits.

Lecture Hours: 16

SPC101 Fundamentals of Oral Communication

3 credits—This course presents elements of the oral communications process with emphasis on developing interpersonal, small group, and public speaking skills. Students will be involved in activities that provide opportunity for the understanding and improvement of their oral communication skills.

Lecture Hours: 48

SPC120 Intercultural Communications

3 credits—Intercultural Communication explores basic principles and theories of intercultural communication with opportunities to gain communication competence through immersion experiences and cross-cultural interactions.

Lecture Hours: 48

SPC122 Interpersonal Communication

3 credits—Interpersonal Communication explores concepts, contexts, and processes of person-to-person communication in relationships. Emphasis is placed on understanding how social worlds are created through conversation.

Lecture Hours: 48

SPC132 Group Communication

3 credits—Group Process examines the principles of small group communication processes with opportunities for students to apply theory in various structured discussion situations.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in SPC101.

SPC140 Oral Interpretation

3 credits—This course will explore literature through performance using creative individual and group explorations. Students will learn to select, analyze, rehearse and perform literature of various types using vocal and physical techniques.

Lecture Hours: 48

TDT100 Interpersonal Relations

2 credits—This course covers personal health and safety, public and employer relations and stress management on the job in a new career. Also included in the course are written communication and oral communication skills. Instruction is provided in employment seeking skills, resumes, cover letters, thank you letters, letters of application, personal record keeping, and desirable work attitude.

Lecture Hours: 32

TDT101 Interpersonal Relations

3 credits—This course covers personal and work safety and health, also included in the course are written and oral communication skills. Instruction is provided in employment seeking skills, cover letters, resumes, thank you letters, letters of application, personal record keeping and desirable work attitude.

Lecture Hours: 48

TDT115 Transportation Industry and Driver Regulations

4 credits—This course is an introduction to the surface transportation network and the trucking industry. Employment opportunities, company and driver regulations by the Department of Transportation and other Federal and State agencies will be covered.

Lecture Hours: 32 **Lab Hours:** 64

TDT118 Driving Range I

6 credits—This course provides students with opportunities for hands-on experience in basic maneuvers using simulators, trucks and trailers. Proper techniques are taught in engine starting and shut down, clutching, shifting, cornering, and backing. Emphasis is given to proper safety and technical practices.

Lecture Hours: 16 **Lab Hours:** 160

Co-requisite(s): TDT115

TDT125 Driving Range II

3 credits—This course prepares students with more opportunity for additional behind the wheel training in operating trucks in a rural and city setting, including nighttime driving skills and knowledge in managing emergencies, accidents, first aid, CPR and Department of Transportation regulations on transporting hazardous materials. Students will prepare for a Class A Commercial Driver's License with all endorsements.

Lecture Hours: 0 **Lab Hours:** 96

Prerequisite(s): A minimum grade of D in TDT115.

TDT126 Commercial License Preparation

3 credits—This course is an introduction to The Federal Motor Carrier Safety Administrations' rules and regulations pertaining to drivers of commercial motor vehicles. This course prepares students to pass the knowledge tests required to obtain a Class A CDL.

Lecture Hours: 48

TDT128 Driving Skills Development

3 credits—This course provides students with hands-on experience in basic maneuvers with trucks and trailers. Proper techniques are taught in engine starting and shut down, clutching, shifting, cornering and backing. Behind the wheel training will include pulling both loaded and empty trailers in rural, city and interstate highway settings. Emphasis is placed on defensive driving and proper technical practices. Students will prepare for a Class A Commercial Drivers License with all endorsements.

Lecture Hours: 16

Co-requisite(s): TDT126

TDT938 Truck Transportation On-the-Job Training

3 credits—Students enrolled in this course will have the opportunity to gain on-the-job experience in the Motor Carrier industry. Students will learn the responsibilities of driving, cargo handling, vehicle maintenance, safety department, and dispatch of equipment to customers. Students will have an opportunity to learn the skills necessary to succeed in the transportation field. Coordination and guidance will be provided by instructors.

Lecture Hours: 0 **Co-op Hours:** 192

Prerequisite(s): A minimum grade of D in TDT100, TDT115, and TDT118.

WDV102 Introduction to Web Development

3 credits—This course introduces the current standard of HTML and discusses upcoming versions. Students will learn the basics of CSS for design and layout using both text and multimedia. Website maintenance cycles and roles used in the cycles will be introduced. By using FTP, students will create and maintain small web page on a live web server. By using a text based editor, student will learn to code in an HTML editor rather than just the visual aspect to gain greater control of the code. Best design practices will be introduced.

Lecture Hours: 32 **Lab Hours:** 32

WDV105 Web Layouts

3 credits—This course is designed to give the student the knowledge of layouts and design of web sites. Students will use a graphic editor, such as Adobe Photoshop, to convert a visual image layout to a working HTML and CSS layout. This course goes over aspects of design to content in making a great web site.

Lecture Hours: 32 **Lab Hours:** 32

WDV300 Advanced Topics in Web Development

3 credits—This course is designed to give students a more in depth study of web sites. Topics will include security, troubleshooting/debugging, testing, and analytics. The course will help student develop a toolbox of techniques to improve their programming skills for web application development.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): A minimum grade of C in CIS217 and CIS225.

WDV800 Portfolio

3 credits—This course will help students present the best possible portfolio. This course will guide students in picking the right pieces to exemplify their skills. Students will create a portfolio to take job hunting. Students will learn about a number of aspects in job hunting. Students will also do a team based project for their portfolio.

Lecture Hours: 32 **Lab Hours:** 32

Prerequisite(s): Must be a 4th semester graduating student to take this class.

WDV931 Internship

2 credits—This course provides students with the opportunity to gain practical work experience, while applying skills and techniques learned in their program of study, under the supervision of an employer, manager, or supervisor.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C in CIS231, CIS215, and instructor approval.

WEL104 Introduction to MIG Welding

2 credits—This course is an introduction to the Gas Metal Arc Welding process, also known as MIG Welding and Flux Cored Arc Welding. Topics include safety, theory of operation, advantages of both processes, types of power sources, types of wire electrodes and shielding gases, types of metal transfer, types of joints, minor equipment maintenance and basic welding terminology. Shop practice will include welding the five basic joints, with both welding processes, on mild steel in the flat and horizontal positions.

Lecture Hours: 16 **Lab Hours:** 32

WEL111 Welding Blueprint Reading

3 credits—This course is an introduction to basic welding blueprint reading. Topics include: the importance of blueprints as a form of communications, basic lines and views, dimensioning methods, tolerances, bill of material, identifying structural shapes and basic sketching principles. The application and interpretation of AWS welding symbols and abbreviations is emphasized. Students will fabricate parts from the blueprint book.

Lecture Hours: 48

WEL112 Welding Blueprint Reading Advanced

2 credits—This course is a continuation of Blueprint Reading I. The application and interpretation of AWS welding symbols and abbreviations is emphasized in this unit. Students will also fabricate parts from the blueprint book.

Lecture Hours: 32

Prerequisite(s): WEL111

WEL125 Fusion and Braze Welding

2 credits—This course is an introduction to Oxy-acetylene fusion welding and braze welding of steel and cast iron. Topics include: process theory, safety, fusion welding/braze welding techniques for mild steel, fusion welding/braze welding techniques for cast iron and weld quality.

Lab Hours: 96

Prerequisite(s): WEL134 and WEL155

WEL134 Cutting Processes

2 credits—This course is an introduction to principles and practices of oxy-fuel cutting, plasma cutting, and arc air gouging. Topics include: safety, theory of operation, equipment, proper set-up procedures and basic terminology. Shop practice includes plasma cutting and arc air gouging principles and practices and flame cutting of mild steel.

Lecture Hours: 16 **Lab Hours:** 48

WEL155 Arc Welding I (SMAW)

4 credits—This course is an introduction to the Shielded Metal Arc Welding process, also known as stick welding. Topics of study include: safety, theory of operation, types of welding power sources, advantages of the process, types of mild steel electrodes, types of joints, basic welding terms, and AC and DC current. Shop practice on the five basic joints will be performed in the flat and horizontal positions with various mild steel electrodes.

Lecture Hours: 16 **Lab Hours:** 144

WEL164 Arc Welding II (SMAW)

4 credits—This course is a continuation of Arc Welding I. Vertical down, vertical up, and overhead welding procedures and techniques are introduced. Successful completion of the AWS Structural Steel Welding performance test is stressed. In addition, the student is introduced to the theory and practices of Hardsurfacing with the Shielded Metal Arc Welding process. Safety procedures are reviewed.

Lab Hours: 192

Prerequisite(s): WEL155

WEL186 GMAW

4 credits—This course is an introduction to the Gas Metal Arc Welding process, also known as MIG Welding and Flux Cored Arc Welding. Topics include safety, theory of operation, advantages of both processes, types of power sources, types of wire electrodes and shielding gases, types of metal transfer, types of joints, minor equipment maintenance and basic welding terminology. Shop practice will include welding the five basic joints, with both welding processes, on mild steel in the flat and horizontal positions.

Lecture Hours: 16 **Lab Hours:** 144

WEL187 Advanced GMAW

4 credits—This course is a continuation of GMAW-FCAW I. Vertical down, vertical up and overhead welding procedures and techniques are introduced. Successful completion of the AWS Structural Steel Welding performance test is stressed. Safety procedures are reviewed.

Lab Hours: 192

Prerequisite(s): WEL186

WEL191 Gas Tungsten Arc Welding

3 credits—This course is an introduction to Gas Tungsten Arc Welding process, also known as T.I.G. Topics of study include: safety, theory of the process, advantages, types of power sources, pulsed power sources, types of electrodes and shielding gases, basic joints, basic welding terminology, and AC and DC current. Shop practice on the five basic

joints in all positions will be emphasized. The learner will weld on mild steel, aluminum and stainless steel sheet.

Lab Hours: 144

Prerequisite(s): WEL155

WEL234 Introduction to GMAW II

2 credits—The introduction to Gas Metal Arc Welding II course will allow students to enhance their basic welding hands-on skills to improve their proficiency using Metal Inert Gas (MIG) welding processes. Shop practice will include welding the five basic joints, with both welding processes, on mild steel in the flat and horizontal positions.

Lab Hours: 96

Prerequisite(s): A minimum grade of C in WEL104.

WEL303 Pipe Welding/SMAW

3 credits—This course is an introduction to vertical down and vertical up pipe welding procedures and techniques. Topics include: safety, elements of the American Petroleum Institute Pipe Welding Code and the American Society of Mechanical Engineers Pipe Welding Code and the American Welding Society Structural Steel Pipe Welding Code.

Lab Hours: 144

Prerequisite(s): WEL155 and WEL164

WEL320 Welding Fabrication

3 credits—This course is an introduction to fundamental metal fabrication methods. The application and use of basic measuring tools and layout techniques are covered in detail.

Lecture Hours: 16 **Lab Hours:** 96

Prerequisite(s): WEL111, WEL112, WEL155, WEL164, WEL186, WEL187, and WEL303

WEL339 Electromechanical Maintenance

3 credits—This course is a basic introduction to welding and cutting processes. Topics include: shielded metal arc welding, gas metal arc welding, and gas tungsten arc welding. Cutting processes include oxy-fuel cutting and plasma arc cutting. Electric arc and oxy-fuel safety rules will be discussed.

Lecture Hours: 16 **Lab Hours:** 64

WEL402 Tool Steel Welding and Heat Treatment

2 credits—This course is an introduction to the fundamental operations of selecting, welding and heat treating tool steels. Classroom and shop instruction is given in welding safety, welding equipment, selection and manipulation of electrodes and the procedures in welding alloy and tool steels. It will cover steel selection and basic heat treatment. Lab and class emphasis is on the changes that happen when steel is heated and cooled by welding as well as heat treating.

Lecture Hours: 16 **Lab Hours:** 32

WEL710 Robotic Welding

6 credits—This course is an introduction to robotic welding. Students will learn the advantages and limitations of welding robots and their current application in modern

manufacturing. Robot components and basic robot programming are covered in detail. The variables for Gas Metal Arc Welding, arc welding safety, robot safety and weld quality and weld defects are included.

Lecture Hours: 48 **Lab Hours:** 144

Prerequisite(s): WEL11, WEL155, WEL186, WEL187, and MAT772

WST101 Women's Studies

3 credits—This course serves as an introduction to the interdisciplinary field of women's studies and to current women's issues in our society. It explores ways in which women get marginalized and silenced primarily by the social definitions and the patriarchal male power structure. The course seeks to help students develop critical thinking relative to contemporary gender issues; to explore their assumptions about gender; to illuminate social constructions of femininity and women's roles; and to uncover the ways in which social teachings shape and limit women's lives.

Lecture Hours: 48

WTT103 Introduction to Wind Energy

2 credits—The Wind Turbine Fundamentals course will provide students with the knowledge of the different types of Wind Turbines. Their development and their current status will be presented. The evolution of small (watts) to large (mega-watt) systems will be reviewed. The characteristics of wind capture and conversion will be analyzed from a regional, national and global perspective. Jobs, training and safety related to the wind industry will be studied. Students will be expected to carry out research and present reports on selected turbines or wind turbine manufactures.

Lecture Hours: 16 **Lab Hours:** 32

WTT144 Wind Turbine System Controls

3 credits—The Wind Turbine System Controls course will cover the control functions necessary to maximize a wind turbines output, to enable safe operation and useful life.

Lecture Hours: 32 **Lab Hours:** 32