HAWKEYE COMMUNITY COLLEGE

2021–2022 Program & Course Catalog

Accreditation

The Higher Learning Commission

230 South LaSalle Street, Suite 7-500
Chicago, IL 60604
800-621-7440 or 312-263-0456

2021 Assurance Review

- Higher Learning Commission Letter [pdf]
- Higher Learning Commission Final Report [pdf]
- Assurance Argument [pdf]

2016 Reports

- Comprehensive Quality Review Report [pdf]
- Systems Portfolio [pdf]
- Systems Appraisal Feedback Report [pdf]
- Quality Highlights Report — 2016 [pdf]
- Federal Compliance Filing by Institutions Form — September 2016 [pdf]

Follow-Up Reports

- Higher Learning Commission Interim Report [pdf]
- Higher Learning Commission Interim Report: Staff Analysis of Institutional Report [pdf]

Additional Locations

- Change Panels Action Letter June 7, 2019 [pdf]
- Additional Location Confirmation Report Form letter — November 2011 [pdf]

Iowa Department of Education

Grimes State Office Building
400 E. 14th and Grand
Des Moines, IA 50319-0146

Comprehensive Accreditation Visit, 2020

- 2020 Approval Letter [pdf]
- 2020 Visit Report [pdf]

Interim Accreditation Visit, 2015

- 2015 Approval Letter [pdf]

- 2015 Report [pdf]

National Alliance of Concurrent Enrollment Partnerships (NACEP)

179 East Franklin Street
PO Box 578
Chapel Hill, NC 27514
919-593-5205
877-572-8693 (fax)

- Certificate of Accreditation — 2019 [pdf]
- Accreditation Letter — 2019 [pdf]
- Accreditation Commission Findings — 2019 [pdf]

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.
PO Box 1900
Chicago, IL 60611

Emergency Medical Services

Accredited by the Commission on Accreditation of Allied Health Education Programs
9355 - 113th St. N, #7709
Seminole, FL 33775
727-210-2350
www.caahep.org

Accredited by Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions
8301 Lakeview Parkway, Suite 111-312
Rowlett TX 75088
214-703-8445
214-703-8992 (fax)
www.coaemsp.org

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

Landscape and Turf Management

Accredited by the National Association of Landscape Professionals
12500 Fair Lakes Circle, Suite 200
Fairfax, VA 22033
800-395-2522
www.landscapeprofessionals.org/nalp/nalp/membership/accredited-schools.aspx

Medical Assistant

The Hawkeye Community College Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of Medical Assisting Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 North, Suite 158
Clearwater, FL 33763
727-210-2350
www.caahep.org

Medical Laboratory Technology

Accredited by the National Accrediting Agency for Clinical Laboratory Sciences
5600 N River Rd. STE 720
Rosemont, IL 60018-5119

Natural Resource Management

North American Wildlife Technology Association
Jennifer Lee
Forestry, Wildlife, and Natural Resources Program
Front Range Community College
4616 S Shields St
Fort Collins, CO 80526 USA
jennifer.lee@frontrange.edu
970-204-8253
www.nawta.org/untitled

Occupational Therapy Assistant

Accredited by the Accreditation Council for Occupational Therapy Education (ACOTE)

ACOTE
6116 Executive Boulevard, Suite 200
North Bethesda, MD 20852-4929
301-652-6611
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
400 S.W. 8th Street
Suite B
Des Moines, IA 50309

Respiratory Care

Accredited by the <u>Commission on Accreditation for Respiratory Care</u>
P.O. Box 54876
Hurst, TX 76054-4876
817-283-2835

LIBERAL ARTS
DEGREE REQUIREMENTS
AND TRANSFER MAJORS

HAWKEYE
COMMUNITY COLLEGE

Liberal Arts Transfer Plan

Hawkeye's Liberal Arts Transfer plan allows you to complete the first two years of a bachelor's degree. A variety of liberal arts core (general education) and elective courses are offered from a wide range of disciplines to prepare students to transfer to a public or private four-year college or university.

Choosing a transfer major will help you in the selection of your courses if you know what four-year degree you would like to pursue. If you are undecided, may help you determine if a major or career track is the right choice.

Associate of Arts (AA)

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

Associate of Science (AS)

The Associate of Science in Liberal Arts degree enables you to focus your education on math or science fields, 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, you must work with a Hawkeye academic advisor for major-specific transfer information and to register for classes.

Flexible Class Schedule

The Liberal Arts Transfer plan is designed to be flexible with classes offered during the day, evening, and online. You can complete your AA degree entirely online, in the evening, during the day, or with a combination of these options.

Transfer Information

Hawkeye has established articulation agreements with many four-year public and private colleges within Iowa. You should work closely with a program advisor to ensure courses transfer and you meet program requirements. During your first year, contact the Admissions office at the college you plan to transfer to and obtain specific program and transfer requirements.

Transfer Majors

Choosing a transfer major will help guide your choice of courses in your Liberal Arts degree. It may also help you determine if the career track is the right choice for you.

Transfer Majors

- Biology (AS)
- Business (AA)
- Chemistry (AS)
- Communication (AA)
- Criminal Justice (AA)
- Early Childhood (AA)
- Elementary Education (AA)
- Exercise Science & Kinesiology (AA)
- Fine Arts (AA)
- History (AA)
- Human and Family Services (AA)
- Political Science (AA)
- Psychology (AA)
- Social Work (AA)
- Sociology (AA)

Transferring

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 or Associate of Science 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.

Hawkeye has established articulation agreements with many four-year public and private colleges within Iowa including:

College / University *	Location
University of Northern Iowa	Cedar Falls, IA
University of Iowa	Iowa City, IA
Iowa State University	Ames, IA
Allen College—UnityPoint Health	Waterloo, IA
Central College	Pella, IA
Loras College	Dubuque, IA
Mount Mercy University	Cedar Rapids, IA
Palmer College of Chiropractic	Davenport, IA
Simpson College	Indianola, IA
Upper Iowa University	Fayette and Waterloo, IA
Wartburg College	Waverly, IA

* This list is only a small representation of the colleges and universities to which you may choose to transfer.

When planning your transfer, be sure you are working with an Academic Advisor at Hawkeye and an advisor at the college or university you plan to transfer too to help ensure a smooth transfer.

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Associate of Arts (AA) Degree Requirements

Award: Associate of Arts (AA)
Program Start: Fall, Spring, Summer

Flexible Scheduling

You 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, and daytime courses.

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.

Planning Your Class Schedule

Work with an academic and transfer advisor to select courses, make a transfer plan, and review your progress. 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

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
★	Course is repeatable. See course description for number of times.

I. Natural Science and Mathematics — 10 credits (minimum)

Requires one course from each area A, B, and C. Need 7 credits from A and B, including one 4-credit science laboratory course.

A. Biological Sciences

BIO-105	Introductory Biology	E	4	◆
BIO-112	General Biology I		4	◆
	(Fall Only)			
BIO-113	General Biology II		4	◆
	(Spring Only)			
BIO-154	Human Biology	O E	3	◆
BIO-163	Essentials of Anatomy and Physiology	E	4	◆
BIO-166	Fundamentals of Anatomy and Physiology		4	◆
BIO-168	Human Anatomy and Physiology I	E	4	◆
BIO-186	Microbiology	E	4	◆
CNS-121	Environmental Conservation ***	O	3	◆

*** CNS-121 or ENV-115/116: Only one can be taken toward the 7 hours of science.

B. Physical Sciences

CHM-122	Introduction to General Chemistry ▶	E	4	◆
CHM-165	General Chemistry I ▶		4	◆
	(Fall Only)			
ENV-115	Environmental Science ***	O E	3	◆
ENV-116	Environmental Science Lab ▶ ***	O	1	◆
GEO-131	Physical Geography	O	3	◆
GEO-132	Physical Geography Lab ▶		1	◆
PHS-120	Exploring Physical Science ▶	E	4	◆
PHS-142	Principles of Astronomy ▶		3	◆
PHS-152	Astronomy ▶	E	4	◆
PHY-162	College Physics I ▶		4	◆
	(Fall Only)			
PHY-212	Classical Physics I ▶		5	◆

*** CNS-121 or ENV-115/116: Only one can be taken toward the 7 hours of science.

C. Mathematics — 3 credits (minimum)

(Assessment Required)

MAT-110	Math for Liberal Arts ▶	O E	3	◆
MAT-121	College Algebra ▶		4	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆

II. Humanities

9 credits (minimum)

A. Western Civilization

3 credits (minimum)

HIS-117	Western Civilization I: Ancient and Medieval	O E	3	◆
HIS-118	Western Civilization II: Early Modern	O	3	◆
HIS-119	Western Civilization III: The Modern Period	O E	3	◆

B. Humanities

6 credits (minimum)

Requires one course from two different areas: 1, 2, or 3.

1. Literature and Fine Arts

ART-101	Art Appreciation	O	3	◆
ART-203	Art History I	O	3	◆
ART-204	Art History II	O	3	◆
	(Spring Only)			
DRA-107	Theatrical Arts and Society	E	3	◆
LIT-101	Introduction to Literature ▶	O E	3	◆
MUS-100	Music Appreciation	O E	3	◆

2. Philosophy and Religion

PHI-101	Introduction to Philosophy	O E	3	◆
PHI-105	Introduction to Ethics	O E	3	◆
REL-101	Survey of World Religions	O E	3	◆
REL-130	Introduction to Religions of the East	O	3	◆

3. Non-Western Cultures

CLS-130	African Cultures *	O E	3	◆
CLS-141	Middle Eastern History and Culture *		3	◆
CLS-150	Latin American History and Culture *	O E	3	◆
CLS-160	East Asian Cultures *	O	3	◆
CLS-164	Japanese History and Culture *		3	◆
CLS-172	Russian Civilization *		3	◆

* Meets the Non-Western Cultures requirement at UNI.

III. Social Sciences — 9 credits (minimum)

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

A. People and Their Relationships

PSY-111 Introduction to Psychology	O E	3	◆
SOC-110 Introduction to Sociology	O E	3	◆

B. American Society

HIS-151 U.S. History to 1877	O E	3	◆
HIS-152 U.S. History Since 1877	O E	3	◆
POL-111 American National Government	O E	3	◆

C. Topics in Social Sciences

GEO-121 World Regional Geography	O	3	◆
POL-121 International Relations	E	3	◆
POL-125 Comparative Government and Politics	O	3	◆
PSY-121 Developmental Psychology	O E	3	◆
PSY-251 Social Psychology ▶ *(Spring Only)*		3	◆
SOC-115 Social Problems	O E	3	◆
SOC-120 Marriage and Family	O E	3	◆
SOC-135 Death and Dying	O E	3	◆
SOC-208 Introduction to Cultural Anthropology *(Spring Only)*		3	◆
SOC-220 Sociology of Aging	O	3	◆

IV. Communications — 9 credits (minimum)

A. Written Communications — 6 credits (minimum)

(Assessment required)

ENG-105 Composition I ▶	O E	3	◆
ENG-106 Composition II ▶	O E	3	◆

B. Oral Communications — 3 credits (minimum)

SPC-101 Fundamentals of Oral Communication	O E	3	◆

V. Social Diversity   3 credits (minimum)

COM-148	Diversity and the Media		3	◆
EDU-223	Multicultural Education	E	3	◆
	(For Education Emphasis Only)			
LIT-133	Minority Voices in U.S. Literature	O E	3	◆
PSY-262	Psychology of Gender ▶	O	3	◆
SOC-200	Minority Group Relations	O	3	◆
SOC-205	Diversity in America	O E	3	◆
WST-101	Women's Studies	E	3	◆

VI. Elective Courses   22 credits (minimum)

A. Required Elective Course   1 credit (minimum)

SDV-108	The College Experience	O E	1	◆
SDV-109	College 101	E	3	◆

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

Electives are courses beyond general education requirements. May include courses from any area I, II, III, or V. Up to 16 technical credits may be used as electives. Additional courses may be available. For more information, contact an advisor.

ACC-131	Principles of Accounting I ▶	O E	4	◆
ACC-132	Principles of Accounting II ▶	O E	4	◆
ART-133	Drawing *(Fall Only)*		3	◆
ART-134	Drawing II *(Spring Only)*		3	◆
ART-143	Painting		3	◆
ART-144	Painting II ▶		3	◆
ART-173	Ceramics		3	◆
ART-174	Ceramics II ▶		3	◆
ART-184	Photography		3	◆
BIO-151	Nutrition	O E	3	◆
BIO-173	Human Anatomy and Physiology II ▶	E	4	◆
BIO-269	Foodology	E	3	◆
BUS-102	Introduction to Business	O E	3	◆
BUS-180	Business Ethics	O E	3	◆
BUS-183	Business Law	O E	3	◆
BUS-210	Business Statistics ▶	E	3	◆
BUS-230	Quantitative Methods for Business Decision Making ▶	E	3	◆
CHM-132	Introduction to Organic and Biochemistry ▶		4	◆
CHM-175	General Chemistry II ▶ *(Spring Only)*		4	◆

Code	Title		Credits	
CHM-260	Organic Chemistry I ▶		3	◆
CHM-270	Organic Chemistry II ▶		3	◆
COM-140	Introduction to Mass Media *(Fall Only)*		3	◆
COM-152	ETC: Art and Literary Magazine *(Spring Only)*	E	2	◆
CRJ-100	Introduction to Criminal Justice	O E	3	◆
CRJ-120	Introduction to Corrections	O E	3	◆
CRJ-200	Criminology	O E	3	
CRJ-201	Juvenile Delinquency	O E	3	◆
CRJ-233	Probation, Parole, Community-Based Corrections ▶	O	3	◆
CRJ-316	Juvenile Justice ▶		3	◆
CRJ-317	White Collar Crime ▶	O	3	◆
CRJ-318	Crime Analysis ▶		3	◆
CRJ-320	Criminal Justice Ethics	O	3	◆
CSC-110	Introduction to Computers ▶	O E	3	◆
CSC-116	Information Computing ▶		3	◆
DRA-110	Introduction to Film	O E	3	◆
DRA-130	Acting I	E	3	◆
ECN-110	Introduction to Economics *(Fall Only)* *No credit if ECN-120 or ECN-130 earned*		3	◆
ECN-120	Principles of Macroeconomics ▶	O E	3	◆
ECN-130	Principles of Microeconomics ▶	O E	3	◆
EDU-130	Home, School, and Community Relations		3	◆
EDU-210	Foundations of Education		3	◆
EDU-235	Children's Literature	O	3	◆
EDU-240	Educational Psychology ▶		3	◆
EDU-246	Including Diverse Learners	O E	3	◆
EDU-255	Technology in the Classroom ▶	E	3	◆
EDU-901	Academic Service Learning Experience	★	1	◆
EDU-920	Field Experience ▶	O	1	◆
ENG-221	Creative Writing		3	◆
ENG-230	Creative Writing: Fiction ▶		3	◆
ENG-235	Playwriting and Screenwriting		3	◆
HIS-201	Iowa History		3	◆
HIS-257	African American History	O	3	◆
HUM-140	Shakespeare: Dramatist, Psychologist, Historian		3	◆
HUM-141	J.R.R. Tolkien: Mythology and Methodology		3	◆
LIT-189	Women and Literature	O	3	◆
LIT-949	Special Topics (1-3 credits)		1	◆
MAT-102	Intermediate Algebra		4	◆
MAT-216	Calculus II ▶		4	◆

Course	Title			Credits	
MAT-219	Calculus III ▶			4	◆
MGT-101	Principles of Management		O E	3	
MGT-208	Introduction to Information Systems		O E	3	◆
MIL-103	Military Survival Skills			2	◆
MIL-110	Leadership and Personal Development *(ROTC at UNI)*			1	◆
MIL-115	Foundations of Tactical Leadership *(ROTC at UNI)*			1	◆
MIL-121	Leadership and Decision Making *(ROTC at UNI)*			2	◆
MIL-122	Leadership in Changing Environment *(ROTC at UNI)*			2	◆
MKT-110	Principles of Marketing		O E	3	
MUA-101	Applied Voice			1	◆
MUA-106	Class Voice	★		1	◆
MUA-120	Applied Piano	★		1	◆
MUA-121	Applied Piano II	★		2	◆
MUA-180	Applied Percussion			1	◆
MUA-181	Applied Percussion II ▶			1	◆
MUS-102	Music Fundamentals *(Spring Only)*			3	◆
MUS-154	Chorus	★		1	◆
MUS-202	World Music			3	◆
PEA-117	Bowling I	★		1	◆
PEA-123	Circuit Training	★		1	◆
PEA-145	Crosstraining and Core Fitness			1	◆
PEA-150	Powerwalking	★	O	1	◆
PEA-187	Weight Training I ▶	★		1	◆
PEA-191	Pilates	★	O	1	◆
PEA-194	Vinyasa Yoga	★	O	1	◆
PEA-287	Weight Training II ▶		E	1	◆
PEA-294	Weight Training III		E	1	◆
PEC-110	Coaching Ethics, Techniques, and Theory		O	1	◆
PEC-115	Athletic Development and Human Growth		O	1	◆
PEC-123	Anatomy for Coaching		O	1	◆
PEC-127	Care and Prevention of Athletic Injuries			2	◆
PEH-111	Personal Wellness		O	3	◆
PEH-141	First Aid	★		2	◆
PEH-162	Introduction to Physical Education			3	◆
PEH-193	Sports Nutrition			2	◆
PEH-909	Cooperative Education ▶		E	1	◆

PHI-121	Classical/Medieval Philosophy		3	◆
PHY-100	Physics in Everyday Life		3	◆
PHY-172	College Physics II ▶		4	◆
PHY-222	Classical Physics II ▶		5	◆
PSY-241	Abnormal Psychology ▶	O	3	◆
PSY-261	Human Sexuality		3	◆
SDV-131	Career Exploration	O	2	◆
SOC-160	Introduction to Social Work	O E	3	◆
SOC-180	Social Work Interactional Skills ▶	E	3	◆
SOC-181	Field Experience ▶ *(Social Work emphasis)*	E	1	◆
SOC-850	Cultural Immersion Field Experience	★	1	◆
SPC-112	Public Speaking *(Spring Only)*		3	◆
SPC-120	Intercultural Communications *(Fall Only)*	O	3	◆
SPC-122	Interpersonal Communication *(Spring Only)*	O	3	◆
SPC-132	Group Communication *(Fall Only)*		3	◆
SPC-140	Oral Interpretation		3	◆

Associate of Science (AS) Degree Requirements

Award: Associate of Science (AS)
Program Start: Fall, Spring, Summer

Flexible Scheduling

You can take a combination of online, evening, and daytime courses to complete the Associate of Science degree in Liberal Arts.

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.

Planning Your Class Schedule

You must work with an academic and transfer advisor to select courses, make a transfer plan, and review your progress. 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.

Courses are subject to change.

O Online. Course meets 100% online.
E Evening. Course meets face-to-face after 5:00pm.
◉ Course is repeatable. See course description for number of times.

◆   General education course.

►   Course has a prerequisite and/or corequisite.

O   Course meets 100% online.

E   Course meets face-to-face after 5:00pm.

I. Natural Science and Mathematics — 20 credits (minimum)

Requires one course from area A or B, including a laboratory class, and one course from C. Must complete one two-course science or math sequence.

» 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 — As advised. See advisor.

Course	Title		Credits	
BIO-112	General Biology I		4	◆
BIO-113	General Biology II		4	◆
BIO-168	Human Anatomy and Physiology I	E	4	◆
BIO-173	Human Anatomy and Physiology II ▶	E	4	◆
BIO-186	Microbiology	E	4	◆
CNS-121	Environmental Conservation *	O	3	◆

* CNS-121 or ENV-115/116: Only one can be taken toward your 20 hours of science.

B. Physical Sciences — As advised. See advisor.

Course	Title		Credits	
CHM-165	General Chemistry I ▶		4	◆
CHM-175	General Chemistry II ▶		4	◆
CHM-260	Organic Chemistry I ▶		3	◆
CHM-270	Organic Chemistry II ▶		3	◆
ENV-115	Environmental Science *	O E	3	◆
ENV-116	Environmental Science Lab ▶ *	O	1	◆
GEO-131	Physical Geography	O	3	◆
GEO-132	Physical Geography Lab ▶		1	◆
PHS-152	Astronomy ▶	E	4	◆
PHY-162	College Physics I ▶		4	◆
PHY-172	College Physics II ▶		4	◆
PHY-212	Classical Physics I ▶		5	◆
PHY-222	Classical Physics II ▶		5	◆

* CNS-121 or ENV-115/116: Only one can be taken toward your 20 hours of science.

C. Mathematics — 3 credits (minimum)

(Assessment Required)

Course	Title		Credits	
MAT-121	College Algebra ▶		4	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

II. Humanities   3 credits (minimum)

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

A. Western Civilization

HIS-117 Western Civilization I: Ancient and Medieval	O E	3	◆
HIS-118 Western Civilization II: Early Modern	O	3	◆
HIS-119 Western Civilization III: The Modern Period	O E	3	◆

B. Literature and Fine Arts

ART-101 Art Appreciation	O	3	◆
ART-203 Art History I	O	3	◆
ART-204 Art History II	O	3	◆
DRA-107 Theatrical Arts and Society	E	3	◆
LIT-101 Introduction to Literature ▶	O E	3	◆
MUS-100 Music Appreciation	O E	3	◆

C. Philosophy and Religion

PHI-101 Introduction to Philosophy	O E	3	◆
PHI-105 Introduction to Ethics	O E	3	◆
REL-101 Survey of World Religions	O E	3	◆
REL-130 Introduction to Religions of the East	O	3	◆

D. Non-Western Cultures

CLS-130 African Cultures	O E	3	◆
CLS-141 Middle Eastern History and Culture		3	◆
CLS-150 Latin American History and Culture	O E	3	◆
CLS-160 East Asian Cultures	O	3	◆
CLS-164 Japanese History and Culture		3	◆
CLS-172 Russian Civilization		3	◆

III. Social Sciences — 6 credits (minimum)

Requires one course from each area A and B.

A. People and Their Relationships — 3 credits (minimum)

PSY-111	Introduction to Psychology	O E	3 ◆
SOC-110	Introduction to Sociology	O E	3 ◆

B. American Society — 3 credits (minimum)

HIS-151	U.S. History to 1877	O E	3 ◆
HIS-152	U.S. History Since 1877	O E	3 ◆
POL-111	American National Government	O E	3 ◆

IV. Communications — 9 credits (minimum)

A. Written Communications — 6 credits (minimum)

Assessment required

ENG-105	Composition I ▶	O E	3 ◆
ENG-106	Composition II ▶	O E	3 ◆

B. Oral Communications — 3 credits (minimum)

SPC-101	Fundamentals of Oral Communication	O E	3 ◆

V. Social Diversity — 3 credits (minimum)

COM-148	Diversity and the Media		3 ◆
EDU-223	Multicultural Education *(For Education Emphasis Only)*	E	3 ◆
LIT-133	Minority Voices in U.S. Literature	O E	3 ◆
PSY-262	Psychology of Gender ▶	O	3 ◆
SOC-200	Minority Group Relations	O	3 ◆
SOC-205	Diversity in America	O E	3 ◆
WST-101	Women's Studies	E	3 ◆

VI. Distributed Requirement — 4 credits (minimum)

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

VII. Elective Courses			17 credits (minimum)	

A. Required Elective Course

1 credit (minimum)

SDV-108	The College Experience	O E	1	◆
SDV-109	College 101	E	3	◆

B. Suggested Elective Courses

16 credits

Electives are courses beyond general education requirements. May include courses from any area I, II, II, or V. Up to 16 technical credits may be used as electives. Additional courses may be available. For more information, contact a program advisor.

ACC-131	Principles of Accounting I ▶	O E	4	◆
ACC-132	Principles of Accounting II ▶	O E	4	◆
AGA-114	Principles of Agronomy		3	
AGA-154	Fundamentals of Soil Science		3	
AGA-214	Cash Grains		3	
AGA-284	Pesticide Application Certification		3	
AGA-376	Integrated Pest Management		3	
AGB-101	Agricultural Economics		3	
AGB-235	Introduction to Agriculture Markets		3	
AGB-303	Agriculture Leadership		3	
AGB-331	Entrepreneurship in Agriculture		3	
AGB-336	Agricultural Selling		3	
AGC-103	Ag Computers		3	
AGH-112	Introduction to Turfgrass Management		3	
AGH-161	Irrigation Systems		3	
AGH-211	Advanced Turfgrass Management		3	
AGH-221	Principles of Horticulture		3	
AGP-333	Precision Farming Systems		3	
AGP-450	Fundamentals of GIS		3	
AGS-113	Survey of the Animal Industry		3	
AGS-211	Issues Facing Animal Science		2	
AGS-218	Domestic Animal Physiology ▶		4	
AGS-272	Foods of Animal Origin ▶		5	
AGS-305	Livestock Evaluation		3	
AGS-319	Animal Nutrition		3	
AGT-805	Employment Experience		5	
AGV-123	Companion Animal		3	
ART-120	2-D Design		3	◆
ART-123	3-D Design		3	◆
ART-133	Drawing		3	◆

Code	Title			Credits	
ART-134	Drawing II			3	◆
ART-143	Painting			3	◆
ART-144	Painting II ▶			3	◆
ART-173	Ceramics			3	◆
ART-184	Photography			3	◆
BIO-151	Nutrition		O E	3	◆
BIO-163	Essentials of Anatomy and Physiology		E	4	◆
BUS-102	Introduction to Business		O E	3	◆
BUS-180	Business Ethics		O E	3	◆
BUS-183	Business Law		O E	3	◆
BUS-210	Business Statistics ▶		E	3	◆
BUS-230	Quantitative Methods for Business Decision Making ▶		E	3	◆
COM-140	Introduction to Mass Media	★		3	◆
CSC-110	Introduction to Computers ▶		O E	3	◆
DRA-110	Introduction to Film		O E	3	◆
ECN-110	Introduction to Economics *(No credit if ECN-120 or ECN-130 earned.)*			3	◆
ECN-120	Principles of Macroeconomics ▶		O E	3	◆
ECN-130	Principles of Microeconomics ▶		O E	3	◆
ENG-221	Creative Writing			3	◆
HIS-201	Iowa History			3	◆
HIS-251	U.S. History 1945 to Present ▶			3	◆
HIS-257	African American History		O	3	◆
HIS-277	History of Women in the U.S.			3	◆
HUM-140	Shakespeare: Dramatist, Psychologist, Historian	★		3	◆
LIT-189	Women and Literature		O	3	◆
LIT-949	Special Topics	★		1	◆
MAT-102	Intermediate Algebra			4	◆
MGT-101	Principles of Management		O E	3	
MIL-103	Military Survival Skills	★		2	◆
MIL-110	Leadership and Personal Development	★		1	◆
MIL-115	Foundations of Tactical Leadership			1	◆
MIL-120	Innovative Team Leadership			2	◆
MIL-122	Leadership in Changing Environment			2	◆
MKT-110	Principles of Marketing		O E	3	
PEA-117	Bowling I	★		1	◆
PEA-123	Circuit Training	★		1	◆
PEA-150	Powerwalking	★	O	1	◆
PEA-187	Weight Training I ▶	★		1	◆
PEA-191	Pilates	★	O	1	◆

PEA-194	Vinyasa Yoga	★	O	1 ◆
PEC-110	Coaching Ethics, Techniques, and Theory		O	1 ◆
PEC-115	Athletic Development and Human Growth		O	1 ◆
PEC-123	Anatomy for Coaching		O	1 ◆
PEC-127	Care and Prevention of Athletic Injuries			2 ◆
PEH-111	Personal Wellness		O	3 ◆
PEH-141	First Aid ◉			2 ◆
PEH-162	Introduction to Physical Education			3 ◆
PEH-193	Sports Nutrition			2 ◆
PHI-121	Classical/Medieval Philosophy			3 ◆
PHY-100	Physics in Everyday Life			3 ◆
POL-121	International Relations		E	3 ◆
POL-125	Comparative Government and Politics		O	3 ◆
PSY-121	Developmental Psychology		O E	3 ◆
PSY-241	Abnormal Psychology ▶		O	3 ◆
PSY-251	Social Psychology ▶			3 ◆
PSY-261	Human Sexuality			3 ◆
SDV-131	Career Exploration		O	2 ◆
SOC-115	Social Problems		O E	3 ◆
SOC-120	Marriage and Family		O E	3 ◆
SOC-135	Death and Dying		O E	3 ◆
SOC-160	Introduction to Social Work		O E	3 ◆
SOC-208	Introduction to Cultural Anthropology			3 ◆
SOC-220	Sociology of Aging		O	3 ◆
SOC-850	Cultural Immersion Field Experience	★		1 ◆
SPC-120	Intercultural Communications		O	3 ◆
SPC-122	Interpersonal Communication		O	3 ◆
SPC-132	Group Communication			3 ◆
XXX-924	Honors Project			1 ◆
XXX-926	Honors Seminar			3 ◆

HAWKEYE
COMMUNITY COLLEGE

Biology Liberal Arts Transfer Major

The biology transfer major will allow you to transfer to a public or private four-year college or university to earn a degree in biology. Consider biology if you are interested in research with industry or government, primary or secondary school teaching, or entering advanced degree programs for practice in health professions such as medicine, dentistry, or physical therapy.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Science (AS)
Required number of credits: 62

Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.

Biology Transfer Courses		
BIO-112 General Biology I	4	◆
BIO-113 General Biology II	4	◆
CHM-165 General Chemistry I ►	4	◆
CHM-175 General Chemistry II ►	4	◆
MAT-210 Calculus I ►	4	◆
Total Credits 20		

Remaining Liberal Arts Coursework	
II. Humanities	3
III. Social Sciences	6
IV. Communications	9
V. Social Diversity	3
VI. Distributed Requirement	4
VII. Elective Courses	17
	Total Credits 42

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Business Liberal Arts Transfer Major

Students studying Business will gain knowledge in statistics, accounting, information systems, and economics.

Career Opportunities

Skills gained in the Business transfer major can be easily applied to many career areas including:

- Business Management
- Banking
- Real Estate
- Sales
- Finance
- Economics

Find employment in the following sectors:

- Banks and financial institutions
- Local, state, and federal government
- Self-employed
- Public accounting firms
- E-commerce
- Universities and colleges

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 64

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Business Transfer Courses			
ACC-131 Principles of Accounting I ▶	O E	4	◆
ACC-132 Principles of Accounting II ▶	O E	4	◆
BUS-183 Business Law	O E	3	◆
BUS-210 Business Statistics ▶ -OR-	E	3	◆
BUS-230 Quantitative Methods for Business Decision Making ▶	E	3	◆
CSC-116 Information Computing ▶		3	◆
ECN-120 Principles of Macroeconomics ▶	O E	3	◆
ECN-130 Principles of Microeconomics ▶	O E	3	◆
MAT-156 Statistics ▶	O E	3	◆

Total Credits 26

Remaining Liberal Arts Coursework	
I. Natural Science and Mathematics	7
A. Biological Sciences	
B. Physical Sciences	
II. Humanities	9
III. Social Sciences	9
IV. Communications	9
V. Social Diversity	3
VII. Elective Courses	1
A. Required Elective Course	

Total Credits 38

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Chemistry Liberal Arts Transfer Major

The chemistry transfer major will allow you to transfer to a public or private four-year college or university to earn a degree in chemistry. Consider chemistry if you are interested in research with industry or government, secondary school teaching, or entering advanced degree programs for practice in some health professions.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Science (AS)
Required number of credits: 62

Courses are subject to change.

- ◆ General education course.
- ► Course has a prerequisite and/or corequisite.

Chemistry Transfer Courses		
CHM-165 General Chemistry I ►	4	◆
CHM-175 General Chemistry II ►	4	◆
CHM-260 Organic Chemistry I ►	3	◆
CHM-270 Organic Chemistry II ►	3	◆
MAT-210 Calculus I ►	4	◆
MAT-216 Calculus II ►	4	◆
	Total Credits 22	

Remaining Liberal Arts Coursework	
II. Humanities	3
III. Social Sciences	6
IV. Communications	9
V. Social Diversity	3
VI. Distributed Requirement	4
VII. Elective Courses	15

Total Credits 40

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Communication Liberal Arts Transfer Major

A degree in communication prepares students for a variety of careers. Students who study communication are not only highly sought after in fields like marketing and public relations but also in areas you may not immediately think of, such as banking. Communication majors are known for being skillful at taking complex information and making it easy to understand, as well as their ability to connect with others. This makes them highly sought after in many fields.

Career Opportunities

The following is just a sampling of some of the career opportunities you can pursue with a degree in communications — the sky's the limit!

- Marketing
- Public Relations
- Advertising
- Media
- Writing
- Mass Communication
- Advertising
- Banking
- Real Estate
- Teaching/Training
- Healthcare
- Technology

You may find employment in many industries such as government, business, not-for-profit organizations, education, manufacturing, and politics.
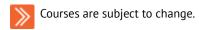
Why You Should Pick a Degree in Communications

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 62

Courses are subject to change.

- ◆ General education course.

- ▶ Course has a prerequisite and/or corequisite.

- **O** Course meets 100% online.

- **E** Course meets face-to-face after 5:00pm.

Communication Transfer Courses

COM-140	Introduction to Mass Media		3	◆
ENG-105	Composition I ▶	O E	3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆
SPC-120	Intercultural Communications *Offered fall semester, even years*	O	3	◆
SPC-122	Interpersonal Communication *Offered spring term, even years*	O	3	◆
SPC-132	Group Communication *Offered fall term, odd years*		3	◆

Total Credits 18

Remaining Liberal Arts Coursework

I. Natural Science and Mathematics	10
II. Humanities	9
III. Social Sciences	9
IV. Communications	3
V. Social Diversity	3
VII. Elective Courses	10

Total Credits 44

Additional Communication Transfer Courses

COM-148	Diversity and the Media		3	◆
DRA-130	Acting I *Offered fall semester*	E	3	◆
SPC-112	Public Speaking *Offered spring semester, odd years*		3	◆
SPC-140	Oral Interpretation *Offered spring semester*		3	◆

Professional Associations

- Iowa Communication Association
- Central States Communication Association
- National Communication Association

Opportunities for students to get involved in the field

- Hawkeye Community College's Career Center: A campus service that will help you with everything from resumes to interview preparation.
- Etc. Literary Art Magazine

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Criminal Justice Liberal Arts Transfer Major

TV shows like CSI, SVU, SWAT, NCIS, and Criminal Minds have captivated audiences worldwide. Their popularity has created a high level of interest for careers in the growing field of criminal justice with a need for individuals possessing skills in computers, science, technology, psychology, and social sciences.

Those who study criminal justice can work in public service in a number of different ways:

- Like biology? Become a lab technician and help solve crimes using DNA, fingerprints, and evidence analysis.

- Like computers? Become a forensic computer investigator and help find children who are trafficked, solve financial crimes, and track criminal enterprises.

- Like psychology? Become an investigator specializing in interview, interrogation, and profiling.

- Like social work? Become a forensic child interviewer and work with Juvenile Court Services or become a victim's advocate or a probation officer.

- Do you have a history of substance abuse and now want to help others kick the habit? You can start your degree here and work toward the treatment sector.

We need ethical people who want to make a difference in our society. We need people like you who are interested in being part of the next generation of criminal justice professionals.

]Whether you are just finishing high school or looking for a career change, Hawkeye's Criminal Justice transfer major will start you on your path to earn a Bachelor's Degree in criminal justice.

Join us to see how your unique skills can be used to serve in the field of criminal justice.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 62

Courses are subject to change.

◆	General education course.		
►	Course has a prerequisite and/or corequisite.		
O	Course meets 100% online.		
E	Course meets face-to-face after 5:00pm.		

Criminal Justice Transfer Courses

CRJ-100	Introduction to Criminal Justice	O E	3	◆
CRJ-200	Criminology	O E	3	
CRJ-201	Juvenile Delinquency	O E	3	◆
MAT-156	Statistics ►	O E	3	◆
POL-111	American National Government	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
	Criminal Justice Elective		3	
	Criminal Justice Elective		3	

Total Credits 24

Criminal Justice Electives

CRJ-120	Introduction to Corrections	O E	3	◆
CRJ-141	Criminal Investigation ►		3	
CRJ-233	Probation, Parole, Community-Based Corrections ►	O	3	◆
CRJ-237	Criminal and Constitutional Law		3	
CRJ-316	Juvenile Justice ►		3	◆
CRJ-317	White Collar Crime ►	O	3	◆
CRJ-318	Crime Analysis ►		3	◆
CRJ-320	Criminal Justice Ethics	O	3	◆

Remaining Liberal Arts Coursework

I. Natural Science and Mathematics — A. Biological Sciences -OR-	4
I. Natural Science and Mathematics — A. Biological Sciences	3
I. Natural Science and Mathematics — B. Physical Sciences -OR-	3
I. Natural Science and Mathematics — B. Physical Sciences	4
II. Humanities	9
III. Social Sciences — C. Topics in Social Sciences	3
IV. Communications	9
V. Social Diversity	3
VI. Elective Courses — A. Required Elective Course	1
VI. Elective Courses — B. Suggested Elective Courses	6

Total Credits 38

Your 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.

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Early Childhood and Elementary Education Liberal Arts Transfer Majors

The elementary education and early childhood transfer majors give students an introduction into teaching in pre-K and elementary schools. It is designed for students to complete the first two years of a four-year teaching degree program, earning their Associate of Arts degree in Liberal Arts. Students then transfer to an accredited teacher's education program at a public or private four-year college or university.

The elementary education transfer major is an introduction to teaching grades Kindergarten through grade 6.

The early childhood (teacher licensure) transfer major is an introduction to teaching Pre-Kindergarten through grade 3. Students interested in teaching early childhood may also be interested in the Early Childhood Education AAS degree program. Visit with an advisor to find the program that best suits your educational and career goals.

Starting your education major at Hawkeye will allow you to have practical experience with students in local schools beginning on day one. The classes you will take have been designed to allow you to gain practical insight into the teaching profession and offer many opportunities to work with local students.

Career Opportunities

The following are some of the career opportunities you can pursue in education:

- Public/private school teacher

Involvement Opportunities

- Education Club supports local children in their time of need and work towards a greater good.

- Hawkeye Reads is a campus-wide program that seeks to support the College's Institutional Outcomes and increase literacy.

- Student Ambassadors are a group of students who assist Admissions with the recruitment of new students and who represent and promote Hawkeye within the college and community.

- Student Leadership Council represents and promotes the common interests and general welfare of the student body.

- Multicultural Student Organization is a student-led group created to be a platform for students to focus on diversity issues that shape our world.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)

Required number of credits: 62

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Elementary Education Transfer Courses

EDU-210	Foundations of Education		3	◆
EDU-235	Children's Literature	O	3	◆
EDU-240	Educational Psychology ▶		3	◆
EDU-246	Including Diverse Learners	O E	3	◆
EDU-255	Technology in the Classroom ▶	E	3	◆
EDU-920	Field Experience ▶	O	1	◆
HIS-151	U.S. History to 1877 -OR-	O E	3	◆
HIS-152	U.S. History Since 1877	O E	3	◆
MAT-117	Math for Elementary Teachers ▶		3	◆
PSY-121	Developmental Psychology	O E	3	◆

Total Credits 25

Remaining Liberal Arts Coursework

I. Natural Science and Mathematics A. Biological Sciences B. Physical Sciences	7
II. Humanities	9
III. Social Sciences A. People and Their Relationships	3
IV. Communications	9
V. Social Diversity	3
VII. Elective Courses	6

Total Credits 37

Award: Associate of Arts (AA)

Required number of credits: 62

> Courses are subject to change.

- ◆ General education course.
- ► Course has a prerequisite and/or corequisite.
- **O** Course meets 100% online.
- **E** Course meets face-to-face after 5:00pm.

Early Childhood Teacher Licensure Transfer Courses

EDU-235	Children's Literature	O	3	◆
EDU-240	Educational Psychology ►		3	◆
EDU-246	Including Diverse Learners	O E	3	◆
EDU-255	Technology in the Classroom ►	E	3	◆
EDU-920	Field Experience ►	O	1	◆
MAT-117	Math for Elementary Teachers ►		3	◆
POL-111	American National Government -OR-	O E	3	◆
HIS-151	U.S. History to 1877 -OR-	O E	3	◆
HIS-152	U.S. History Since 1877	O E	3	◆
PSY-121	Developmental Psychology	O E	3	◆

Total Credits 22

Remaining Liberal Arts Coursework

I. Natural Science and Mathematics A. Biological Sciences B. Physical Sciences	7
II. Humanities	9
III. Social Sciences A. People and Their Relationships	3
IV. Communications	9
V. Social Diversity	3
VII. Elective Courses *	9

Total Credits 40

* Students planning to transfer to the University of Northern Iowa should see their advisor for additional course options.

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Exercise Science and Kinesiology Liberal Arts Transfer Major

A career in Exercise Science and Kinesiology aims to improve lifestyles by focusing on prevention and helping to change individual behavior and thought-processes. Options include working with individuals directly or through school and workplace programs.

Students interested in completing a bachelor's degree in Exercise Science and Kinesiology you should consider the Exercise Science and Kinesiology Liberal Arts Transfer Major.

Career Opportunities

The following are some of the career opportunities you can pursue:

- Wellness coordinator
- Physical education teacher
- Personal trainer
- Fitness instructor
- Recreational specialist
- Athletic trainer

Find employment in the following sectors:

- Non-profit organizations
- Fitness facilities
- Hospitals
- Business
- Education

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 62

Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Exercise Science and Kinesiology Transfer Courses			
BIO-151 Nutrition	O E	3	◆
BIO-168 Human Anatomy and Physiology I	E	4	◆
BIO-173 Human Anatomy and Physiology II ►	E	4	◆
MAT-156 Statistics ►	O E	3	◆
PHY-162 College Physics I ►		4	◆
	Total Credits 18		

Remaining Liberal Arts Coursework	
II. Humanities	9
III. Social Sciences	9
IV. Communications	9
V. Social Diversity	3
VII. Elective Courses	14
Total Credits 44	

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Fine Arts Liberal Arts Transfer Major

If you are interested in completing a bachelor's degree in Fine Arts you should consider the Fine Arts Liberal Arts Transfer Major.

Students interested in Fine Arts will investigate the creative possibilities of a variety of media and process in personal expression ranging from drawing, painting, photography, and design, as well as a contextual perspective of world art and its concepts.

Career Opportunities

The following are some of the career opportunities you can pursue in Fine or Performing in non-profit, radio/television, museum/gallery, performing arts, education and business sectors:

- Artist
- Animation Artist
- Arts Administrator
- Art Conservationist
- Arts Education Coordinator at an art museum or art center
- Art Handler
- Art Restorer
- Art Therapist
- Biological or Medical Illustrator
- Curator
- Entrepreneur
- Graphic Designer
- Illustrator
- K-12 Art Teacher

Professional Associations

- College Art Association (CAA)
- The National Art Education Association (NAEA)
- Art Educators of Iowa (AEI)
- American Institute of Graphic Arts (AIGA), Iowa Chapter
- Foundations in Art Theory and Education (FATE)
- Association for Visual Artists (AVA)
- Association of Art Museum Curators (AAMC)
- Iowa Museum Association (IMA)
- The National Association of Independent Artists (NAIA)

School of Art Colleges and Universities

- Central College, Art Department
- Coe College, Art and Art History Department
- Cornell College, Department of Art & Art History
- Dordt College, Art & Design Department
- Iowa State University, College of Design
- Luther College, Visual and Performing Arts
- University of Iowa, School of Art and Art History
- University of Northern Iowa, Department of Art
- Upper Iowa University
- Wartburg College, Art Department

Involvement Opportunities

- ETC: Art and Literary Magazine: This is an opportunity for students, faculty, and staff to publish creative works inspired by Hawkeye Reads themes. It is also a course where students can work as staff of an art and literary publication.

- Hawkeye Student Art Show: This annual juried art show provides an opportunity for Hawkeye students to exhibit their artwork on campus. Awards are given and some artwork is purchased for the Hawkeye Permanent Collection.

- Art Gallery Assistant and Art Studio Work Study positions.

- Hawkeye Reads: A campus-wide program that seeks to support the College's Institutional Outcomes and increase literacy.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 62

Courses are subject to change.

◆ General education course.

O Course meets 100% online.

Fine Arts Transfer Courses			
ART-120 2-D Design		3	◆
ART-123 3-D Design		3	◆
ART-133 Drawing		3	◆
ART-134 Drawing II		3	◆
ART-203 Art History I	O	3	◆
ART-204 Art History II	O	3	◆
Total Credits 18			

Remaining Liberal Arts Coursework	
I. Natural Science and Mathematics	10
II. Humanities	6
III. Social Sciences	9
IV. Communications	9
V. Social Diversity	3
VII. Elective Courses	7
Total Credits 44	

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

History Liberal Arts Transfer Major

Students studying History will acquire an essential Liberal Arts background preparing them for careers calling for skills in research, analysis, information management, writing, and speaking.

If you are interested in completing a bachelor's degree in History you should consider the History Liberal Arts Transfer Major.

Career Opportunities

- College educator
- Corporate/organization historian
- Archivist
- Public historian

Find employment in the following sectors:

- Government
- Business
- Museums
- Non-profit organizations
- Education
- Legal profession

Check out the American Historical Association for more information on history careers.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 59

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

History Transfer Courses

ENG-106	Composition II ▶	O E	3 ◆
HIS-117	Western Civilization I: Ancient and Medieval -AND-	O E	3 ◆
HIS-118	Western Civilization II: Early Modern -OR-	O	3 ◆
HIS-119	Western Civilization III: The Modern Period	O E	3 ◆
HIS-151	U.S. History to 1877	O E	3 ◆
HIS-152	U.S. History Since 1877	O E	3 ◆
SPC-101	Fundamentals of Oral Communication	O E	3 ◆
		Total Credits 15	

Remaining Liberal Arts Coursework

I. Natural Science and Mathematics	10
II. Humanities	6
B. Humanities	
III. Social Sciences	6
A. People and Their Relationships	
C. Topics in Social Sciences	
IV. Communications	3
A. Written Communications	
V. Social Diversity	3
VII. Elective Courses	16
Total Credits 44	

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Political Science Liberal Arts Transfer Major

A degree in Political Science offers students a variety of tracks working within public service or the private sector. Options include international affairs, global finance, government service and policy-making, law, and diplomacy. Graduate study in this field will further enhance career opportunities.

Study in Political Science can be readily interfaced with other disciplinary areas. Many successful business persons and community leaders have earned a degree in political science in addition to other fields as well as their work experience.

Career Opportunities

A degree in Political Science prepares students for successful careers with high employability in a variety of fields, such as those listed below. Graduate study in this field and its various sub-fields (MA/MS, Ph. D., J.D.) will further enhance career opportunities and yield lucrative salaries.

- Law/international law
- Business administration
- Public administration
- Marketing and advertising
- International relations and diplomacy
- Finance/international finance
- Criminal justice
- Military service/officer training
- Non-profit organizations/non-governmental organizations
- Education
- Foreign language and translation services

Find employment in the following sectors:

- Education
- Government
- Non-profit organizations
- Legal profession
- Business

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 44

> Courses are subject to change.

◆ General education course.

► Course has a prerequisite and/or corequisite.

O Course meets 100% online.

E Course meets face-to-face after 5:00pm.

Political Science Transfer Courses

ENG-106	Composition II ►	O E	3	◆
MAT-156	Statistics ►	O E	3	◆
POL-111	American National Government	O E	3	◆
POL-121	International Relations	E	3	◆
POL-125	Comparative Government and Politics	O	3	◆
SPC-112	Public Speaking -OR-		3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Remaining Liberal Arts Coursework

I. Natural Science and Mathematics A. Biological Sciences B. Physical Sciences	7
II. Humanities	9
III. Social Sciences A. People and Their Relationships	3
IV. Communications A. Written Communications	3
V. Social Diversity	3
VII. Elective Courses	19

Total Credits 44

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Psychology Liberal Arts Transfer Major

Psychology is both a science and a profession. Regardless of your specific career plans, study in Psychology will develop your critical thinking and interpersonal skills and broaden your understanding of research, ethics, and human behavior. Graduate study in this field will further enhance career opportunities.

Career Opportunities

- Counselor or therapist
- Human resource professional
- School psychologist
- Market researcher
- College educator
- Sports psychologist

Find employment in the following sectors:
- Education
- Non-profit organizations
- Government
- Business
- Health
- Research

The American Psychological Association provides additional information on careers and subfields of Psychology.

Furthering Education in Psychology

- Iowa State University
- University of Iowa
- University of Northern Iowa

For additional programs and program information, visit Psychology Schools in Iowa.

Student Involvement and Volunteer Opportunities

- Hawkeye Pride Organization: Student organization focused on the LGBTQ+ community and interests, education, and advocacy. The organization is a safe zone open to all LGBTQ+ and ally students.

- Hawkeye Reads: A campus-wide program that seeks to support the College's Institutional Outcomes and increase literacy.

- MAPS (Minds, Actions, People, Society): Special interest club for students interested in Psychology, Sociology, and Social Work.

- Multicultural Student Organization: A student-led group created to be a platform for students to focus on diversity issues that shape our world.

- **Phi Theta Kappa**: Academic honor society. You must have a GPA of 3.5 or higher. They offer leadership skills, fellowship, and scholarships.

- **Student Ambassadors**: A group of students who assist the Admissions office with the recruitment of new students and who represent and promote Hawkeye.

- **Student Leadership Council**: Represents and promotes the common interests and general welfare of the student body.

Students are also encouraged to engage in community volunteering. Visit The Volunteer Center of the Cedar Valley for community volunteering opportunities in the Cedar Valley.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 62

» Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Psychology Transfer Courses				
BIO-105	Introductory Biology -OR-	E	4	◆
BIO-112	General Biology I -OR-		4	◆
BIO-113	General Biology II -OR-		4	◆
BIO-163	Essentials of Anatomy and Physiology -OR-	E	4	◆
BIO-166	Fundamentals of Anatomy and Physiology -OR-		4	◆
BIO-168	Human Anatomy and Physiology I	E	4	◆
MAT-156	Statistics ▶	O E	3	◆
PHI-105	Introduction to Ethics -OR-	O E	3	◆
PHI-101	Introduction to Philosophy	O E	3	◆
PSY-111	Introduction to Psychology	O E	3	◆
PSY-121	Developmental Psychology	O E	3	◆
PSY-251	Social Psychology ▶		3	◆
	Total Credits 19			

Remaining Liberal Arts Coursework	
I. Natural Science and Mathematics — B. Physical Sciences	3
II. Humanities — A. Western Civilization	3
II. Humanities — B. Humanities 1. Literature and Fine Arts -OR-	3
II. Humanities — B. Humanities 3. Non-Western Cultures	3
III. Social Sciences — B. American Society	3
IV. Communications	9
V. Social Diversity	3
VI. Elective Courses — A. Required Elective Course	1
VI. Elective Courses — B. Suggested Elective Courses	18

Total Credits 43

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Social Work Liberal Arts Transfer Major

Study in Social Work will help you gain skills in critical thinking, research methods, understanding the way society works, and understanding the relationship between individuals and the societies in which we live. Social Work emphasizes the importance of social environment as it affects the quality of people's lives. The skills you learn studying Social Work are transferable to many careers.

23 Defining Moments of Social Work

Career Opportunities

A Social Work degree prepares students for career opportunities in the public, private, and non-profit sectors. The following are some of the major career fields you can pursue related to Social Work:

- School social work
- Older adults
- Mental health
- Healthcare
- People with disabilities
- Criminal justice/corrections
- Children, youth, and families
- Substance use, abuse, and dependence

The National Association of Social Workers and The Best Social Work Jobs also provide additional information on careers in Social Work.

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 62

> Courses are subject to change.

◆ General education course.

► Course has a prerequisite and/or corequisite.

O Course meets 100% online.

E Course meets face-to-face after 5:00pm.

Social Work Transfer Courses			
BIO-154 Human Biology	O E	3	◆
MAT-156 Statistics ►	O E	3	◆
POL-111 American National Government	O E	3	◆
PSY-111 Introduction to Psychology	O E	3	◆
SOC-110 Introduction to Sociology	O E	3	◆
SOC-120 Marriage and Family	O E	3	◆
SOC-160 Introduction to Social Work	O E	3	◆
SOC-180 Social Work Interactional Skills ►	E	3	◆
SOC-181 Field Experience ►	E	1	◆

Total Credits 25

Remaining Liberal Arts Coursework	
I. Natural Science and Mathematics B. Physical Sciences	4
II. Humanities	9
IV. Communications	9
V. Social Diversity	3
VII. Elective Courses	12

Total Credits 37

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

School of Social Work Colleges and Universities

Briar Cliff University, Sioux City, IA

Buena Vista University, Storm Lake, IA

Clark University, Dubuque, IA

Dordt College, Sioux Center, IA

Loras College, Dubuque, IA

Luther College, Decorah, IA

University of Iowa, Iowa City, IA

University of Northern Iowa, Cedar Falls, IA

Wartburg University, Waverly, IA

The Best Online Masters Social Work Degree Programs

Involvement Opportunities

- Hawkeye Reads: A campus-wide program that seeks to support the College's Institutional Outcomes and increase literacy.

- MAPS (Minds, Actions, People, Society): Special interest club for students interested in Psychology, Sociology, and Social Work.

- Multicultural Student Organization: A student-led group created to be a platform for students to focus on diversity issues that shape our world.

- Student Ambassadors: A group of students who assist the Admissions office with the recruitment of new students and who represent and promote Hawkeye.

- Student Leadership Council: Represents and promotes the common interests and general welfare of the student body.

Sociology Liberal Arts Transfer Major

Sociology is the study of social life, including social influences on human behavior. It is a "21st century career," which provides students an opportunity to build transferable skills such as thinking critically, making evidence-based arguments, employing various research methods, interpreting data, writing effectively, and understanding diverse perspectives (American Sociological Association, 2013).

What can you do with a sociology degree?

A Sociology degree prepares students for career opportunities in the public, private, and non-profit sectors. The following are some of the career opportunities you can pursue related to Sociology:

- Conflict negotiation
- Corrections/criminal justice
- High school teaching
- Human resources
- Human rights advocacy
- Public relations
- Research
- Sales and marketing
- Social services

Additionally, a Bachelor's in Sociology prepares students for admission to professional or graduate school to pursue careers in law, college/university teaching, research, public policy, etc.

Learn more about the field of Sociology

- University of Iowa, Sociology and Criminology Department 2019–2020 Student Accomplishments
- University of Northern Iowa, Department of Sociology, Anthropology, and Criminology Career Opportunities
- Iowa State, Department of Sociology, Sociology program
- American Sociological Association: Careers in Sociology

Planning Your Class Schedule

Students should consult with an advisor in Student Services to select courses, make a transfer plan, and periodically review their progress towards their degree completion.

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

Not all courses may be required for transfer to your future major.

Award: Associate of Arts (AA)
Required number of credits: 62
Program Start: Fall, Spring, Summer

Courses are subject to change.

◆ General education course.

► Course has a prerequisite and/or corequisite.

O Course meets 100% online.

E Course meets face-to-face after 5:00pm.

Sociology Transfer Courses				
MAT-156 Statistics ►	O E	3	◆
POL-111 American National Government	O E	3	◆
PSY-251 Social Psychology ►		3	◆
SOC-110 Introduction to Sociology	O E	3	◆
SOC-115 Social Problems	O E	3	◆
SOC-120 Marriage and Family	O E	3	◆

Total Credits 18

Remaining Liberal Arts Coursework	
I. Natural Science and Mathematics — A. Biological Sciences and B. Physical Sciences	7
II. Humanities	9
IV. Communications	9
V. Social Diversity	3
VI. Elective Courses — A. Required Elective Course	1
VI. Elective Courses — B. Suggested Elective Courses	15

Total Credits 44

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Program Area

AGRICULTURE AND NATURAL RESOURCES

Ag Business Management

Animal Science

Landscape and Turf Management

Natural Resources Management

Veterinary Assisting

HAWKEYE
COMMUNITY COLLEGE

Ag Business Management

The Ag Business Management program allows you to learn about all aspects of agriculture, including:

- Agronomy/crop production
- Precision agriculture
- Farm management
- Business
- Animal production

Learn from instructors who bring real-world experience from their education, everyday farming, and professional lives.

Hands-On Learning Opportunities

- Hawkeye's 225-acre Farm Lab: Learn farm management, animal production, and crop production skills.

- Precision Technology: Use the latest farm equipment and technology, including global positioning systems (GPS), geographic information systems (GIS), and unmanned aerial vehicles in crop production and land management.

- Field Trips: Visit various size farming operations and seed plant production facilities to learn how your skills and knowledge can be applied in a variety of work environments.

- Conferences and Workshops: Expand your knowledge and leadership skills at the Postsecondary Agricultural Student (PAS) Conference, World Food Prize Borlaug Dialogue Symposium, Agribusiness Association of Iowa Showcase, and the Iowa State University Crops Clinics.

- Employment Experience: Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Transfer Information

Articulation agreements allow you to transfer your Ag Business Management coursework to Northwest Missouri State University and to the Agricultural Studies, Agricultural Business, and Agronomy programs at Iowa State University. Hawkeye also has transfer relationships with South Dakota State University, University of Wisconsin–Platteville, Upper Iowa University, and Morningside College.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

The changing face of agriculture has resulted in new and challenging career opportunities. Graduates work in fields and offices with individual farmers and large farming operations on all aspects of agriculture, including:

- Agriculture technology
- Agriculture production
- Agriculture sales and marketing
- Agriculture finance

Graduates may find working as:

- Agronomy specialists
- Crop scouts
- Equipment/parts assistants
- Grain merchandisers
- Farm and business managers
- GPS/GIS technologists
- Research assistants

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Ag Leader Technology	Ames, IA
AgVantage FS	Waverly, IA
Dupont Pioneer Hi-Bred	Johnston and Reinbeck, IA
Mid-Iowa Cooperative	Beaman, IA
United Agri Products, Inc.	Winthrop, IA
Youngblut Ag	Dysart, IA

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Agricultural Equipment Operators	$28,500	$38,100	$43,000
First-Line Supervisors of Farming, Fishing, and Forestry Workers	$38,000	$57,000	$66,600
Agricultural and Food Science Technicians	$31,900	$46,000	$53,000

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Ag Business Management AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 69
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

≫ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

≫ **When underlined registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

≫ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1			
AGA-114	Principles of Agronomy	3	
AGC-103	Ag Computers -OR-	3	▣
CSC-110	Introduction to Computers ► -OR-	O E 3	◆
CSC-116	Information Computing ►	3	◆
AGS-113	Survey of the Animal Industry	3	
ENG-105	Composition I ► -OR-	O E 3	◆
COM-781	Written Communication in the Workplace ►	3	▣
MAT-772	Applied Math -OR-	3	▣
MAT-102	Intermediate Algebra -OR-	4	◆
MAT-121	College Algebra ► -OR-	4	◆
	Math Elective	3	
	Course from Electives List 1	3	
	Total Credits	**18**	

Semester 2

AGA-154	Fundamentals of Soil Science			3	
AGA-376	Integrated Pest Management	8WK2		3	
AGS-319	Animal Nutrition -OR-			3	
AGS-216	Equine Science -OR-	8WK2		3	
AGS-218	Domestic Animal Physiology ▶ -OR-			4	
AGS-225	Swine Science -OR-	8WK1		3	
AGS-226	Beef Cattle Science -OR-	8WK1		3	
AGS-272	Foods of Animal Origin ▶ -OR-	8WK1		5	
AGS-305	Livestock Evaluation			3	
SOC-115	Social Problems -OR-		O E	3	◆
PSY-111	Introduction to Psychology -OR-		O E	3	◆
PSY-102	Human and Work Relations -OR-			3	◆
SOC-110	Introduction to Sociology		O E	3	◆
SPC-101	Fundamentals of Oral Communication		O E	3	◆
	Course from Electives List 2			3	

Total Credits 18

Semester 3

ACC-131	Principles of Accounting I ▶ -OR-		O E	4	◆
ACC-115	Introduction to Accounting			4	
AGB-235	Introduction to Agriculture Markets -OR-			3	
MKT-110	Principles of Marketing		O E	3	
	Course from Electives List 1			3	
	Course from Electives List 2			3	
	Course from Electives List 2			3	
	Course from Electives List 3			3	

Total Credits 19

Semester 4

AGB-330	Farm Business Management -OR-	8WK1		3	◆
FIN-121	Personal Finance			3	
AGT-805	Employment Experience	8WK2		5	
	Course from Electives List 3			3	
	Course from Electives List 3			3	

Total Credits 14

Electives List 1

Code	Course		Credits	
AGA-214	Cash Grains		3	
BIO-105	Introductory Biology	E	4	◆
BIO-112	General Biology I		4	◆
BIO-113	General Biology II		4	◆
CHM-122	Introduction to General Chemistry ▶	E	4	◆
CHM-165	General Chemistry I ▶		4	◆
CNS-121	Environmental Conservation	O	3	◆
ENV-115	Environmental Science	O E	3	◆

Electives List 2

Code	Course		Credits	
AGB-303	Agriculture Leadership		3	
AGP-333	Precision Farming Systems		3	
AGP-340	Foundations of GIS and GPS		3	
AGP-436	Advanced Precision Farming: Hardware		3	
AGP-450	Fundamentals of GIS		3	

Electives List 3

Code	Course			Credits	
AGB-101	Agricultural Economics			3	
AGB-331	Entrepreneurship in Agriculture	8WK1		3	
AGB-336	Agricultural Selling	8WK1		3	
AGC-999	Study Abroad			3	◆
AGT-928	Independent Study			1	
BUS-102	Introduction to Business		O E	3	◆
ECN-110	Introduction to Economics			3	◆
ECN-120	Principles of Macroeconomics ▶		O E	3	◆
ECN-130	Principles of Microeconomics ▶		O E	3	◆
MGT-101	Principles of Management		O E	3	
MKT-140	Principles of Selling			3	

Math Electives

Code	Course		Credits	
MAT-110	Math for Liberal Arts ▶	O E	3	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

General Agriculture Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 36
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1			
AGA-114	Principles of Agronomy		3	
AGC-103	Ag Computers -OR-		3	▣
CSC-110	Introduction to Computers ► -OR-	O E	3	◆
CSC-116	Information Computing ►		3	◆
AGS-113	Survey of the Animal Industry		3	
ENG-105	Composition I ► -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ►		3	▣
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ► -OR-	O E	3	◆
MAT-102	Intermediate Algebra -OR-		4	◆
	Math Elective		3	
	Course from Electives List 1		3	
	Total Credits 18			

Semester 2

AGA-154	Fundamentals of Soil Science		3
AGA-376	Integrated Pest Management	8WK2	3
AGP-450	Fundamentals of GIS -OR-		3
AGP-333	Precision Farming Systems -OR-		3
AGP-340	Foundations of GIS and GPS -OR-		3
AGP-436	Advanced Precision Farming: Hardware -OR-		3
AGB-303	Agriculture Leadership		3
AGS-319	Animal Nutrition -OR-		3
AGS-216	Equine Science -OR-	8WK2	3
AGS-218	Domestic Animal Physiology ▶ -OR-		4
AGS-225	Swine Science -OR-	8WK1	3
AGS-226	Beef Cattle Science -OR-	8WK1	3
AGS-272	Foods of Animal Origin ▶ -OR-	8WK1	5
AGS-305	Livestock Evaluation		3
PSY-102	Human and Work Relations -OR-		3 ◆
PSY-111	Introduction to Psychology -OR-	O E	3 ◆
SOC-110	Introduction to Sociology -OR-	O E	3 ◆
SOC-115	Social Problems	O E	3 ◆
SPC-101	Fundamentals of Oral Communication	O E	3 ◆

Total Credits 18

Electives List 1

AGA-214	Cash Grains		3
BIO-105	Introductory Biology	E	4 ◆
BIO-112	General Biology I		4 ◆
BIO-113	General Biology II		4 ◆
CHM-122	Introduction to General Chemistry ▶	E	4 ◆
CHM-165	General Chemistry I ▶		4 ◆
CNS-121	Environmental Conservation	O	3 ◆
ENV-115	Environmental Science	O E	3 ◆

Math Electives

MAT-121	College Algebra ▶		4 ◆
MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

Precision Agriculture Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 15
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes **refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

Semester 1	
AGA-114 Principles of Agronomy	3
Total Credits 3	

Semester 2	
AGA-154 Fundamentals of Soil Science	3
AGP-450 Fundamentals of GIS	3
Total Credits 6	

Semester 3	
AGP-333 Precision Farming Systems	3
AGP-436 Advanced Precision Farming: Hardware	3
Total Credits 6	

Animal Science

The Animal Science program provides you the opportunity to develop skills and knowledge required to enter a career in animal science or transfer to a four-year college to continue your education.

You will learn the complete life cycle of beef and swine from pasture to plate, and gain hands-on skills and knowledge in:

- Anatomy and physiology
- Animal behavior
- Record keeping
- Proper animal care
- Feeding and nutrition
- Reproduction and reproductive technology
- Production and farm management
- Meat science/butchering

Learn from instructors who bring real-world experience from their education, everyday farming, and professional lives. Instructor certifications include:

- Beef Quality Assurance (BQA)
- Pork Quality Assurance® Plus (PQA Plus)
- Hazard Analysis and Critical Control Points (HACCP)
- ServSafe

Hands-On Learning Opportunities

- Hawkeye's 225-acre Farm Lab: Work with beef and swine to learn their complete life cycle and as well as production and farm management.

- Meat Lab: Learn how to cut, process, and grade meat; use meat processing equipment including saw, grinder, stuffer, deli slicers, tumbler, and small smokehouse; and USDA sanitation rules and practices.

- Certification: Students will be certified in BQA, PQA Plus ®, Fear Free ®

- Fistulated Steer: Learn about the digestive system, and track, test, and analyze the digestibility and nutrition of food.

- Field Trips: Visit meat processing plants and various size farming operations to learn how your skills and knowledge can be applied in a variety of work environments.

- Conferences: Expand your knowledge and leadership skills at the Postsecondary Agricultural Student (PAS) Conference and the Iowa Pork Congress.

- Employment Experience: Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Transfer Information

An articulation agreement allows you to transfer your Animal Science coursework to the Animal Science/Pre-Veterinary Medicine program at Iowa State University. Hawkeye also has transfer relationships with Northwest Missouri State University, South Dakota State University, and University of Wisconsin—Platteville.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

Graduates find employment working in:

- Livestock production
- Livestock sales and marketing
- Livestock processing
- Animal genetics
- Small and large farm operations

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
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	

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Agricultural and Food Science Technicians	$31,900	$46,000	$53,000
Agricultural Inspectors	$41,100	$52,500	$58,200
Animal Breeders	$24,800	$34,700	$39,600
Farmers, Ranchers, and Other Agricultural Managers	$62,200	$90,300	$104,400
Farmworkers	$22,400	$33,000	$38,400

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Animal Science AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 69
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1				
AGA-114	Principles of Agronomy -OR-		3	
	Natural Science Elective		3	
AGC-103	Ag Computers		3	
AGS-113	Survey of the Animal Industry		3	
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology -OR-	O E	3	◆
SOC-115	Social Problems -OR-	O E	3	◆
PSY-102	Human and Work Relations		3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆
	Animal Science / Agriculture Elective		3	
	Total Credits 18			

Semester 2

AGA-154	Fundamentals of Soil Science -OR-		3	
	Natural Science Elective		3	
AGS-225	Swine Science -OR-	8WK1	3	
AGS-226	Beef Cattle Science -OR-	8WK1	3	
AGS-216	Equine Science	8WK2	3	
AGS-319	Animal Nutrition		3	
ENG-105	Composition I ▶ -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ▶		3	▣
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶		4	◆
	Math Elective		3	

Total Credits 15

Semester 3

ACC-131	Principles of Accounting I ▶ -OR-	O E	4	◆
ACC-115	Introduction to Accounting		4	▣
AGB-235	Introduction to Agriculture Markets -OR-		3	
AGS-211	Issues Facing Animal Science -OR-		2	
	Animal Science / Agriculture Elective		3	
AGS-211	Issues Facing Animal Science		2	
AGS-218	Domestic Animal Physiology ▶		4	
	Animal Science or Agriculture Elective		3	
	Natural Science Elective		4	

Total Credits 20

Semester 4

AGS-225	Swine Science -OR-	8WK1	3	
AGS-226	Beef Cattle Science -OR-	8WK1	3	
AGS-216	Equine Science	8WK2	3	
AGS-272	Foods of Animal Origin ▶ -OR-	8WK1	5	
AGC-999	Study Abroad -OR-		3	◆
	Animal Science / Agriculture Elective		3	
AGT-805	Employment Experience	8WK2	5	
	Animal Science / Agriculture Elective		3	

Total Credits 16

Animal Science and Agriculture Electives

AGA-214	Cash Grains		3	
AGA-284	Pesticide Application Certification		3	
AGA-376	Integrated Pest Management	8WK2	3	
AGB-101	Agricultural Economics		3	
AGB-303	Agriculture Leadership		3	
AGB-330	Farm Business Management	8WK1	3	◆
AGB-336	Agricultural Selling	8WK1	3	
AGP-333	Precision Farming Systems		3	
AGP-450	Fundamentals of GIS		3	
AGS-216	Equine Science	8WK2	3	
AGS-225	Swine Science	8WK1	3	
AGS-226	Beef Cattle Science	8WK1	3	
AGS-275	Food Safety and Analysis		3	
AGS-305	Livestock Evaluation		3	
AGV-101	Veterinary Assisting ▶		3	
AGV-121	Veterinary Medical Terminology	8WK1	2	
AGV-123	Companion Animal	8WK2	3	
AGV-140	Veterinary Pharmacology ▶		3	
AGV-154	Veterinary Reception and Administration Skills		4	

Natural Science Electives

BIO-105	Introductory Biology	E	4	◆
BIO-112	General Biology I		4	◆
BIO-113	General Biology II		4	◆
BIO-151	Nutrition	O E	3	◆
BIO-163	Essentials of Anatomy and Physiology	E	4	◆
BIO-168	Human Anatomy and Physiology I	E	4	◆
BIO-186	Microbiology	E	4	◆
CHM-122	Introduction to General Chemistry ▶	E	4	◆
CHM-132	Introduction to Organic and Biochemistry ▶		4	◆
CHM-165	General Chemistry I ▶		4	◆
CHM-175	General Chemistry II ▶		4	◆
CNS-121	Environmental Conservation	O	3	◆
ENV-115	Environmental Science	O E	3	◆
PHS-120	Exploring Physical Science ▶	E	4	◆
PHS-152	Astronomy ▶	E	4	◆
PHY-162	College Physics I ▶		4	◆
PHY-172	College Physics II ▶		4	◆

Math Electives

MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

Meat Science Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 24
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
E	Course meets face-to-face after 5:00pm.

Semester 1			
AGS-218	Domestic Animal Physiology ▶		4
AGS-305	Livestock Evaluation		3
BIO-186	Microbiology	E	4 ◆
		Total Credits 11	

Semester 2		
AGS-225	Swine Science -OR-	3
AGS-226	Beef Cattle Science	3
AGS-272	Foods of Animal Origin ▶	5
AGT-805	Employment Experience	5
	Total Credits 13	

Landscape and Turf Management

The Landscape and Turf Management program prepares you for a variety of landscape, grounds maintenance, and turf management professional careers. You will learn the science, technical, and managerial knowledge and skills necessary to be successful, including:

- Turfgrass growth and development
- Athletic field maintenance
- Construction safety
- Pesticide application and safety
- Landscape estimating and construction
- Irrigation systems
- Soil fertility and testing

Many students earn additional certifications as part of their coursework:

- Iowa Department of Agriculture and Land Stewardship Commercial Pesticide Applicators License
- OSHA certification in construction safety
- Certified irrigation designer
- Certified concreate paver installer.

Educational diversity creates an added advantage for students. As a member of the National Association of Landscape Professionals (NALP), the program offers you an opportunity to compete in national collegiate landscape competitions.

Hands-On Learning Experiences

- Utilize industry leading technology including precision turf management equipment, business management software, and GPS systems.

- Field Trips: Opportunities to visit local golf courses and other businesses to experience their operation and gain first-hand knowledge of day-to-day business.

- Community outreach opportunities to serve the community in various ways such as growing vegetables for the Northeast Iowa Food Bank and other projects that benefit the communities and school districts we serve.

- Opportunities to volunteer at various PGA tournaments on the grounds crew.

- Conferences and Workshops: Expand your knowledge and leadership skills at many regional and national conference groups, including the National Association of Landscape Professionals and the Iowa Turfgrass Institute that is composed of the Iowa Golf Course Superintendents Association, Iowa Sports Turf Managers Association, and Iowa Professional Lawn Care Association. You will also have the opportunity to participate in workshops and professional development activities through our membership and affiliation with Golf Course Superintendents Association of America (GCSAA) and Sports Turf Managers Association (STMA).

- Employment Experience: Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Accreditation

The program is accredited by the National Association of Landscape Professionals.

The association also provides an opportunity for exchanging ideas and educational materials in addition to providing opportunities for faculty professional development and networking.

Transfer Information

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Careers in landscape and turf management include:

- Golf course superintendent
- Sports turf manager
- Property manager
- Landscape foreman
- Grounds maintenance
- Lawn care technician
- Equipment and turf product sales positions
- Irrigation auditors/designers

The program is nationally known for the quality of managers and superintendents. Local, as well as employers from all over the country, regularly hire interns and graduates to fill open positions.

The following is a partial list of employers who have hired graduates from this program:

Business	Location
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

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	$31,900	$48,800	$57,200
Golf Course Superintendents and Turf Managers		$93,200*	$109,600*
Grounds Maintenance Workers	$23,800	$42,100	$51,200
Landscaping and Groundskeeping Workers	$21,500	$31,400	$36,400
Pesticide Handlers, Vegetation Sprayers and Applicators	$30,700	$37,300	$40,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development
* Source: 2019 Benefits and Compensation Report, Golf Course Superintendents Association of America

There is currently a large labor gap in the landscape and turf management industry, particularly in the well-paying management and foreman roles.

Golf courses and athletic facilities of all levels, including the professional level, are finding it difficult to find employees with the technical education to fill leadership positions such as superintendents, assistant superintendents, and sports field managers.

Industry data shows that many currently working in the industry are nearing retirement. This will likely continue to increase the demand for technically skilled workers to take their place.

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Landscape and Turf Management Diploma Courses

Award: Diploma (Diploma)
Required number of credits: 42
Program Start: Fall

2021–2022 Suggested Sequence of Study

>> **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

>> **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

>> Courses are subject to change.

◆	General education course.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1 — Fall			
AGH-108 Horticulture Safety		1	
AGH-112 Introduction to Turfgrass Management		3	
AGH-140 Equipment Operations		2	
AGH-142 Landscape Construction		3	
AGH-161 Irrigation Systems		3	
AGH-400 Athletic Field Maintenance -OR-		3	
AGH-221 Principles of Horticulture		3	
PSY-102 Human and Work Relations -OR-		3	◆
PSY-111 Introduction to Psychology -OR-	O E	3	◆
SOC-110 Introduction to Sociology	O E	3	◆
Total Credits 18			

Semester 2 — Spring

AGA-284	Pesticide Application Certification		3
AGH-107	Horticulture Lab		1
AGH-200	Landscape Estimating and Bidding	8WK2	2
AGH-211	Advanced Turfgrass Management	8WK1	3
AGH-248	Identifying Plant and Landscape Problems	8WK1	3
AGH-425	Grounds Maintenance	8WK2	3
AGH-431	Maintaining Turf and Landscape Equipment	8WK2	3
		Total Credits 18	

Semester 3 — Summer

AGH-912	Current Topics in Hort.	1
AGT-805	Employment Experience	5
	Total Credits 6	

Natural Resources Management

The Natural Resources Management program prepares you with the necessary skills and certifications to work in the natural resources field. You will learn about the theories and physical aspects of conservation practices.

Hands-On Learning Opportunities

- Campus and Community Projects: You will help manage two on-campus ponds and prairies as well as work with community members and conservation agencies on natural resources projects.

- Equipment: Train on a variety equipment, including boats, UTV's, canoes, kayaks, fire equipment, forestry equipment, and electrofishing equipment. You will spend a good portion of your time getting hands-on experience in the field.

- Internship/Employment Experience: Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in a conservation career.

Field Trips and Activities

You will have many opportunities to experience a variety of natural resources activities throughout the year, both on and off campus. A trademark of the program is the Advanced Outdoor Recreation Techniques class in which students travel to the Boundary Waters Canoe Wilderness Area or backpacking in wilderness destinations.

August
- Boundary Waters Wilderness Trip

September
- Iowa DNR Beach Seining
- Leave No Trace Certification
- Pond Seining
- Program Cookout
- Stihl Chain Saw Safety Clinic
- Canoe Float and Overnight Campout

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

January
- Iowa County Conservation Board Conference: Winterfest Collegiate Day

February
- Winter Fishing Clinic
- Winter Campout, Snowshoeing, and Ice Fishing
- The Iowa Wildlife Society Conference
- Iowa Women in Natural Resources Conference

March
- Necropsy Service Project with Iowa DNR
- Deer Classic
- Hunter/Firearms Safety Field Day
- Wilderness Trip

April
- Fire Certification Field Day
- Wilderness First Aid Certification
- Electronics Recycling Event
- UTV Safety Field Day

May
- Envirofest
- Spring Fishing Clinic
- Trumpeter Swan Relocation Service Project with Iowa DNR

Certifications

You may receive the following certifications: Iowa Commercial Pesticide Applicators, First Aid, CPR, National Certified Interpretative Guide, Wilderness First Aid, Boater Safety, ATV Safety, Hunter/Firearm Safety, Leave No Trace Trainer, Leave No Trace Master Educator, S130/S190 Wildland Firefighter, Fish Iowa!, Electrofishing Safety, Chainsaw Safety, and various additional federal certifications.

Accreditation

The program 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.

This accreditation provides assurance of the context and quality of the education offered. The program is reviewed every five years to maintain accreditation status, ensure curriculum standards are met; and recognize specific knowledge, skill sets, and aptitudes.

Transfer Information

Articulation agreements allow you to transfer your Natural Resources Management coursework to the Conservation Management program at Upper Iowa University and the Forestry program at Iowa State University.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

Careers in Natural Resources Management include:

- Wildlife technician
- Fishery technician
- Park technician
- Naturalist
- Conservation law enforcement
- Roadside manager
- Soil conservation technician
- Environmental consultant
- Forestry

To increase your employment opportunities and be competitive in your future career, it is recommended that you continue to a four-year degree program.

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
County Secondary Roads	Many Iowa locations
Iowa County Conservation Boards	Many Iowa locations
Iowa Department of Natural Resources	Many Iowa locations
North Dakota Parks and Recreation	North Dakota
Pheasant Forever	Iowa and South Dakota
Stantec Environmental Services	Many U.S. locations
U.S. Fish and Wildlife Service	Many U.S. locations
U.S. Forest Service	Many U.S. locations
Wisconsin Department of Natural Resources	Many Wisconsin locations

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Forest and Conservation Technicians	$26,300	$39,700	$46,400
Foresters	$55,500	$66,900	$72,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Natural Resources Management program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Natural Resources Management program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
14 Reading	42 Reading	47 Reading	228 Reading
13 English	42 Sentence Skills	20 Writing	229 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Natural Resources Management AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 64
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
CNS-107 Outdoor Recreation Techniques		1	
CNS-110 Equipment Operation and Safety		2	
CNS-121 Environmental Conservation	O	3	◆
CNS-204 Native Vegetation		3	
ENG-105 Composition I ▶ -OR-	O E	3	◆
COM-781 Written Communication in the Workplace ▶		3	▣
MAT-156 Statistics ▶ -OR-	O E	3	◆
MAT-102 Intermediate Algebra -OR-		4	◆
MAT-110 Math for Liberal Arts ▶ -OR-	O E	3	◆
Math Elective		3	
Total Credits 15			

Semester 2

AGA-154	Fundamentals of Soil Science -OR-		3	
BIO-113	General Biology II		4	◆
AGA-284	Pesticide Application Certification -OR-		3	
BIO-112	General Biology I		4	◆
AGP-340	Foundations of GIS and GPS		3	
CNS-104	Outdoor Recreation II ▶		1	
CNS-108	Wildlife Identification		3	
CNS-143	Fire Management ▶		3	
CNS-180	Principles of Interpretation ▶ -OR-		2	
ENG-106	Composition II ▶	O E	3	◆

Total Credits 18

Semester 3

CNS-136	Aquatic Management ▶		3	
CNS-138	Woodland Management		3	
CNS-205	Advanced Outdoor Recreation Techniques ▶		1	
CNS-228	Natural Areas Management		3	
SOC-110	Introduction to Sociology -OR-	O E	3	◆
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology	O E	3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 16

Semester 4

AGT-805	Employment Experience	5	
CNS-109	Wildlife Ecology ▶	3	
CNS-134	Wildlife Management ▶	4	
CNS-200	Conservation Biology ▶	3	

Total Credits 15

Math Electives

MAT-121	College Algebra ▶	4	◆
MAT-128	Precalculus ▶	4	◆
MAT-134	Trigonometry and Analytic Geometry ▶	3	◆
MAT-210	Calculus I ▶	4	◆
MAT-216	Calculus II ▶	4	◆
MAT-219	Calculus III ▶	4	◆
MAT-772	Applied Math	3	▣

Natural Resources Aide Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 9
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When <u>registering for classes</u> refer to your **Academic Evaluation** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.

Semester 1			
CNS-107 Outdoor Recreation Techniques -OR-		1	
CNS-104 Outdoor Recreation II ►		1	
CNS-110 Equipment Operation and Safety -OR-		2	
CNS-143 Fire Management ►		3	
CNS-121 Environmental Conservation	O	3	◆
CNS-204 Native Vegetation -OR-		3	
CNS-108 Wildlife Identification		3	
	Total Credits 9		

Veterinary Assisting

The Veterinary Assisting program, an option of the Animal Science program, provides you the opportunity to develop the skills and knowledge required for an entry-level career as a veterinary assistant.

You will learn to assist veterinarians in the care of cats, dogs, cattle, pigs, and sheep, and gain hands-on skills and knowledge in:

- Front desk operations
- Data entry, inventory, and record keeping
- Basic lab analysis
- Proper restraint of animals during exams and minor procedures
- Medical terminology
- Pharmacology
- Cleaning and sanitation of cages, kennels, exam rooms, and offices

Hands-On Learning Opportunities

- Hawkeye's 225-acre Farm Lab: Learn kennel management with cats and dogs, as well as clinic operations.

- Classroom Laboratory: Learn specific skills in the use of veterinary laboratory equipment

- Animal Projects: Practice proper handling of animals, which include dogs, cats, pocket pets, reptiles, birds, and livestock animals.

- Dog Simulators: Learn how to perform CPR and proper restraint of animals.

- Field Trips: Visit local veterinary offices to learn how your skills and knowledge can be applied in a variety of work environments.

- Employment Experience: Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

- Certification: Students will become Fear Free ® certified.

Careers

Graduates can be employed as veterinary assistants or animal caretakers in veterinary clinics, humane societies, or pet stores.

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Brookside Veterinary Hospital	Cedar Falls, IA
Cedar Bend Humane Society	Waterloo, IA
Cedar Valley Veterinary Center	Cedar Falls, IA
Den Herder Veterinary Hospital	Waterloo, IA
Pipestone Veterinary Services	Independence, IA
PetSmart	Waterloo, IA

E X A M P L E   C A R E E R S   A N D   A V E R A G E   W A G E S

	Entry	Average	Experienced
Veterinary Assistants and Laboratory Animal Caretakers	$21,400	$29,400	$33,400

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Veterinary Assisting Diploma Courses

Award: Diploma (Diploma)
Required number of credits: 41
Program Start: Fall, Spring

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

AGS-211	Issues Facing Animal Science	2
AGS-218	Domestic Animal Physiology ▶	4
AGS-319	Animal Nutrition	3
AGV-154	Veterinary Reception and Administration Skills	4
	Agriculture Elective	3

Total Credits 16

Semester 2

AGV-121	Veterinary Medical Terminology	8WK1	2	
AGV-123	Companion Animal -OR-	8WK2	3	
AGS-216	Equine Science -OR-	8WK2	3	
AGS-225	Swine Science -OR-	8WK1	3	
AGS-226	Beef Cattle Science	8WK1	3	
AGV-140	Veterinary Pharmacology ▶		3	
ENG-105	Composition I ▶ -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ▶		3	▣
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
PSY-111	Introduction to Psychology -OR-	O E	3	◆
PSY-102	Human and Work Relations -OR-		3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 17

Semester 3 — Summer

AGT-805	Employment Experience	5
AGV-101	Veterinary Assisting ▶	3
	Required summer course.	

Total Credits 8

Agriculture Electives

AGA-214	Cash Grains		3
AGA-376	Integrated Pest Management		3
AGB-101	Agricultural Economics		3
AGB-235	Introduction to Agriculture Markets		3
AGB-303	Agriculture Leadership		3
AGB-330	Farm Business Management	8WK1	3 ◆
AGB-331	Entrepreneurship in Agriculture		3
AGB-336	Agricultural Selling	8WK1	3
AGP-333	Precision Farming Systems		3
AGP-450	Fundamentals of GIS		3
AGS-113	Survey of the Animal Industry		3
AGS-216	Equine Science	8WK2	3
AGS-225	Swine Science	8WK1	3
AGS-226	Beef Cattle Science	8WK1	3
AGS-272	Foods of Animal Origin ▶	8WK1	5
AGS-275	Food Safety and Analysis		3
AGS-305	Livestock Evaluation		3

Math Electives

MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

Program Area

ARTS

Digital Mass Media

Graphic Design

Professional Photography

HAWKEYE
COMMUNITY COLLEGE

Digital Mass Media

The Digital Mass Media program prepares you for a career in audio, video, or multimedia production. You will learn to effectively design and deliver a clear message using a variety of digital formats.

Develop a broad knowledge of the digital media industry and gain entry-level skills in:

- Video production
- Audio production
- File and data management
- Storyboarding
- Lighting
- Media writing and scripting
- Video exposure
- Sound modulation
- Color correction

You may choose to focus your coursework in video, audio, or multimedia design.

- In video courses, you will advance your video production, design, scripting, and editing skills. You will also develop special effects and motion graphics and learn various styles of production.

- In audio courses, you will learn audio production, sound mixing and mastering, sound quality, editing, and miking for live and studio recordings.

- In multimedia design courses, you will learn various styles of video production including live event, journalistic, and documentary. You will also learn how to use unmanned aerial vehicles for photography and video, motion control techniques, writing for a variety of formats, and social issues coverage.

Hands-On Learning Opportunities

- Portfolio: Throughout the program, you will develop audio, video, and multimedia projects to create a digital portfolio. You will have the opportunity to have your portfolio reviewed by industry professionals.

- Industry Technology and Software: Use the latest technology in the industry as you develop your projects, including but not limited to still and video cameras and lenses, stabilization devices, camera cranes and dollies, camera rigging, lighting, wireless and studio microphones, green screens, studio switches, and sound mixing boards. Learn industry standard software including Adobe Creative Cloud.

- Field Trips: Visit advertising agencies, television and video production studios, audio recording studios, and film festivals to learn how your skills and knowledge can be applied in a variety of work environments.

Transfer Information

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates have found work in many environments, including agencies, small businesses, companies, and media outlets working as:

- Multimedia specialists
- Videographers
- Sound technicians
- Video editors
- Freelance videographers
- Camera operators

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Around the Corner Productions	Cedar Falls, IA
Go Pro, Inc.	San Mateo, CA
InForm Creations	Cedar Falls, IA
KWWL Television	Waterloo, IA
Mudd Advertising	Cedar Falls, IA
KOVR-TV CBS-13	Sacramento, CA
KPTV FOX-12	Portland, OR

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Audio and Video Technicians	$27,900	$45,700	$54,600
Broadcast Technicians	$18,600	$37,900	$45,600
Sound Engineering Technicians	$37,000	$53,500	$61,800

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Digital Mass Media AAA Degree Courses

Award: Associate of Applied Arts (AAA)
Required number of credits: 60
Program Start: Fall

2021–2022 Suggested Sequence of Study

⟫ **The following suggested sequence of study is for new full-time students starting the program Fall 2021**. Part-time students should visit with a program advisor for a modified sequence of study.

⟫ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

⟫ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
ENG-105 Composition I ▶ -OR-	O E	3	◆
COM-781 Written Communication in the Workplace ▶		3	
MMS-105 Audio Production		3	
MMS-111 Video Production I		3	
MMS-128 Digital Print Production		3	
PHT-108 Camera I ▶		3	
Total Credits 15			

Semester 2

MMS-134	Media Writing	3	▣
MMS-208	Sound for Film and Video ▶	3	
MMS-213	Video Production II ▶ -OR-	3	
MMS-214	Audio Production II ▶	3	
MMS-218	Editing and Color Grading ▶ -OR-	3	
MMS-219	Digital Audio Workstation ▶	3	
SPC-101	Fundamentals of Oral Communication	O E 3	◆
		Total Credits 15	

Semester 3

MMS-117	Social Media for Business	3	
MMS-124	Survey of Commercial Video ▶ -OR-	3	
MMS-320	Recording Studio I ▶	3	
MMS-302	Solo Video Journalism ▶ -OR-	3	
MMS-321	Electronic Studio Production ▶	3	
MMS-330	Motion Graphics for Video ▶ -OR-	3	
MMS-340	Live Sound Production ▶ -OR-	3	
MMS-430	Documentary Film ▶ -OR-	3	
MMS-905	Digital Mass Media Internship -OR-	1	
MMS-949	Special Topics	1	
PSY-102	Human and Work Relations -OR-	3	◆
SOC-110	Introduction to Sociology -OR-	O E 3	◆
PSY-111	Introduction to Psychology	O E 3	◆
		Total Credits 15	

Semester 4

MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶	O E 3	◆
MMS-265	Mass Communications Law	3	
MMS-310	Independent Film Production ▶ -OR-	3	
MMS-331	Motion Graphics II ▶ -OR-	3	
MMS-425	Mixing and Mastering Audio ▶ -OR-	3	
MMS-905	Digital Mass Media Internship -OR-	1	
MMS-949	Special Topics	1	
MMS-420	Recording Studio II ▶ -OR-	3	
MMS-431	Group Film ▶	3	
MMS-901	Portfolio Production	3	
		Total Credits 15	

Graphic Design

The Graphic Design program prepares you for a graphic design career in print, web, and interactive media design. You will develop essential critical and creative thinking skills, fundamentals of design skills, and production technical skills.

Learn all aspects of the design process, including:

- Principles and elements of graphic design
- Print publication design and layout
- Website design and layout
- Interactive media design
- Illustration
- Photo manipulation
- Project management

In graphic design courses, you will learn to design and publish ads, brochures, logos, magazine covers, packaging, posters, vehicle wraps, and other types of multi-panel or multi-page print publications.

In web design courses, you will learn to design and develop responsive and interactive websites displayed on mobile, tablet, and desktop devices using the latest web design technologies.

Hands-On Learning Opportunities

- Mac Lab: Develop the knowledge and skills needed to use industry standard software, including Adobe Creative Cloud, in your future career.

- Portfolio: Throughout the program, you will develop print and web projects to create traditional and digital portfolios. You will have the opportunity to have your portfolio reviewed by industry professionals.

- Field Trips: Visit advertising agencies, design studios, and printing companies to learn how your skills and knowledge can be applied in a variety of work environments.

Transfer Information

An articulation agreement allows you to transfer your Graphic Design coursework to the Graphic Technologies and Technology Management programs at the University of Northern Iowa. Hawkeye also has transfer relationships with Iowa State University, the University of Iowa, Mount Mercy University, Upper Iowa University, Simpson College, and Wartburg College.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates have found work in many environments, including agencies, small businesses, and companies. They work as:

- Advertising designers
- Art directors
- Brand identity designers
- Creative directors
- Freelance designers
- Illustrators
- Layout artists
- Logo designers
- Multimedia designers
- Package designers
- Photo editing / Photoshop artists
- Pre-press technicians
- Publication designers
- Web designers

The following is a partial list of employers who have hired graduates from this program:

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

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Desktop Publishers	$31,300	$40,300	$44,800
Graphic Designers	$31,000	$46,000	$53,500
Web Developers and Digital Interface Designers	$40,000	$66,300	$79,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

STEP 1   Apply at Hawkeye

    1. Complete Hawkeye's online admissions application to apply and be considered for the Graphic Design program.

    2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Graphic Design program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Graphic Design AAA Degree Courses

Award: Associate of Applied Arts (AAA)
Required number of credits: 63
Program Start: Fall

2020–2021 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2020, Spring 2021, or Summer 2021. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
COM-781	Written Communication in the Workplace ▶ -OR-		3 ▣
ENG-105	Composition I ▶	O E	3 ◆
GRA-105	Drawing and Composition -OR-		4 ▣
ART-133	Drawing * -AND-		3 ◆
ART-134	Drawing II *		3 ◆
GRA-133	Desktop Publishing		4
GRA-196	Design and Layout I ▶		4
		Total Credits	**15**

* Minimum grade of D in both ART-133 and ART-134 is acceptable replacement for GRA-105.

Semester 2

GRA-124	Electronic Illustration ▶	4	
GRA-142	Graphic Imaging ▶	4	
GRA-197	Design and Layout II ▶	4	
MAT-772	Applied Math -OR-	3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E 3	◆
MAT-121	College Algebra ▶ -OR-	4	◆
	Math Elective	3	
	Total Credits 15		

Semester 3

GRA-205	Design and Layout III ▶ (Offered Fall Only)	4	
GRA-238	Web Design and Layout	4	
PSY-102	Human and Work Relations -OR-	3	◆
PSY-111	Introduction to Psychology -OR-	O E 3	◆
SOC-110	Introduction to Sociology	O E 3	◆
	Graphic Design Elective	3	
	Graphic Design Elective	3	
	Total Credits 17		

Semester 4

GRA-206	Advanced Design and Layout ▶	4	
GRA-239	CMS Web Design ▶	3	
GRA-290	Portfolio Preparation ▶	3	
SPC-101	Fundamentals of Oral Communication	O E 3	◆
	Graphic Design Elective	3	
	Total Credits 16		

Graphic Design Electives

Code	Course		Credits	
ART-101	Art Appreciation	O	3	◆
ART-120	2-D Design		3	◆
ART-143	Painting		3	◆
ART-144	Painting II ▶		3	◆
ART-184	Photography		3	◆
ART-203	Art History I	O	3	◆
ART-204	Art History II	O	3	◆
COM-152	ETC: Art and Literary Magazine	E	2	◆
GRA-160	Interactive Multimedia ▶		3	
GRA-162	Web Page Graphics ▶		3	
GRA-221	Principles of Illustration ▶		3	
GRA-232	Photo Direction		3	
GRA-924	Honors Project		1	◆
GRA-928	Independent Study		1	
GRA-932	Internship		1	
GRA-949	Special Topics		1	
MKT-110	Principles of Marketing	O E	3	

* Semester 4 elective.

Math Electives

Code	Course		Credits	
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Professional Photography

The Professional Photography program prepares you to start a career as a professional photographer. In today's market, it takes more to be a professional photographer than just taking a pretty picture. Taught by experienced industry professionals, you will learn the foundational concepts, techniques, and processes that have been used by photographers from the earliest days of photography through today. You will also learn and explore the art, craft, and business of photography.

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

Hands-On Learning Opportunities

- Photo Studios and Equipment Checkout: Work in one of Hawkeye's six fully-equipped photography studios using industry standard computer software, lighting, backdrops, props, and more to develop your photography skills. Hawkeye offers the largest selection of lenses and photography equipment in the state for you to check out.

- Darkroom: Learn to develop analog photography from 35mm up to 8" x 10" images.

- Photo Imaging Lab: Develop photography production and editing skills using industry standard software, including Adobe Photoshop.

- Computer Lab: In our high end computer labs you will learn on software that the professionals are using.

- Portfolio: You will develop print and digital photography portfolios. You will have the opportunity to have your portfolio reviewed by industry professionals.

- Field Trips: Visit commercial and portrait studios and meet with past graduates to learn how your skills and knowledge can be applied in a variety of work environments.

- Professional Conventions: Students have the opportunity to attend the Professional Photographers of Iowa Winter Convention. Attend presentations from industry experts and make valuable contacts with professionals. Students can also participate in the photo competition to be judged right along with the professionals.

- Photography Club: As a part of this student organization you can learn from a variety of real-world experiences while giving back to the community.

Professional Affiliation

Our program is the only program in Iowa recognized by the Professional Photographers of America and the Professional Photographers of Iowa. Graduates earn three merits towards their Master Photographer designation from the Professional Photographers of America.

Transfer Information

An articulation agreement allows you to transfer your Professional Photography coursework to the Technology Management program at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

Graduates find jobs in professional photography studios and color labs, corporate photography departments, and advertising agencies. Many graduates also go on to start their own photography business or do freelance work.

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

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

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Photographers	$19,500	$33,500	$40,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Independent contractors and business owner salaries may be higher based on graduate and advisory member surveys.

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Professional Photography AAA Degree Courses

Award: Associate of Applied Arts (AAA)
Required number of credits: 66
Program Start: Fall

2021–2022 Suggested Sequence of Study

≫ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

≫ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

≫ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
MAT-772 Applied Math -OR-		3	▣
MAT-110 Math for Liberal Arts ► -OR-	O E	3	◆
MAT-121 College Algebra ► -OR-		4	◆
Math Elective		3	
PHT-102 Photo Design I		3	▣
PHT-106 Introduction to Image Editing		3	
PHT-108 Camera I ►		3	
PHT-109 Print I ►		3	
PSY-102 Human and Work Relations -OR-		3	◆
PSY-111 Introduction to Psychology -OR-	O E	3	◆
SOC-110 Introduction to Sociology	O E	3	◆

Total Credits 18

Semester 2

COM-781	Written Communication in the Workplace ▶ -OR-		3 ▣
ENG-105	Composition I ▶	O E	3 ◆
PHT-110	Camera II ▶		3
PHT-111	Print II ▶		3
PHT-202	Basic Portraiture ▶		3
PHT-204	Basic Commercial Photography ▶		3
PHT-212	Intermediate Electronic Imaging ▶		3

Total Credits 18

Semester 3

PHT-215	Portrait Image Editing ▶ -OR-		3
PHT-216	Commercial Image Editing ▶		3
PHT-220	Intermediate Portraiture ▶ -OR-		3
PHT-227	Intermediate Commercial ▶		3
PHT-241	Portrait Business ▶ -OR-		3
PHT-248	Commercial Business ▶		3
SPC-101	Fundamentals of Oral Communication	O E	3 ◆
	Semester 3 Elective		3
	Semester 3 Elective		3

Total Credits 18

Semester 4

PHT-217	Advanced Portrait Image Editing ▶ -OR-		3
PHT-218	Advanced Commercial Image Editing ▶		3
PHT-240	Portrait Production and Portfolio ▶ -OR-		3
PHT-247	Commercial Production and Portfolio ▶		3
	Semester 4 Elective		3
	Semester 4 Elective		3

Total Credits 12

Semester 3 Electives

PHT-210 Visual Communication		3
PHT-215 Portrait Image Editing ▶		3
PHT-216 Commercial Image Editing ▶		3
PHT-220 Intermediate Portraiture ▶		3
PHT-227 Intermediate Commercial ▶		3
PHT-241 Portrait Business ▶		3
PHT-248 Commercial Business ▶		3
PHT-253 Art Direction ▶		3
PHT-928 Photography Independent Study		1

Semester 4 Electives

PHT-217 Advanced Portrait Image Editing ▶		3
PHT-218 Advanced Commercial Image Editing ▶		3
PHT-240 Portrait Production and Portfolio ▶		3
PHT-242 Audio Visual Presentations ▶		3
PHT-244 Wedding Photography ▶		4
PHT-245 History of Photography		3
PHT-247 Commercial Production and Portfolio ▶		3
PHT-249 Advanced Commercial Lighting ▶		3
PHT-251 Fine Art Photography ▶		3
PHT-928 Photography Independent Study		1

Math Electives

MAT-128 Precalculus ▶		4	◆
MAT-134 Trigonometry and Analytic Geometry ▶		3	◆
MAT-156 Statistics ▶	O E	3	◆
MAT-210 Calculus I ▶		4	◆
MAT-216 Calculus II ▶		4	◆

Program Area

BUSINESS

—

Accounting

Administrative Office Management

Hospitality Management

Human Resource Management

Marketing Management

Medical Office Specialist

HAWKEYE
COMMUNITY COLLEGE

Accounting

The Accounting program prepares you for an entry-level career in the accounting field. You will gain hands-on experience with:

- Preparing, analyzing, and tracking financial information
- Individual income tax preparation
- Payroll accounting
- Accounts payable and receivable
- Computer accounting systems, including Sage Accounting and QuickBooks
- Microsoft Office with emphasis on Excel and Word

Transfer Information

Many four-year colleges and universities accept a limited number of transfer and elective credits.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

Graduates work as office accountants or managers in small businesses and as bank tellers or customer service representatives in financial institutions. They also find positions working in financial or accounting offices in public, private, or government accounting departments working with financial statement preparation, payroll, income taxes, budgeting, and cost accounting.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Bookkeeping, Accounting, and Auditing Clerks	$26,000	$40,100	$47,200

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Advanced Systems, Inc.	Waterloo, IA
Isle Casino Hotel Waterloo	Waterloo, IA
Lee Enterprises (Waterloo-Cedar Falls Courier)	Waterloo, IA
McGladrey LLP	Waterloo, IA
Paul R. Nielsen Co., PC	Cedar Falls, IA
The Principal Financial Group	Waterloo, IA
Veridian Credit Union	

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Accounting AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 63
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
ACC-115	Introduction to Accounting -OR-		4	
ACC-131	Principles of Accounting I ►	O E	4	◆
BCA-134	Word Processing ►		3	
BUS-102	Introduction to Business -OR-	O E	3	◆
BUS-180	Business Ethics -OR-	O E	3	◆
BUS-183	Business Law -OR-	O E	3	◆
MGT-101	Principles of Management -OR-	O E	3	
MGT-110	Small Business Management		3	
BUS-108	Business College Experience		1	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ► -OR-	O E	3	◆
MAT-121	College Algebra ► -OR-		4	◆
	Math Elective		3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆
		Total Credits 17		

Semester 2

Code	Course		Credits	
ACC-116	Introduction to Accounting II ► -OR-		4	
ACC-132	Principles of Accounting II ►	O E	4	◆
ACC-160	Payroll Accounting ►		2	
ACC-310	Computer Accounting ►		2	
ACC-803	Accounting Simulations ►		1	
CSC-110	Introduction to Computers ► -OR-	O E	3	◆
BCA-205	Database/Spreadsheets ►		3	
ENG-105	Composition I ► -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ►		3	▣

Total Credits 15

Semester 3

Code	Course		Credits	
ACC-222	Cost Accounting ►		4	
ACC-231	Intermediate Accounting I ►		4	
ACC-265	Income Tax Accounting		4	
ECN-120	Principles of Macroeconomics ► -OR-	O E	3	◆
ECN-130	Principles of Microeconomics ► -OR-	O E	3	◆
ECN-110	Introduction to Economics		3	◆

Total Credits 15

Semester 4

Code	Course		Credits	
ACC-190	Financial Analysis ►		2	
ACC-232	Intermediate Accounting II ►		4	
ACC-360	Accounting Spreadsheets ►		2	
BUS-102	Introduction to Business -OR-	O E	3	◆
BUS-180	Business Ethics -OR-	O E	3	◆
BUS-183	Business Law -OR-	O E	3	◆
MGT-101	Principles of Management -OR-	O E	3	▣
MGT-110	Small Business Management		3	▣
BUS-295	Workplace Professionalism		2	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 16

Math Electives

MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

Accounting Technician Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 32
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your **Academic Evaluation** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
ACC-115	Introduction to Accounting -OR-		4	
ACC-131	Principles of Accounting I ▶	O E	4	◆
BCA-134	Word Processing ▶		3	
BUS-102	Introduction to Business -OR-	O E	3	◆
BUS-180	Business Ethics -OR-	O E	3	◆
BUS-183	Business Law -OR-	O E	3	◆
MGT-101	Principles of Management -OR-	O E	3	
MGT-110	Small Business Management		3	
BUS-108	Business College Experience		1	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆
	Total Credits 17			

Semester 2

ACC-116	Introduction to Accounting II ▶ -OR-		4	
ACC-132	Principles of Accounting II ▶	O E	4	◆
ACC-160	Payroll Accounting ▶		2	
ACC-310	Computer Accounting ▶		2	
ACC-803	Accounting Simulations ▶		1	
CSC-110	Introduction to Computers ▶ -OR-	O E	3	◆
BCA-205	Database/Spreadsheets ▶		3	
ENG-105	Composition I ▶ -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ▶		3	▣

Total Credits 15

Math Electives

MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Administrative Office Management

The Administrative Office Management program (formerly the Executive Assistant program) prepares you with the knowledge and skills needed to become an administrative professional, including:

- coordinating and managing an office environment
- creating, proofreading, and delivering professional documents
- typing with speed and accuracy
- managing and organizing files and data
- basic accounting
- ethical business practices

Hands-On Learning Opportunities

- Microsoft Office: Develop your skills and knowledge of Microsoft Office applications and earn your Microsoft Office Specialist certification.

- Business Field Experience: Gain 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

- Portfolio: Be prepared for your job search. Develop your resume, cover letter, and other employment documents and practice the interview process.

Transfer Information

Many courses are also required in other business programs, allowing you to double major or transfer into a different Hawkeye program.

For more information, contact a program advisor.

Careers

POSITIONS

Graduates find work as administrative professionals in businesses, companies, legal offices, brokerage firms, schools, insurance companies, and financial institutions.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Executive Secretaries and Executive Administrative Assistants	$38,800	$51,900	$58,500
Secretaries and Administrative Assistants	$25,300	$36,700	$42,400

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
CBE Group	Waterloo, IA
CUNA Mutual Group	Waverly, IA
Dutton Daniels Hines Kalkhoff Cook & Swanson	Waterloo, IA
Hawkeye Community College	Waterloo, IA
John Deere	Waterloo, IA
Kirkwood Community College	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA
The VGM Group	Waterloo, IA
Veridian Credit Union	Waterloo, IA
Waterloo Juvenile Public Defender Office	Waterloo, IA
Waterloo Community School District	Waterloo, IA

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

HAWKEYE
COMMUNITY COLLEGE

Administrative Office Management AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 61
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
ADM-105	Introduction to Keyboarding		1	
ADM-157	Business English ▶		3	▣
BCA-134	Word Processing ▶		3	
BUS-102	Introduction to Business	O E	3	◆
BUS-108	Business College Experience		1	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
	Total Credits 14			

Semester 2

ACC-115	Introduction to Accounting -OR-		4	
ACC-131	Principles of Accounting I ▶	O E	4	◆
ADM-108	Keyboarding Skill Development ▶		1	
ADM-162	Office Procedures ▶		3	
BCA-205	Database/Spreadsheets ▶		3	
ENG-105	Composition I ▶	O E	3	◆

Total Credits 14

Semester 3

ADM-208	Legal Terminology		3	
BCA-213	Intermediate Computer Business Applications ▶		3	
BUS-180	Business Ethics	O E	3	◆
BUS-295	Workplace Professionalism		2	
MGT-170	Human Resource Management		3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 17

Semester 4

ACC-160	Payroll Accounting ▶		2	
ACC-310	Computer Accounting ▶		2	
BCA-132	Electronic Communications ▶		3	
BUS-183	Business Law	O E	3	◆
BUS-903	Business Field Experience ▶		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 16

Math Electives

MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Administrative Assistant Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 30
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

» **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

» **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
ADM-105	Introduction to Keyboarding		1	
ADM-157	Business English ▶		3	
BCA-134	Word Processing ▶		3	
BUS-108	Business College Experience		1	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
	Total Credits 14			

Semester 2

ACC-115	Introduction to Accounting -OR-		4	
ACC-131	Principles of Accounting I ▶	O E	4	◆
ADM-108	Keyboarding Skill Development ▶		1	
ADM-162	Office Procedures ▶		3	
BCA-132	Electronic Communications ▶ -OR-		3	
BCA-213	Intermediate Computer Business Applications ▶		3	
BCA-205	Database/Spreadsheets ▶		3	
BUS-295	Workplace Professionalism		2	

Total Credits 16

Math Electives

MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Hospitality Management

The Hospitality Management program prepares you for supervisor and manager positions in hotels, resorts, restaurants, institutions, and clubs. You will learn to understand and apply the administrative and practical skills to manage food and lodging operations, including:

- Hospitality principles
- Restaurant and hotel management
- Food and bar operations
- Food safety and prep skills
- Human resources
- Nutrition
- Marketing
- Point-of-sales systems
- Budgeting and finances
- Event planning
- Pool safety and maintenance

Learn from instructors who bring real-world experience from their education and professional lives. Instructors have a variety of certifications from the National Restaurant Association and the State of Iowa.

Hands-On Learning Opportunities

- Learning Labs: Hospitality Management students get hands-on experience and learning opportunities running the Main Campus RedTail Café and Mac's Place Café located at the Van G. Miller Adult Learning Center.

- Field Trips: Visit a variety of hotels, restaurants, event centers, and food service facilities to learn how your skills and knowledge can be applied in a variety of work environments.

- Community Classroom: Hawkeye has partnered with local businesses to give you experience with large-scale restaurant, dining, and catering operations.

- Internship: Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certifications

You may take National Restaurant Association certification exams and earn the ServSafe Manager, Food and Beverage Management, Purchasing and Inventory, and Dining Room Management certifications.

Careers

POSITIONS

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

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Food Service Managers	$33,500	$48,600	$56,100
General and Operations Managers	$46,300	$99,700	$126,500
Lodging Managers	$34,100	$57,100	$68,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Courtyard by Marriott	Waterloo, IA
Hilton Garden Inn	Cedar Falls, IA
Western Homes	Cedar Falls, IA
Lost Island Waterpark	Waterloo, IA
The Isle Casino	Waterloo, IA

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Hospitality Management AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 65
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1			
BUS-102 Introduction to Business	O E	3	◆
HCM-249 A la Carte Cooking Lab		4	
HCM-309 Hospitality Safety and Sanitation		3	
HCM-608 Introduction to Hospitality		3	
MAT-772 Applied Math -OR-		3	▣
MAT-110 Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-156 Statistics ▶	O E	3	◆
	Total Credits 16		

Semester 2

HCM-336	Event Planning and Customer Service 1	8WK1		3	
HCM-593	Restaurant Management			4	
HCM-605	Hotel Administration			2	
MGT-170	Human Resource Management			3	
SPC-101	Fundamentals of Oral Communication		O E	3	◆

Total Credits 15

Semester 3

COM-781	Written Communication in the Workplace ▶ -OR-			3	▣
ENG-105	Composition I ▶		O E	3	◆
HCM-240	Menu Planning and Design	8WK1		2	
HCM-341	Catering and Banqueting	8WK2		2	
MGT-210	Management Decision Making			3	
MKT-110	Principles of Marketing		O E	3	
MKT-142	Consumer Behavior			3	

Total Credits 16

Semester 4

ACC-115	Introduction to Accounting -OR-			4	
ACC-131	Principles of Accounting I ▶		O E	4	◆
BUS-183	Business Law		O E	3	◆
HCM-205	Dinner and Front of the House	8WK1		3	
HCM-251	Purchasing, Receiving, and Inventory ▶	8WK1		2	
HCM-905	Hospitality Internship ▶	8WK2		3	
PSY-102	Human and Work Relations -OR-			3	◆
PSY-111	Introduction to Psychology -OR-		O E	3	◆
SOC-110	Introduction to Sociology		O E	3	◆

Total Credits 18

Human Resource Management

The Human Resource Management program prepares you to start in entry-level positions in the human resource field. You will gain knowledge and skills in:

- Basic accounting
- Business and labor laws
- Management
- Interviewing
- Job placement
- Needs assessment
- Strategic planning
- Compensation and benefits
- Training techniques
- Professional document creation
- Labor relations

Hands-On Learning Opportunities

Business Field Experience/Internship: Gain 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Online Program Option

The Human Resource Management program coursework can be taken 100% online. Students may choose to take all of their courses online, or many classes can be taken face-to-face.

Transfer Information

An articulation agreement allows you to transfer your Human Resource Management coursework to the Human Resources Management program at Upper Iowa University–Waterloo.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates work in companies as human resource assistants and advance into higher level positions or as manager-level positions in a variety of different departments. They also work in small businesses performing office roles in addition to their human resource responsibilities and for employment agencies to help fill their clients' needs.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Human Resources Assistants	$31,100	$40,600	$45,300
Human Resources Specialists	$38,300	$59,400	$70,000

Source: 2020 Iowa Wage Report, Iowa Workforce Development

The following is a partial list of employers who have hired graduates from this program:

Business	Location
AS, Incorporated Staffing Agency	Cedar Falls, IA
BerganKDV	Waterloo, IA
City of Waterloo	Waterloo, IA
Colony Brands	Peosta, IL
Express Employment Professionals	Cedar Falls, IA
Grand Jivante	Ackley, IA
Richelieu Foods, Inc.	Grundy Center, IA
Target Human Resources	Waterloo, IA and TX
Transamerica Corporation	Cedar Rapids, IA
UnityPoint Health—Allen Hospital	Waterloo, IA
MercyOne	Waterloo, IA
Woodsmall Electric	North Liberty, IA

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Human Resource Management AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 65
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
BUS-102	Introduction to Business	O E	3	◆
ENG-105	Composition I ▶	O E	3	◆
MGT-101	Principles of Management	O E	3	
PSY-111	Introduction to Psychology	O E	3	◆
SDV-108	The College Experience -OR-	O E	1	◆
BUS-108	Business College Experience		1	
	Human Resource Management Elective		3	
	Total Credits 16			

Semester 2

ACC-131	Principles of Accounting I ▶	O E	4	◆
CSC-110	Introduction to Computers ▶	O E	3	◆
MGT-142	Problems and Issues in Supervision and Management		3	
MGT-170	Human Resource Management		3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆
	Total Credits 16			

Semester 3 — Summer

BUS-903	Business Field Experience ▶		3	
MAT-156	Statistics ▶ -OR-	O E	3	◆
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-102	Intermediate Algebra -OR-		4	◆
	Math Elective		3	
	Total Credits 6			

Semester 4

BUS-183	Business Law	O E	3	◆
MGT-174	Training and Employee Development		3	
MGT-177	Staffing		3	
MGT-180	Management and Labor Relations		3	
	Human Resource Management Elective		3	
	Total Credits 15			

Semester 5

BUS-180	Business Ethics	O E	3	◆
MGT-178	Employment Law		3	
MGT-190	Employee Compensation and Benefits Management		3	
	Human Resource Management Elective		3	
	Total Credits 12			

Human Resource Management Electives

ACC-132	Principles of Accounting II ▶	O E	4	◆
ECN-120	Principles of Macroeconomics ▶	O E	3	◆
ECN-130	Principles of Microeconomics ▶	O E	3	◆
ENG-106	Composition II ▶	O E	3	◆
MGT-110	Small Business Management		3	
MKT-110	Principles of Marketing	O E	3	

Math Electives

MAT-121 College Algebra ▶	4	◆
MAT-128 Precalculus ▶	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
MAT-210 Calculus I ▶	4	◆
MAT-216 Calculus II ▶	4	◆
MAT-219 Calculus III ▶	4	◆

Marketing Management

The Marketing Management program prepares you for entry or mid-level management or marketing positions. You will build a foundation of critical thinking, teamwork, business, communication, marketing, economics, sales, retail, management, and advertising skills. You will learn to utilize the Microsoft Office Suite, social media platforms, websites, and mass media resources in today's fast-paced business environment.

This program provides entrepreneurs with a sound business education.

Transfer Information

Many four-year colleges and universities accept a limited number of transfer and elective credits.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates work in entry-level and mid-level management, marketing, sales, promotions, marketing research, advertising, and customer service. They may also work in small companies utilizing a broad range of skills or in large companies in specialized positions.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Advertising Sales Agents	$22,000	$39,600	$48,300
Customer Service Representatives	$25,100	$38,400	$45,100
First-Line Supervisors of Non-Retail Sales Workers	$49,500	$81,900	$98,000
First-Line Supervisors of Office and Administrative Support Workers	$37,500	$57,500	$67,500
First-Line Supervisors of Retail Sales Workers	$26,200	$40,500	$47,700

Source: 2020 Iowa Wage Report, Iowa Workforce Development

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Advanced Heat Treat Corp.	Waterloo, IA
CUNA Mutual Group	Waverly, IA
GEICO Insurance	Coralville, IA
Hy-Vee, Inc.	West Des Moines, IA
John Deere	Moline, IL
Kwik Trip, Inc.	La Crosse, WI
McGraw-Hill Education	Dubuque, IA
MercyOne	Waterloo, IA
PDCM Insurance	Waterloo, IA
Target Distribution Center	Cedar Falls, IA
The Men's Warehouse, Inc.	Waterloo, IA
The VGM Group	Waterloo, IA
Toyota Financial Services	Cedar Rapids, IA
W.W. Grainger, Inc.	Waterloo, IA
Walmart Stores, Inc.	Bentonville, AR

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Marketing Management AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 64
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

≫ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

≫ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

≫ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
BUS-102	Introduction to Business	O E	3	◆
BUS-108	Business College Experience		1	
ENG-105	Composition I ▶ -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ▶		3	▣
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
MKT-110	Principles of Marketing	O E	3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
		Total Credits 16		

Semester 2

Code	Course				
CSC-110	Introduction to Computers ▶	O E	3	◆
ECN-110	Introduction to Economics -OR-		3	◆
ECN-120	Principles of Macroeconomics ▶ -OR-	O E	3	◆
ECN-130	Principles of Microeconomics ▶	O E	3	◆
MKT-140	Principles of Selling		3	
MKT-160	Principles of Retailing		3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆
	Marketing Elective		3	

Total Credits 18

Semester 3

Code	Course				
ACC-115	Introduction to Accounting -OR-		4	
ACC-131	Principles of Accounting I ▶	O E	4	◆
BUS-295	Workplace Professionalism		2	
MGT-101	Principles of Management	O E	3	
	Marketing Elective		3	
	Marketing Elective		3	

Total Credits 15

Semester 4

Code	Course				
BUS-183	Business Law	O E	3	◆
MGT-170	Human Resource Management		3	
MKT-152	Advertising and Visual Merchandising		3	
	Marketing Elective		3	
	Marketing Elective		3	

Total Credits 15

Marketing Electives

ACC-116	Introduction to Accounting II ►		4	
ACC-132	Principles of Accounting II ►	O E	4	◆
BCA-132	Electronic Communications ►		3	
BCA-134	Word Processing ►		3	
BUS-180	Business Ethics	O E	3	◆
BUS-220	Introduction to International Business		3	
BUS-903	Business Field Experience ►		3	
COM-140	Introduction to Mass Media		3	◆
ENG-106	Composition II ►	O E	3	◆
FIN-121	Personal Finance		3	
GRA-133	Desktop Publishing		4	
MGT-110	Small Business Management		3	
MGT-210	Management Decision Making		3	
MKT-142	Consumer Behavior		3	
MKT-198	Sports Marketing		3	
MMS-117	Social Media for Business		3	

Math Electives

MAT-128	Precalculus ►		4	◆
MAT-134	Trigonometry and Analytic Geometry ►		3	◆
MAT-156	Statistics ►	O E	3	◆
MAT-210	Calculus I ►		4	◆
MAT-216	Calculus II ►		4	◆
MAT-219	Calculus III ►		4	◆

Medical Office Specialist

The Medical Office Specialist program prepares you for an entry-level career in a medical office. You will gain the knowledge and skills necessary to coordinate and facilitate a medical office, including:

- Medical terminology
- Creating, proofreading, and delivering professional documents
- Typing with speed and accuracy
- Managing and organizing medical files and data
- Ethical business practices

Hands-On Learning Opportunities

- **Health Records System**: Learn the functionality of an electronic health records system by inputting patients' health insurance and demographic information as well as scheduling appointments and collecting payments.

- **Scribing**: Students will learn the basics of working alongside a physician. Scribing is one of healthcare's newest patient record-keeping methods.

Transfer Information

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates find 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, clinic administrators, health unit coordinators, and patient service representatives.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Medical Secretaries	$26,900	$35,100	$39,200

Source: 2020 Iowa Wage Report, Iowa Workforce Development

The following is a partial list of employers who have hired graduates from this program:

Business	Location
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
MercyOne	Waterloo and Cedar Falls, IA
VGM & Associates	Waterloo, IA

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Medical Office Specialist Diploma Courses

Award: Diploma (Diploma)
Required number of credits: 36
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.

Semester 1		
ADM-105	Introduction to Keyboarding	1
ADM-157	Business English ▶	3
BUS-108	Business College Experience	1
CSC-110	Introduction to Computers ▶	3 ◆
HIT-250	Coding I ▶	3
HSC-116	Beginning Medical Terminology	4
MAT-772	Applied Math -OR-	3 ▣
MAT-110	Math for Liberal Arts ▶ -OR-	3 ◆
MAT-128	Precalculus ▶ -OR-	4 ◆
	Math Elective	3
	Total Credits 18	

Semester 2

ADM-108	Keyboarding Skill Development ▶	1
BUS-295	Workplace Professionalism	2
HIT-215	Introduction to CPT ▶	2
HIT-290	Reimbursement Methods	3
HSC-124	Advanced Medical Terminology ▶	4
MAP-123	Administrative Medical Office Procedures ▶	3
MAP-402	Medical Law and Ethics	2
MAP-511	Pharmacology for the Medical Office ▶	1
	Total Credits 18	

Math Electives

MAT-134	Trigonometry and Analytic Geometry ▶	3	◆
MAT-156	Statistics ▶	3	◆
MAT-210	Calculus I ▶	4	◆
MAT-216	Calculus II ▶	4	◆
MAT-219	Calculus III ▶	4	◆

Program Area

EDUCATION

Early Childhood Education

HAWKEYE
COMMUNITY COLLEGE

Early Childhood Education

The Early Childhood Education program prepares you for a rewarding career nurturing the growth and development of young children in a variety of settings. You will gain the knowledge and skills necessary to work with infants through preschool-aged children, including:

- Classroom management
- Critical thinking and problem solving
- Child growth and development
- Curriculum planning and assessment
- Effective communication with children, families, and other educators
- Health, safety, and nutrition
- Infant and toddler care
- Positive emotional and behavioral guidance techniques
- Program administration
- State regulations

Essential skills needed to successfully complete the required coursework, include:

- Ability to plan and implement imaginative and creative activities for children
- Demonstrate responsibility and dependability in field placements
- Decision making skills
- Work cooperatively with peers and field placement staff
- Good written and oral communication skills
- Organizational planning

Hands-On Learning Opportunities

- Field Experiences: You will gain more than 240 hours of real-world work experience in the Hawkeye's NAEYC accredited Child Development Center and local Head Start, preschool, and early childhood programs. Field experience must be completed during the day.

- Teaching Portfolio: You will develop a portfolio of teaching strategies and tools to get you started in your new career. Prepare lesson plans, activity packets, teaching aides, and more.

- Classroom Technology: Experience the technology of the modern day classroom, including Owlets in infant classrooms, electronic assessment practices, and interactive technology on whiteboards, iPads, and laptops.

Flexible Course Schedule

You can take classes during the day or in the evening, or take a combination of both to fit your schedule. Evening hybrid classes are typically eight weeks and offered from 6:00–8:50pm on Tuesdays or Thursdays.

Certifications and Licensure

You may receive the following certifications: First Aid, CPR, Blood Borne Pathogens and Universal Precautions, and Mandatory Reporter.

Hawkeye has not made a determination as to whether the program curriculum meets all other state's educational requirements for licensure or certification. If you wish to work outside the state of Iowa, please contact the state agency in which you hope to work for details about licensure or certification.

Program Pathways

Several pathways are available which include classroom learning and experience working directly with children. These include a certificate, diploma or AAS degree options.

Transfer Information

An articulation agreement allows you to transfer your Early Childhood Education coursework to the Birth – Grade 3: Inclusive Settings major at Upper Iowa University.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

Graduates of the two-year program work as lead, assistant, or associate teachers in child care centers, private preschools, child development homes, and private and public schools. With additional experience and credentials, graduates may become a paraeducator in a public school or the director of a child care center.

Diploma graduates work as child care workers, teacher assistants, and early childhood professionals in child care centers, private preschools, child development homes, and private and public schools. Many graduates provide in-home child care and nanny services.

The Early Childhood certificate prepares the student for an entry-level position in a child care program. The certificate meets the course work requirements for the formal education component of the Child Development Associate (CDA) credential.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Childcare Workers	$17,500	$21,200	$23,000
Preschool Teachers in Head Start and Private Preschools	$20,500	$28,500	$32,600
Teaching Assistants	$19,500	$25,400	$28,400

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Community United Child Care Centers	Waterloo and Cedar Falls, IA
Dike New Hartford Elementary School	Dike, IA
Discoveries Learning Center	Denver, IA
Exceptional Persons, Inc.	Waterloo, IA
Hawkeye Child Development Center	Waterloo, IA
Purple Bloom School	Coralville, IA
The Goddard School	Waukee, IA
Tri-County Child & Family Development Council, Inc.	Waterloo, IA
Trinity Preschool and Child Care	Waterloo, IA
Vinton Shellsburg Community Schools	Vinton, IA
Waterloo Community School District	Waterloo, IA
Waverly Child Care and Preschool	Waverly, IA

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Early Childhood Education program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Early Childhood Education program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Early Childhood Education AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 61
Program Start: Fall, Spring

2021–2022 Suggested Sequence of Study

> **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

> **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

> Courses are subject to change.

◆ General education course.

▣ Non-transfer general education course.

▶ Course has a prerequisite and/or corequisite.

O Course meets 100% online.

E Course meets face-to-face after 5:00pm.

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

Semester 1				
ECE-103	Introduction to Early Childhood Education		3	
ECE-158	Early Childhood Curriculum I		3	
ECE-170	Child Growth and Development		3	
ECE-221	Infant/Toddler Care and Education		3	
ENG-105	Composition I ▶ -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ▶		3	▣
		Total Credits 15		

Semester 2

ECE-133	Child Health, Safety, and Nutrition		3	
ECE-159	Early Childhood Curriculum II		3	
ECE-243	Early Childhood Guidance		3	
ECE-274	Field Experience I ▶	★	2	
ECE-944	Field Experience Seminar I	★	1	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
	Total Credits 15			

Semester 3

ECE-125	School Age Care		2	
ECE-260	Current Topics and Issues in Child Care		2	
ECE-284	Field Experience II ▶	★	2	
ECE-298	Career Strategies for Early Childhood		2	
ECE-299	Early Childhood Professional Portfolio		1	
ECE-945	Field Experience Seminar II ▶	★	1	
EDU-130	Home, School, and Community Relations		3	◆
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
	Total Credits 16			

Semester 4

ECE-250	Advanced Curriculum Planning ▶		3	
ECE-290	Early Childhood Program Administration ▶		3	
EDU-235	Children's Literature	O	3	◆
EDU-246	Including Diverse Learners	O E	3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆
	Total Credits 15			

Math Electives

MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Early Childhood Education Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 30
Program Start: Fall, Spring

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
★	Students must pass a DHS Criminal History Record Check and an FBI Fingerprint Check before being placed in Field Experience courses.

Semester 1			
ECE-103	Introduction to Early Childhood Education		3	
ECE-158	Early Childhood Curriculum I		3	
ECE-170	Child Growth and Development		3	
ECE-221	Infant/Toddler Care and Education		3	
ENG-105	Composition I ► -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ►		3	▣
		Total Credits 15	

Semester 2

ECE-133	Child Health, Safety, and Nutrition		3	
ECE-159	Early Childhood Curriculum II		3	
ECE-243	Early Childhood Guidance		3	
ECE-274	Field Experience I ▶	★	2	
ECE-944	Field Experience Seminar I	★	1	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
		Total Credits 15		

Math Electives

MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Early Childhood Education Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 12
Program Start: Fall, Spring

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

Semester 1	
ECE-103 Introduction to Early Childhood Education	3
ECE-133 Child Health, Safety, and Nutrition	3
ECE-158 Early Childhood Curriculum I -OR-	3
ECE-159 Early Childhood Curriculum II -OR-	3
ECE-221 Infant/Toddler Care and Education	3
ECE-243 Early Childhood Guidance	3
Total Credits 12	

Program Area

HEALTH

Dental Assisting

Dental Hygiene

Medical Assistant

Medical Laboratory Technology

Nursing

Occupational Therapy Assistant

Physical Therapist Assistant

Respiratory Care

HAWKEYE
COMMUNITY COLLEGE

Dental Assisting

The Dental Assisting program prepares you to assist a dentist at chair side, perform receptionist and clinical functions, and carry out selected dental laboratory work as a dental assistant. You will gain knowledge and skills in:

- Dental terminology
- Preventative and oral health education
- Oral and dental anatomy
- Digital dental radiography
- Dental procedures
- Computerized charting and record keeping
- Dental equipment and materials
- Infection control

Hands-On Learning Opportunities

- Dental Clinic: Train in the state-of-the-art clinic featuring 18 patient chairs, computerized patient record software, and a complete digital X-ray system under the supervision of licensed dentists and dental professionals.

- Clinical: Gain 320 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certification and Licensure

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]

Board Pass Rates

Total Students in Program: 15

* No report yet available

Examination		
Dental Assisting National Board Certified Dental Assisting Exam (Not required by Iowa)	Taken	*
	Passed	*
Iowa Dental Board Radiology (Required by Iowa)	Taken	15
	Passed	15 (100%)
Iowa Dental Board Infection Control (Required by Iowa)	Taken	15
	Passed	15 (100%)
Iowa Dental Board Jurisprudence for Iowa License (Required by Iowa)	Taken	15
	Passed	15 (100%)
Job Placement as of July 1, 2019		14 (93 %)

Careers

Graduates can be employed in many dental career areas, including:

- Private or group practice
- General dentistry or specialty practices
- Dental schools
- Federal government dental facilities

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Dental Assistants	$34,600	$42,200	$46,000

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Delta Dental of Iowa	Johnston, IA
Dental Associates of Manchester	Manchester, IA
Henry Schein Dental	Melville, NY
Iowa Department of Public Health	Des Moines, IA
Kimball & Beecher Family Dentistry	Waterloo, IA
Patterson Dental Supply, Inc.	Des Moines, IA
Peoples Community Health Clinic, Inc.	Waterloo, IA

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Dental Assisting program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Dental Assisting program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
19 Reading	76 Reading	82 Reading	251 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing

← Basic Skills Competency in Math →

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Dental Assisting Diploma Courses

Award: Diploma (Diploma)
Required number of credits: 47
Program Start: Fall

Accepted students must attend a Mandatory Compliance Training session prior to beginning the first day of the program. Students will be notified of the Mandatory Compliance Training at their MORE orientation and registration session.

As a student in a health program at Hawkeye Community College, and to participate in clinicals, you will be required to complete the following screenings: 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.

2021–2022 Suggested Sequence of Study

>> **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

>> **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

>> Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
10WK	Course meets for 10 weeks.

>> **You must achieve a minimum "C" grade in all courses that are required to complete the program.**

Semester 1				
BIO-163	Essentials of Anatomy and Physiology *	E	4	◆
DEA-103	Orientation to Dental Assisting		2	
DEA-258	Dental Anatomy		4	
DEA-302	Dental Radiography		3	
DEA-412	Dental Materials I		3	
DEA-513	Chairside Assisting I		4	
	Total Credits 20			

* Prior completion of both BIO-168 and BIO-173 with a minimum grade of C will be acceptable replacement for BIO-163.

Semester 2				
DEA-262	Dental Sciences		1	
DEA-417	Dental Materials II ▶		2	
DEA-514	Chairside Assisting II ▶		2	
DEA-556	Assisting Clinic I		4	
DEA-603	Dental Specialties		2	
DEA-701	Dental Office Procedures ▶		1	
ENG-105	Composition I ▶	O E	3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆
	Total Credits 18			

Semester 3 – Summer

DEA-578	Dental Assisting Clinic II	10WK	5	
DEA-591	Dental Assisting Seminar ▶		1	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 9

Dental Hygiene

The Dental Hygiene program prepares you to provide educational, clinical, and therapeutic disease prevention, health promotion, and oral hygiene services under the supervision of a licensed dentist. You will gain knowledge and skills in:

- Medical terminology
- Oral and dental anatomy
- Digital dental radiography
- Dental procedures
- Oral disease and health
- Computerized charting and record keeping
- Dental equipment and materials
- Infection control
- Oral and dental hygiene practices
- Patient education
- Dental pharmacology
- Pain control techniques
- Public health systems

Hands-On Learning Opportunities

- Dental Clinic: Train in the state-of-the-art clinic featuring 18 patient chairs, computerized patient record software, and a complete digital X-ray system under the supervision of licensed dentists and dental professionals.

- Clinical: Gain 528 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certification

Registered dental hygienist (RDH) is the designation for the licensed professional. Graduates of the 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]

Board Pass Rates

* No report yet available

Examination		
Dental Board Hygiene National Exam (ADA NBDHE) (Required by Iowa)	Attempted 1st Try	16
	Passed 1st Try	14 (88%)
	Attempted 2nd Try	2
	Passed 2nd Try	*
Central Regional Dental Testing Service (CRDTS) Exam (Required by Iowa)	Attempted 1st Try	16
	Passed 1st Try	14 (88%)
	Attempted 2nd Try	2
	Passed 2nd Try	2 (100%)
Jurisprudence Exam for Iowa License (Required by Iowa)	Attempted 1st Try	16
	Passed 1st Try	16 (100%)
Job Placement as of July 1, 2019	13/16	81%

Careers

Our graduates can be employed in many dental areas, including:

- Private dental practices
- Specialty practices
- HMOs
- Long-term care/geriatric centers
- Community outreach organizations

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Dental Hygienists	$61,100	$70,600	$75,300

Source: 2020 Iowa Wage Report, Iowa Workforce Development

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Delta Dental of Iowa	Johnston, IA
Dental Associates of Manchester	Manchester, IA
Henry Schein Dental	Melville, NY
Iowa Department of Public Health	Des Moines, IA
Kimball & Beecher Family Dentistry	Waterloo, IA
Patterson Dental Supply, Inc.	Des Moines, IA
Peoples Community Health Clinic, Inc.	Waterloo, IA

Admissions Requirements

In order to be considered for the Dental Hygiene program, students must provide the Admissions office with the appropriate documentation showing completion of all requirements. Appropriate documentation consists of:

- Updated assessment scores. -AND/OR-
- A transcript or academic evaluation showing successful completion of course requirements (i.e. developmental coursework).

It is the student's responsibility to:

- Monitor their progress towards meeting admissions requirements,
- Notify the Admissions office when requirements have been met, and
- Provide the Admissions office evidence of meeting the requirements.

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Dental Hygiene program.

2. Request to have your transcripts sent to the Admissions office.

■ STEP 2   Required Assessment / Success Courses

Students must meet the minimum assessment score or have completed the required success course in each math, English, and reading.

ACT	ACCUPLACER	COMPASS	ACCUPLACER: Next Generation	Success Course *
19 Math	85 Elementary Algebra	42 Algebra	259 QAS	MAT-063 Elementary Algebra
19 English	82 Sentence Skills -OR- 06 Essay	65 English	253 Writing	ENG-061 College Preparatory Writing II
19 Reading	76 Reading	82 Reading	251 Reading	RDG-040 College Preparatory Reading III

Applicants can take the ACT assessment or the ACCUPLACER assessment at Hawkeye. Pre-registration is required.

* Success course credits do not apply towards graduation requirements.

■ STEP 3   Prerequisite Coursework

Prerequisite coursework may be completed at Hawkeye Community College or at any accredited transfer institution. See the suggested sequence of study for a list of prerequisite courses.

Once all prerequisite coursework is completed, contact the Admissions office immediately.

■ STEP 4   Dental Hygiene Program Acceptance

Applicants who meet all admission requirements in steps 1–3 will be accepted into the next available seat to the program.

If the number of eligible students exceeds the number of available seats, students will be accepted in the following order, otherwise will be accepted into the next fall semester:

1. Completion date of all required prerequisite coursework.
2. Eligibility date — Determined by either :
   - The date the student registered for their final prerequisite course at Hawkeye OR
   - The date the Admissions office received transcripts showing completion of prerequisite courses at another accredited institution.
3. Grade Point Average — Determined by grades in prerequisite courses.

Accepted Students

Prior to the first day of classes, accepted students must:

1. Have a physical exam with immunization record on Hawkeye Community College form.
2. Attend a Mandatory Compliance Training session. Students will be notified of the Mandatory Compliance Training at their orientation and registration session.

Changes are taking place within healthcare facilities nationally. These changes directly affect all health programs at Hawkeye Community College. The Joint Commission of Accreditation of Healthcare Organization (JCAHO), which accredits healthcare facilities across the country, enforced background screening September 2004 and has set requirements mandating that students in a healthcare field must now complete the same background check as hospital employees. As a Health student of Hawkeye Community College, you will be required to complete a criminal background check, sex offender, child abuse and dependent adult registry. The outcome could possibly affect your opportunities to participate in the clinical setting.

Equal Opportunity Statement

Dental Hygiene AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 86
Program Start: Fall

As a student in a health program at Hawkeye Community College, and to participate in clinicals, you will be required to complete the following screenings: 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.

2021–2022 Suggested Sequence of Study

⟫ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

⟫ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

⟫ Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

⟫ **Students must achieve a minimum "C" grade in all courses that are required to complete the program.**

Prerequisites *			
BIO-168 Human Anatomy and Physiology I	E	4	◆
BIO-173 Human Anatomy and Physiology II ▶	E	4	◆
BIO-186 Microbiology	E	4	◆
CHM-122 Introduction to General Chemistry ▶	E	4	◆
HSC-113 Medical Terminology		2	
Total Credits 18			

* All prerequisites must be completed with a minimum grade of "C" and a minimum cumulative prerequisite GPA of 2.75. Students are not eligible for the Iowa Vocational Technical Tuition Grant while taking prerequisite courses.

** CHM-132 will not be a prerequisite course beginning Fall 2020.

Semester 1	
DHY-111 Head and Neck Anatomy for Dental Hygiene ▶	2
DHY-116 Tooth Morphology ▶	1
DHY-121 Oral Histology and Embryology ▶	2
DHY-160 Oral Radiology	3
DHY-175 Fundamentals of Clinical Dental Hygiene ▶	6
Total Credits 14	

Semester 2

CHM-132	Introduction to Organic and Biochemistry ▶	4	◆
DHY-141	General and Oral Pathology ▶	3	
DHY-187	Clinical Dental Hygiene II ▶	3	
DHY-188	Clinical Dental Hygiene II Seminar ▶	1	
DHY-210	Introduction To Periodontology ▶	1	
DHY-222	Biomaterials for the Dental Hygienist ▶	3	
DHY-240	Ethics and Jurisprudence ▶	1	
DHY-262	Special Needs Patient Education ▶	1	

Total Credits 17

Semester 3 — Summer

PSY-111	Introduction to Psychology	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 6

Semester 4

BIO-151	Nutrition	O E	3	◆
DHY-131	Pharmacology ▶		2	
DHY-211	Periodontology ▶		2	
DHY-254	Community Oral Health I ▶		2	
DHY-271	Pain Control ▶		2	
DHY-297	Clinical Dental Hygiene III ▶		4	
DHY-298	Clinical Dental Hygiene III Seminar ▶		2	

Total Credits 17

Semester 5

DHY-259	Community Oral Health Service Learning Experience ▶		1	
DHY-272	Interdisciplinary Health Care ▶		2	
DHY-307	Clinical Dental Hygiene IV ▶		4	
DHY-308	Clinical Dental Hygiene Seminar IV ▶		1	
DHY-901	Independent Study Clinical Dental Hygiene *(optional)*		1	
ENG-105	Composition I ▶	O E	3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 14

Medical Assistant

The Medical Assistant program will prepare you for an entry-level career helping patients navigate the healthcare system and assisting healthcare providers in appointments. You will learn administrative clinic duties, including:

- Office management and procedures
- Scheduling and billing practices
- Procedural and diagnostic coding
- Third-party reimbursement

You will also gain the skills necessary to care for patients and assist healthcare providers, including:

- Taking vital signs
- Collecting and preparing lab specimens and performing diagnostic tests
- Administering medication and injections
- Collecting and recording data
- Educating patients

Hands-On Learning Opportunities

- Patient Simulator Lab: Learn how to handle and react to a variety of patient scenarios in a controlled environment.

- Practicum: Gain over 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Afternoon and Evening Program Options

Beginning Fall 2021, Medical Assistant program students can choose between an afternoon or evening program option.

Students enrolled in the afternoon program will take classes 1:00–5:00pm.

Evening program classes begin at 5:00pm or later Monday thru Thursday.

Certification and Licensure

Successful completion of this program qualifies the student to test for license/certification in the state of Iowa.

A graduate of the Medical Assistant program is eligible to take the RMA (Registered Medical Assistant) or CMA (Certified Medical Assistant), national exams recognized by all states for practice as a Medical Assistant.

Accreditation

The Hawkeye Community College Medical Assistant program is accredited by the <u>Commission on Accreditation of Allied Health Education Programs</u> upon the recommendation of Medical Assisting Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 North, Suite 158
Clearwater, FL 33763
727-210-2350
<u>www.caahep.org</u>

Student Outcomes

	2019
Students entering the program	12
Admission cohort retention rate	91.6%
Exam passage rate	100%

Careers

POSITIONS

Graduates may find employment working as a medical assistant in doctor's offices, clinics, specialty clinics, or hospitals under the supervision of a licensed healthcare professional. The medical assistant profession is expected to grow by 18%* through 2024 in Iowa.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Medical Assistants	$28,500	$35,900	$39,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

In order to be considered for the Medical Assistant program, students must provide the Admissions office with official documents showing completion of all requirements. These documents must show:

- Updated assessment scores. -AND/OR-
- A transcript or academic evaluation showing successful completion of course requirements (i.e. developmental coursework).

It is the student's responsibility to:

- Monitor their progress towards meeting admissions requirements,
- Notify the Admissions office when requirements have been met, and
- Provide the Admissions office evidence of meeting the requirements.

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Medical Assistant program.

2. Request to have your transcripts sent to the Admissions office.

■ STEP 2   Required Assessment / Success Courses

Students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER: Next Generation	Success Course *
19 Math	85 Elementary Algebra	42 Algebra	259 QAS	MAT-063 Elementary Algebra
19 English	82 Sentence Skills 06 Essay	65 English	253 Writing	ENG-061 College Preparatory Writing II
19 Reading	76 Reading	82 Reading	251 Reading	RDG-040 College Preparatory Reading III

Applicants can take the ACT assessment or the ACCUPLACER assessment at Hawkeye. Pre-registration is required.

* Success course credits do not apply towards graduation or the diploma.

■ STEP 3   Prerequisite Coursework

See the suggested sequence of study for a list of prerequisite courses.

Once all prerequisite coursework is completed, contact the Admissions office immediately.

■ STEP 4   Medical Assistant Program Acceptance

Applicants who meet all admission requirements in steps 1–3 will be accepted into the Medical Assistant program.

If the number of eligible students exceeds the number of available seats, students will be accepted in the following order:

1. Completion date of all required prerequisite coursework.
2. Eligibility date — Determined by either:
    - The date the student registered for their final prerequisite course at Hawkeye OR
    - The date the Admissions office received transcripts showing completion of prerequisite courses at another accredited institution.
3. Grade Point Average — Determined by grades in prerequisite courses.

The Medical Assistant program is an evening program that begins each semester.

Changes are taking place within healthcare facilities nationally. These changes directly affect all health programs at Hawkeye Community College. The Joint Commission of Accreditation of Healthcare Organization (JCAHO), which accredits healthcare facilities across the country, enforced background screening September 2004 and has set requirements mandating that students in a healthcare field must now complete the same background check as hospital employees. As a Health student of Hawkeye Community College, you will be required to complete a criminal background check, sex offender, child abuse and dependent adult registry. The outcome could possibly affect your opportunities to participate in the clinical setting.

Equal Opportunity Statement

Medical Assistant Diploma Courses

Award: Diploma (Diploma)
Required number of credits: 45
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Prerequisites *			
BIO-168 Human Anatomy and Physiology I	E	4	◆
HSC-108 Introduction to Health Professions **	E	2	
HSC-113 Medical Terminology	O E	2	
PSY-111 Introduction to Psychology	O E	3	◆
SPC-101 Fundamentals of Oral Communication	O E	3	◆
Total Credits 14			

* All prerequisites must be completed with a minimum grade of C and a minimum cumulative prerequisite GPA of 2.50.

** Must be completed at Hawkeye Community College.

Semester 1 — Fall			
BIO-173 Human Anatomy and Physiology II ▶	E	4	◆
MAP-111 Medical Office Management I	O E	3	
MAP-225 Med Lab Procedures I ▶	O E	4	
MAP-342 Clinical Assisting I ▶	O E	3	
Total Credits 14			

Semester 2 — Spring

MAP-117 Medical Office Management II ▶	O E	3
MAP-230 Medical Laboratory Procedures II ▶	O E	4
MAP-343 Clinical Assisting II ▶	O E	3
MAP-512 Medical Assisting Pharmacology ▶	2 ◆	

Total Credits 12

Semester 3 — Summer

MAP-841 Medical Assisting Capstone ▶	O E	2
MAP-941 Medical Assistant Practicum ▶	O E	3

Total Credits 5

Medical Laboratory Technology

The Medical Laboratory Technology program prepares you with 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, you will learn to test and analyze samples for clues to the absence, presence, extent, and causes of infections and diseases. You will also learn:

- Clinical laboratory techniques
- Lab equipment maintenance
- Sample collection and storage procedures
- Results reporting and record keeping

Certification

Graduates are eligible to take the national certification exam from the American Society for Clinical Pathology (ASCP).

Academic Affiliate Program

Hawkeye has academic affiliate arrangements that allows you to complete the first two semesters of the Medical Laboratory Technology program at an academic affiliate college, then complete the rest of the program at Hawkeye. Academic affiliate colleges 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 2017–2019.

- **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**: 94%
  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.

Careers

Graduates find employment in hospital, clinic, and independent laboratories as medical and clinical laboratory technicians.

The following is a partial list of employers who have hired graduates from this program:

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Clinical Laboratory Technologists and Technicians	32,600	$48,500	$56,200

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Business	Location
Mercy Iowa City	Iowa City, IA
MercyOne North Iowa Medical Center	Mason City, IA
MercyOne	Waterloo and Cedar Falls, IA
MercyOne Dubuque	Dubuque, IA
UnityPoint Health - Allen Hospital	Waterloo, IA
UnityPoint Health Finley Hospital	Dubuque, IA
University of Iowa Hospitals and Clinics	Iowa City, IA

Admissions Requirements

In order to be considered for the Medical Laboratory Technology program, students must provide the Admissions office with official documents showing completion of all requirements. These documents must show:

- Updated assessment scores. -AND/OR-
- A transcript or academic evaluation showing successful completion of course requirements (i.e. developmental coursework).

It is the student's responsibility to:

- Monitor their progress towards meeting admissions requirements,
- Notify the Admissions office when requirements have been met, and
- Provide the Admissions office evidence of meeting the requirements.

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Medical Laboratory Technology program.

2. Request to have your transcripts sent to the Admissions office.

■ STEP 2   Required Biology Course and Assessment / Success Courses

In order to be eligible for the Medical Laboratory Technology program, all students must:

1. Meet the minimum assessment score or have completed, with a grade of "C" or higher, the required success course in each math, English, and reading.
2. Successfully complete, with a "C" grade or higher, a minimum of one year of high school biology or any college-level general education biological sciences course.

≫ While Hawkeye Community College is accepting Pass/Fail grades as an institution, due to accreditation, Hawkeye is **not accepting College or High School Pass/Fail grades for any admission criteria**.

While working to meet these requirements, students will be accepted into the Medical Laboratory Technology pre-program. Pre-program students are able to complete the necessary success courses at the same time they are working on the required general education coursework, assuming all individual course prerequisites are satisfied. See the Medical Laboratory Technology Suggested Sequence of Study for the general education ◆ and program specific ★ courses.

Required minimum assessment scores

ACT	ACCUPLACER	COMPASS	ACCUPLACER: Next Generation
19 Reading	76 Reading	82 Reading	251 Reading
19 English	82 Sentence Skills	65 Writing	253 Writing
19 Math	85 Elementary Algebra	42 Algebra	259 Quantitative Reasoning, Algebra, and Statistics

Applicants can take the ACT assessment or the ACCUPLACER assessment at Hawkeye. Pre-registration is required.

Success Courses

Success courses can be taken at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with a program advisor.

Success course credits do not apply towards graduation requirements.

■ STEP 3   Program Acceptance

Applicants who have completed all admissions requirements in steps 1 and 2 will be 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 prerequisite courses.

Medical Laboratory Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 81
Program Start: Fall, Spring

As a student in a health program at Hawkeye Community College, and to participate in clinicals, you will be required to complete the following screenings: 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.

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
★	Program specific courses applicants meeting the general admission requirements may take prior to full acceptance to the Medical Laboratory Technology program.

Students must achieve a minimum "C" grade in all courses required to complete the program.

Additional prerequisite coursework is required for program acceptance. See Admissions Requirements for more information.

Semester 1 — Fall				
BIO-163	Essentials of Anatomy and Physiology	E	4	◆
CHM-122	Introduction to General Chemistry ►	E	4	◆
MLT-101	Introduction to Lab Science	★	2	
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆
	Total Credits 16			

Semester 2 — Spring

BIO-113	General Biology II -OR-		4	◆
CHM-132	Introduction to Organic and Biochemistry ▶		4	◆
BIO-186	Microbiology	E	4	◆
ENG-105	Composition I ▶	O E	3	◆
HSC-113	Medical Terminology	★	2	
MLT-103	Lab Mathematics	★	3	
MLT-120	Urinalysis	★	3	
		Total Credits 19		

Semester 3 — Summer

MLT-110	Fundamental Lab Techniques	★	3	
MLT-130	Hematology ▶	★	3	
MLT-250	Clinical Microbiology ▶		4	
		Total Credits 10		

Semester 4 — Fall

MLT-230	Advanced Hematology ▶	★	3	
MLT-233	Hemostasis and Thrombosis ▶		2	
MLT-240	Clinical Chemistry I ▶		7	
MLT-252	Parasitology	★	1	
MLT-260	Immunohematology ▶		4	
MLT-270	Immunology and Serology ▶		2	
		Total Credits 19		

Semester 5 — Spring

MLT-285	Clinical Practicum: Chemistry ▶		4
MLT-287	Clinical Practicum: Hematology ▶		4
MLT-288	Clinical Practicum: Microbiology ▶		4
		Total Credits 12	

Semester 6 — Summer

MLT-283	Clinical Practicum: Urinalysis ▶		1
MLT-284	Clinical Practicum: Immunohematology ▶		2
MLT-286	Clinical Practicum: Immunology and Serology ▶		1
MLT-291	Lab Survey and Review ▶		1
		Total Credits 5	

Nursing

Nursing is a career that allows upward mobility from CNA, LPN, RN, BSN, to MSN.

Practical Nursing (LPN) Program

The Practical Nursing program, an option of the Associated Degree Nursing program, prepares you to become a licensed practical nurse (LPN) to care for patients of all ages with a variety of health conditions. You will gain the knowledge and skills in:

- Vital signs
- Infection control
- Pharmacology
- Lifespan growth and development

Course requirements can be completed within one year. Upon successful completion of the Practical Nursing coursework, you can continue your studies to become a registered nurse (RN).

Day or Evening Program Option

Students can choose to complete the Practical Nursing (LPN) program during the day or in the evening.

Associate Degree Nursing (RN) Program

The Associate Degree Nursing (ADN) program prepares you to become a registered nurse (RN) and care for patients of all ages with a variety of health conditions. You will gain the knowledge and skills in:

- Mastery of assessment and clinical skills
- Legal and ethical practices
- Medical and surgical nursing
- Maternal-child, Mental health, Community

Hawkeye's Associate Degree Nursing program is currently offered during the day. Course requirements can be completed within two years.

Students who are just beginning in the nursing program can enroll in the evening Practical Nursing (LPN) program option and progress to the Associate Degree (RN) program.

Hands-On Learning Experiences

- Van Gerpen Patient Simulator Laboratory: Train in the state-of-the-art simulation lab using realistic full-body manikins and simulators to replicate a range of hospital settings and patient scenarios in a controlled environment.

- Clinical: Gain 600 hours of real-world work experience in local clinics and hospitals, public mental health institutions, and community health agencies ensuring you have the skills you need to succeed in your future career.

Certification

Upon completion of the Practical Nursing (LPN) coursework, you will be eligible to take the Licensed Practical Nurse (LPN) licensure exam.

Upon completion of the Associate Degree Nursing (RN) coursework, you will be eligible to take the Registered Nurse (RN) licensure exam.

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

First time NCLEX—PN pass rate: 98%
First time NCLEX—RN pass rate: 82%

This program prepares the student for licensure in Iowa. Hawkeye Community College has not made a determination as to whether the program curriculum meets all other state's educational requirements for licensure or certification. If you wish to work outside the state of Iowa please contact the state agency in which you hope to work for details about licensure or certification.

See the National Council of State Boards of Nursing (NCSBN) Board of Nursing Professional Licensure Requirements for professional nursing licensure requirements by state.

Mission, Goals, and Purpose

The mission of the Hawkeye Community College nursing program is to develop life-long learning nurses.

The goals of the nursing program at Hawkeye Community College are:

- To facilitate student success through a quality curriculum that is student-centered.
- To provide a curriculum that has a strong clinical education.
- To provide an educational system that prepares students for entry-level practice.
- To prepare students for successful completion of the licensure examination.
- To maintain a nursing program that meets Iowa Board of Nursing accreditation standards.

The purpose of the nursing program at Hawkeye Community College is to prepare competent, professional nursing graduates for entry into professional practice.

Professional Affiliation

This program is approved by the Iowa Board of Nursing.

Iowa Board of Nursing
400 S.W. 8th Street Suite B
Des Moines, IA 50309

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.

Careers

Graduates work in hospitals, physician's clinics, and specialty clinics and departments such as pediatrics, intensive care, surgical, psychiatric, obstetrics, and cardiology.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Nursing Assistants	$25,900	$30,500	$32,900
Home Health and Personal Care Aides	$22,600	$27,400	$29,800
Licensed Practical Nurses (LPN)	$37,000	$44,200	$47,800
Registered Nurses	$49,600	$60,600	$66,100

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Mayo Clinic	Rochester, MN
MercyOne	Waterloo and Cedar Falls, IA
UnityPoint Health—Allen Hospital	Waterloo, IA
Universal Pediatrics	Cedar Rapids, IA
University of Iowa Hospitals and Clinics	Iowa City, IA
Waverly Health Center	Waverly, IA

Admissions Requirements

In order to be considered for the Associate Degree Nursing (RN) or Practical Nursing (LPN) program, students must provide the Admissions office with official documents showing completion of all requirements. These documents must show:

- Updated assessment scores. -AND/OR-
- A transcript or academic evaluation showing successful completion of course requirements (i.e. developmental coursework).

It is the student's responsibility to:

- Monitor their progress towards meeting admissions requirements,
- Notify the Admissions office when requirements have been met, and
- Provide the Admissions office evidence of meeting the requirements.

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Nursing program.

2. Request to have your transcripts sent to the Admissions office.

! **Students must choose either the day or evening program option and will not be able to switch between day and evening coursework without re-enrolling.**

! **If you are a graduate of an accredited Practical Nursing program, please see the Admission Requirements for Practical Nursing Graduates then skip to Step 5.**

■ STEP 2   Required Assessment / Success Courses

Students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER: Next Generation	Success Course *
19 Math	85 Elementary Algebra	42 Algebra	259 QAS	MAT-063 Elementary Algebra
19 English	82 Sentence Skills -OR- 06 Essay	65 English	253 Writing	ENG-061 College Preparatory Writing II
19 Reading	76 Reading	82 Reading	251 Reading	RDG-040 College Preparatory Reading III

Applicants can take the ACT assessment or the ACCUPLACER assessment at Hawkeye. Pre-registration is required.

* Success course credits do not apply towards graduation requirements.

STEP 3   Prerequisite Coursework

Students who do not have a Practical Nursing degree must successfully complete the following:

- All program prerequisite courses with a minimum "B" grade.
- Two semesters of high school chemistry or CHM-122 Introduction to General Chemistry with a minimum "C" grade.

While Hawkeye Community College is accepting Pass/Fail grades as an institution, due to accreditation, Hawkeye is **not accepting College or High School Pass/Fail grades for any admission criteria**.

STEP 4   TEAS Exam

Nursing program applicants must successfully pass the Test of Essential Academic Skills (TEAS) Exam with a composite score of 64% or higher. This exam must be taken at Hawkeye Community College and students will have a maximum of five attempts at the exam.

STEP 5   Program Acceptance

Applicants who have completed all admissions requirements in steps 1–4 will be accepted into the next available seat to the program.

If the number of eligible students exceeds the number of available seats, students will be accepted in the following order:

1. Completion date of all required prerequisite coursework.
2. Eligibility date — Determined by either:
   - The date the student registered for their final prerequisite course at Hawkeye OR
   - The date the Admissions office received transcripts showing completion of prerequisite courses at another accredited institution.
3. Grade Point Average — Determined by grades in prerequisite courses.

Accepted Students

Students accepted to the Nursing program must:

- Complete a nursing program orientation session where they will register for program courses with faculty advisors.
- Be Healthcare Provided CPR certified.
- Have a physical exam in Hawkeye Community College format prior to the first day of clinical coursework. Admission to the Nursing program is not based on the physical examination.

Changes are taking place within healthcare facilities nationally. These changes directly affect all health programs at Hawkeye Community College. The Joint Commission of Accreditation of Healthcare Organization (JCAHO), which accredits healthcare facilities across the country, enforced background screening September 2004 and has set requirements mandating that students in a healthcare field must now complete the same background check as hospital employees. As a Health student of Hawkeye Community College, you will be required to complete a criminal background check, sex offender, child abuse and dependent adult registry. The outcome could possibly affect your opportunities to participate in the clinical setting.

Equal Opportunity Statement

Admission Requirements for Practical Nursing Program Graduates

Students who have graduated from a Practical Nursing program will need to inform the Admissions office as well as meet the following admission requirements in order to be eligible for admission to the Associate Degree Nursing program:

1. Provide proof via an official transcript of successful completion of an accredited Practical Nursing program.

2. Complete, with a minimum grade of "C", either two semesters of high school chemistry or CHM-122 Introduction to General Chemistry or equivalent.

3. Complete, with a minimum grade of "B", BIO-168 Human Anatomy and Physiology I with lab and BIO-173 Human Anatomy and Physiology II with lab.

Applicants who meet all three of the above criteria will be placed on the Eligible for Acceptance list.

Placement on the list is determined by the GPA attained from BIO-168 and BIO-173 Human Anatomy & Physiology I & II. If applicants share the same GPA, the second criteria used will be a file completion date, which is the date the applicant registered for their last prerequisite course (BIO-168, BIO-173, or CHM-122) or provided documentation of these courses being met from another accredited institution.

Associate Degree Nursing (RN) Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 83.5
Program Start: Fall, Spring

As a student in a health program at Hawkeye Community College, and to participate in clinicals, you will be required to complete the following screenings: 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.

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Students must achieve a minimum "B" grade in all prerequisite courses and a minimum "C" grade in all other courses required to complete the program.

Chemistry prerequisite: In addition to the following prerequisite coursework, students must have completed two semesters of high school chemistry or CHM-122 Introduction to General Chemistry with a minimum "C" grade to be eligible for acceptance in the nursing program. See Admissions Requirements for more information.

Prerequisites			
BIO-168 Human Anatomy and Physiology I	E	4	◆
BIO-173 Human Anatomy and Physiology II ▶	E	4	◆
ENG-105 Composition I ▶	O E	3	◆
HSC-108 Introduction to Health Professions		2	
HSC-168 Nurse Aide *		3.5	
Total Credits 16.5			

* HSC-168 Nurse Aide must be completed through an accredited college or show proof of CNA Registry. Applicants will need to provide an official transcript showing successful course completion or work with Admissions to confirm being on the Iowa Direct Care Worker Registry.

Semester 1			
MAT-110 Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-102 Intermediate Algebra -OR-		4	◆
MAT-121 College Algebra ▶ -OR-		4	◆
Math Elective			
PNN-115 Introduction to Nursing ▶		4	
PNN-116 Introduction to Nursing Skills Lab ▶		2	
PNN-117 Nursing Clinical I ▶	8WK1	1	
PNN-118 Nursing Clinical II ▶	8WK2	1	
PNN-122 Introduction to Pharmacology ▶		2	◆
PNN-216 Health Promotion & Maintenance Across the Lifespan ▶		2	
Total Credits 15			

Semester 2			
BIO-151 Nutrition	O E	3	◆
PNN-214 Basic Health Alterations A ▶	8WK1	3	
PNN-215 Basic Health Alterations B ▶	8WK2	3	
PNN-218 Nursing Clinical III ▶	8WK1	1	◆
PNN-219 Foundations of Nursing Skills Lab ▶		2	◆
PNN-221 Nursing Clinical IV ▶	8WK2	1	◆
PNN-319 Issues and Trends in Practical Nursing Leadership ▶	8WK2	2	◆
Total Credits 15			

Students are strongly encouraged to take the LPN licensure exam after Semester 2 coursework has been completed. Students will then have the option to begin working as an LPN.

Semester 3

ADN-121	Transition to Professional Nursing ▶	8WK1	2	
ADN-122	Advanced Nursing Skills ▶		2	
ADN-124	Complex Health Alterations ▶		3	◆
ADN-125	Nursing Clinical V ▶		2	◆
ADN-128	Community and Mental Health Nursing ▶	8WK2	2	◆
ADN-231	Advanced Pharmacology ▶		2	◆
PSY-111	Introduction to Psychology	O E	3	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 19

Semester 4

ADN-224	Complex Health Alterations B ▶		3	◆
ADN-225	Nursing Clinical VI ▶		2	◆
ADN-226	Complex Maternal Child Health Alterations ▶		3	◆
ADN-227	Nursing Clinical Community and Special Populations ▶		2	◆
ADN-331	Issues in Nursing Management ▶		2	◆
ADN-333	Holistic Client Care ▶		2	◆
BIO-186	Microbiology	E	4	◆

Total Credits 18

Math Electives

MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Practical Nursing (LPN) Courses

Award: Diploma (Diploma)
Required number of credits: 46.5
Program Start: Fall, Spring

As a student in a health program at Hawkeye Community College, and to participate in clinicals, you will be required to complete the following screenings: 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.

You must be CPR certified and have a health physical on file at Hawkeye prior to the first day of clinical course work.

2021–2022 Suggested Sequence of Study

» **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

» **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Students must achieve a minimum "B" grade in all prerequisite courses and a minimum "C" grade in all other courses required to complete the program.

Additional prerequisite coursework is required for program acceptance. See Admissions Requirements for more information.

Prerequisites			
BIO-168 Human Anatomy and Physiology I	E	4	◆
BIO-173 Human Anatomy and Physiology II ▶	E	4	◆
ENG-105 Composition I ▶	O E	3	◆
HSC-108 Introduction to Health Professions		2	
HSC-168 Nurse Aide *		3.5	
Total Credits 16.5			

* HSC-168 must be completed through an accredited college or show proof of CNA Registry. Applicants will need to provide an official transcript showing successful course completion or work with Admissions to confirm being on the Iowa Direct Care Worker Registry.

Semester 1			
MAT-110 Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-102 Intermediate Algebra -OR-		4	◆
MAT-121 College Algebra ▶ -OR-		4	◆
Math Elective			
PNN-115 Introduction to Nursing ▶		4	
PNN-116 Introduction to Nursing Skills Lab ▶		2	
PNN-117 Nursing Clinical I ▶	8WK1	1	
PNN-118 Nursing Clinical II ▶	8WK2	1	
PNN-122 Introduction to Pharmacology ▶		2	◆
PNN-216 Health Promotion & Maintenance Across the Lifespan ▶		2	
Total Credits 15			

Semester 2			
BIO-151 Nutrition	O E	3	◆
PNN-214 Basic Health Alterations A ▶	8WK1	3	
PNN-215 Basic Health Alterations B ▶	8WK2	3	
PNN-218 Nursing Clinical III ▶	8WK1	1	◆
PNN-219 Foundations of Nursing Skills Lab ▶		2	◆
PNN-221 Nursing Clinical IV ▶	8WK2	1	◆
PNN-319 Issues and Trends in Practical Nursing Leadership ▶	8WK2	2	◆
Total Credits 15			

Math Electives

MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

Occupational Therapy Assistant

The Occupational Therapy Assistant program prepares you with the entry-level skills and knowledge to provide patients with treatments that improve their ability to achieve independence in everyday activities and to enjoy life to its fullest.

Working under the direction and supervision of an occupational therapist, you will learn to:

- Provide occupational therapy interventions for patients with various impairments
- Monitor their progress while following an occupational therapy plan of care
- Effectively educate and communicate with patients, families, and other healthcare providers
- Instruct patients in performance of activities of daily living
- Teach patients to use adaptive equipment or modifying tasks to increase successful participation in meaningful occupations
- Educate patients 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 NBCOT Early Determination Review as an Occupational Therapy Assistant.

Hands-On Learning Opportunities

- Occupational Therapy Assistant students gain hands-on experience through patient scenario simulation. These scenarios replicate all rehabilitation settings.

- Clinical: Gain 600 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

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). Graduates of the program will be eligible to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA).

ACOTE
6116 Executive Boulevard, Suite 200
North Bethesda, MD 20852-4929
301-652-6611
acoteonline.org

Hawkeye Community College Accreditation

National Certification Examination

All 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.

Successful completion of this program qualifies the student to test for license/certification in the state of Iowa.

Graduates who successfully pass the National Board Certification for Occupational Therapy and have their scores immediately sent to designated states are able to practice once the individual state's licensure criteria is met. Graduates who have been practicing and plan to move to a different state need to review that state's occupational therapy practice acts. As a member of the American Occupational Therapy Association (AOTA) you have access to the OTA licensure requirements by state.

Graduation Year	Students Entering/ Graduating	Graduation Rate	Number of First-Time Test Takers	Percentage of First-Time Test Takers Who Passed the Exam
2016	18/16	89%	14	100%
2017	16/16	100%	16	100%
2018	18/15	83%	14	93%
2019	17/15	88%	9	60%
2020	16/13	81%	11	100%
Total	85/75	88%	51	90%

Careers

Occupational therapy assistants work in a wide variety of settings including homes, hospitals, rehabilitation clinics, community centers, outpatient facilities, schools, and nursing homes.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Occupational Therapy Assistants	$43,800	$55,100	$60,700

Source: 2020 Iowa Wage Report, Iowa Workforce Development

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Blue Stone Therapy	Locations throughout Iowa
Mercy Medical Center	Cedar Rapids, Iowa
Millennium Therapy	Locations throughout Iowa
Northern Iowa Therapy	Locations throughout Iowa
Rehab Visions	Locations throughout Iowa
Reliant Rehab	Locations throughout Iowa
Unified Therapy	Dubuque, Iowa

Associations

- The American Occupational Therapy Association, Inc. (AOTA)
- Iowa Occupational Therapy Association (IOTA)

Admissions Requirements

In order to be considered for the Occupational Therapy Assistant program, students must provide the Admissions office with the appropriate documentation showing completion of all requirements. Appropriate documentation consists of:

- Updated assessment scores. -AND/OR-
- A transcript or academic evaluation showing successful completion of course requirements (i.e. developmental coursework).

It is the student's responsibility to:

- Monitor their progress towards meeting admissions requirements,
- Notify the Admissions office when requirements have been met, and
- Provide the Admissions office evidence of meeting the requirements.

■ STEP 1   Applying to Hawkeye

1. Apply for admission at Hawkeye.

2. Request to have your official transcripts sent to the Admissions office.

■ STEP 2   Required Assessment / Success Courses

Students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	COMPASS	ACCUPLACER	ACCUPLACER: Next Generation	Success Course *
19 Math	42 Algebra	85 Elementary Algebra	259 QAS	MAT-063 Elementary Algebra
19 English	65 English	82 Sentence Skills -OR- 06 Essay	253 Writing	ENG-061 College Preparatory Writing II
19 Reading	82 Reading	76 Reading	251 Reading	RDG-040 College Preparatory Reading III

Applicants can take the ACT assessment or the ACCUPLACER assessment at Hawkeye. Pre-registration is required.

* Success course credits do not apply towards graduation requirements.

STEP 3   Pre-Occupational Therapy Assistant Program

Prerequisite Coursework

Prerequisite coursework may be completed at Hawkeye Community College or transferred in from an accredited educational institution, with the exception of HSC-108 Introduction to Health Professions, which must be completed at Hawkeye.

See the suggested sequence of study for a list of prerequisite courses.

Learning Contract Process

Students who may be missing a few fall prerequisite courses can initiate the Learning Contract Process to complete fall prerequisite coursework and continue on in the program.

To enroll in the Learning Contract Process:

1. Students must have a GPA of 2.75 or higher.
2. Contact the Program Director to request the Learning Contract Process documents.
3. Complete and return the Learning Contract Process documents to the Program Director no later than one week before the spring semester.
4. The Program Director, Academic Fieldwork Coordinator, and assigned Pre-Program Advisor will meet to discuss the information. Once a decision has been made, the Program Director will email the student informing them of the decision.
5. If approved, the student will work with their Pre-Program Advisor to register for spring courses. Students must register for 13 credits or less in the first spring semester.
6. Approved students will meet with the Program Director, either virtually or face-to-face, to finalize the Learning Contract Process.

Observation Hours and Program Application

Students interested in the Occupational Therapy Assistant program must complete the Observation Hours Assignment and complete the OTA Program Application by November 1 to be considered for the upcoming cohort.

STEP 4   Occupational Therapy Assistant Program Acceptance

Applicants who have completed all admissions requirements in steps 1–3 will be 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 prerequisite courses.

Students will be notified via their Hawkeye email of their acceptance status. Failure to confirm acceptance will result in the loss of the seat in the program.

The Occupational Therapy Assistant program professional coursework begins each summer semester and has a limited number of seats available.

Changes are taking place within healthcare facilities nationally. These changes directly affect all health programs at Hawkeye Community College. The Joint Commission of Accreditation of Healthcare Organization (JCAHO), which accredits healthcare facilities across the country, enforced background screening September 2004 and has set requirements mandating that students in a healthcare field must now complete the same background check as hospital employees. As a Health student of Hawkeye Community College, you will be required to complete a criminal background check, sex offender, child abuse and dependent adult registry. The outcome could possibly affect your opportunities to participate in the clinical setting.

Equal Opportunity Statement

Occupational Therapy Assistant AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 75
Program Start: Spring

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8KW2	Course meets the second 8 weeks of the semester.

Program Technology Requirements

The prerequisite courses for the Occupational Therapy Assistant program consists of online, hybrid, and face-to-face courses. **Students need to have a working computer**, preferably a laptop, **and internet service** to complete assignments and assessments in the prerequisite and Occupational Therapy Assistant professional courses.

Computer requirements:
- Processor: i3 or i5
- RAM: 8 – 16 GB
- Hard drive: 256 – 512 GB SSD. No hybrid drives.

Prerequisite Coursework

A minimum cumulative GPA of 2.75 is required for prerequisite courses with no lower than a "C" grade in any individual prerequisite course except BIO-168 and BIO-173 which require a minimum grade of "B".

BIO-168 and BIO-173 must have been completed within the five years of starting the Occupational Therapy Assistant program coursework unless waived by the program chair.

All coursework must be scheduled to be completed no later than the end of the spring semester prior to the program's summer start.

You are not eligible for the Iowa Vocational Technical Tuition Grant while taking prerequisite courses.

Pre-Program Prerequisites			
BIO-168 Human Anatomy and Physiology I	E	4	◆
BIO-173 Human Anatomy and Physiology II ▶	E	4	◆
ENG-105 Composition I ▶	O E	3	◆
HSC-108 Introduction to Health Professions		2	
PSY-111 Introduction to Psychology	O E	3	◆
		Total Credits 16	

Semester 1 — Spring 2022			
HSC-113 Medical Terminology		2	
MAT-110 Math for Liberal Arts ▶	O E	3	◆
OTA-101 Introduction to OT		3	
OTA-120 Neuroanatomy for the OTA ▶		3	
SPC-101 Fundamentals of Oral Communication	O E	3	◆
		Total Credits 14	

Occupational Therapist Assistant Program Coursework

- Program coursework must be completed at full-time status and will take approximately 20 months to complete.

- Before you can begin program coursework, you must complete the <u>Phase II admissions process</u>.

- You must earn a grade of "C" or higher in all program coursework; less than a "C" is considered failing. You may not progress with other coursework until a failed course is retaken.

- You may only fail one program course; failing more than one course will be grounds for dismissal from the program.

- Personal life can disrupt one's ability to complete the program. If this is occurring, please see the program director.

Clinical Experience Requirements

Clinical experiences are completed off-campus. Sites may be local, in-state, or out-of-state. You are very likely to travel at least 2-3 hours away from campus for at least one placement to complete your fieldwork requirement. **You are responsible for your own transportation to and from clinical education, as well as any associated uniform and housing costs.** You 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. Passing a criminal background, urinalysis testing, Medicare/Medicaid fraud, sex offender, and adult/dependent abuse background checks prior to the first day of program 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 <u>NBCOT *Early Determination Review*</u>. 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.

2. Completing CPR, HIPAA, First Aid, Mandatory Reporting, and OSHA training prior to the first day of clinical coursework. This training is part of HSC-108.

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 two-step TB test results are required. Students will receive a copy of this form in the spring. Students are recommended to be proactive and begin to gather information regarding past immunizations.

   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 required by the clinical site. Students will find this information in the OTA Program Handbook.

OTA Professional Courses

Semester 2 — Summer 2022		
OTA-102 Human Movement and Occupation ▶ *		3
OTA-103 Task Analysis ▶ *		3
OTA-105 OTA and Professional Issues I ▶		2 ◆
	Total Credits 8	

* OTA-102 and OTA-103 are hybrid classes. Lectures are online and labs are on campus.

Semester 3 — Fall 2022		
OTA-201 Pediatrics and Occupation ▶	8WK1	3
OTA-202 Pediatric OTA Skills ▶	8WK1	3
OTA-204 Pediatric Psychosocial Conditions and Occupations ▶	8WK1	1
OTA-221 Level I Fieldwork Pediatrics ▶	8WK1	1 ◆
OTA-222 OTA and Professional Issues II ▶	8WK1	1 ◆
OTA-311 Adult Psychosocial Conditions and Occupations ▶	8WK2	2
OTA-312 Adult Psychosocial OTA Skills ▶	8WK2	2
OTA-313 Level I Fieldwork Psychosocial ▶	8WK2	1
OTA-314 Management and the OTA ▶	8WK2	3 ◆
	Total Credits 17	

Semester 4 — Spring 2023		
OTA-315 Adult Physical Conditions and Occupations ▶	8WK1	2 ◆
OTA-316 Physical OTA Skills ▶	8WK1	2 ◆
OTA-401 Elders and Occupation ▶	8WK1	2
OTA-402 OTA Skills for Elders ▶	8WK1	2
OTA-403 Level I Fieldwork Physical Dysfunction ▶	8WK1	1
OTA-502 Level II Fieldwork A ▶	8WK2	5
	Total Credits 14	

Semester 5 — Summer 2023		
OTA-503 Level II Fieldwork B ▶		5
OTA-504 Student to Clinician ▶		1 ◆
	Total Credits 6	

Physical Therapist Assistant

The physical therapist assistant teams with physical therapists to help people live active and healthy lives. They help people rehabilitate from devastating injuries, manage chronic conditions, and oftentimes avoid surgery and use of prescription drugs. The physical therapist assistant will help improve patients' mobility and lessen physical disabilities.

The Physical Therapist Assistant program prepares you with the entry-level skills and knowledge to provide rehabilitative patient care to people of all ages and abilities in a variety of healthcare settings.

The physical therapist assistant student will learn:
- Physical therapy interventions including monitoring and adjustment based on real clinical educational experiences and simulated patient scenarios.
- Data collection by way of patient treatment interventions and objective assessment techniques.
- How to instruct patients in exercise and therapeutic modalities to improve pain and functional mobility.
- How to effectively educate and communicate with patients, families, and other healthcare providers.
- Value life-long professional development through learning opportunities and skill and knowledge advancement.

The physical therapist assistant can have a profound effect on people's lives.

Hands-On Learning Opportunities

Physical Therapist Assistant students gain hands-on experience through daily patient scenario simulation. These scenarios replicate all rehabilitation settings. Students obtain a total of 640 hours of real-world work experience under the supervision of a clinical site instructor ensuring they have the skills they need to succeed in their future career.

Is Physical Therapist Assistant the Career Path for Me?

If you can answer yes to the questions below, a career as a physical therapist assistant may be a good fit for you.
- Do you enjoy helping people achieve a better quality of life?
- Do you enjoy working as part of a team toward a common goal?
- Do you 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?

Certification and Licensure

Successful completion of this program qualifies the graduate to take the National Physical Therapist Assistant Examination (NPTAE). After passing the NPTAE the graduate applies for state licensure in the state in which they wish to work and upon approval according to each state's licensing authority the graduate then has the opportunity to work as a licensed physical therapist assistant.

Accreditation

The Physical Therapist Assistant program at Hawkeye Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 3030 Potomac Ave., Suite 100, Alexandria, Virginia 22305-3085; telephone: 703-706-3245; email: accreditation@@apta.org; website: www.capteonline.org.

Graduation, National Exam Pass, and Employment Rates

Cohort	Graduation	NPTE First Attempt Pass Rate	NPTE Ultimate Pass Rate*	Employment**
2016–2017	85%	89.5%	100%	100%
2017–2018	94.7%	72.2%	83.3%	92.8%
2018–2019	90%	52.2%	82.4%	100%
2019–2020	93.3%	92.9%	92.9%	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.

Careers

POSITIONS

Physical therapist assistants work in a wide variety of settings including hospitals, outpatient clinics, inpatient rehabilitation facilities, pediatric settings, home health settings, skilled rehab and residential care facilities.

Example Careers and Average Wages

	Entry	Average	Experienced
Physical Therapist Assistants	$39,200	$51,700	$57,900

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Athletico	Locations throughout Iowa
MercyOne	Waterloo, IA
Millennium Therapy	Locations throughout Iowa
Northern Iowa Therapy	Locations throughout Iowa
Reliant Rehabilitation	Locations throughout Iowa
UnityPoint Health	Waterloo, IA

Admissions and Program Requirements

In order to be considered for the Physical Therapist Assistant program, students must provide the Admissions office with the appropriate documentation showing completion of all requirements. Appropriate documentation consists of:

- Updated assessment scores. -AND/OR-
- A transcript or academic evaluation showing successful completion of course requirements (i.e. developmental coursework).

It is the student's responsibility to:

- Monitor his/her progress towards meeting admissions requirements,
- Notify the Admissions office when requirements have been met, and
- Provide the Admissions office evidence of meeting the requirements.

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Physical Therapist Assistant program.

2. Request to have your transcripts sent to the Admissions office.

■ STEP 2   Pre-Program

Minimum Entrance Requirements

In order to be eligible for the Physical Therapist Assistant program, all students must:

1. Meet minimum entrance requirement scores and/or complete any required success coursework.
2. Have a minimum of one semester of high school or college level physics class with a grade of "C" or higher. The physics course must be completed by the end of Term 0 to be considered for transition from pre-program to in-program status. If the pre-program student is registered for the Hawkeye Physics for Everyday Life course in the fall term and the course is cancelled for any reason, the student will be allowed to take their physics requirement during Term 1 (spring term).

Students who have placed into one or more success courses will be admitted to the Physical Therapist Assistant pre-program.

Students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

	ACT	ACCUPLACER	COMPASS	Success Course
Math	19	85 Elementary Algebra	42 Algebra	MAT-063 Elementary Algebra
English	19	82 Sentence Skills -OR- 06 Essay	65	ENG-061 College Preparatory Writing II
Reading	19	76	82	RDG-040 College Preparatory Reading III

Pre-Program Coursework

Pre-program coursework may be completed at Hawkeye Community College or transferred in from an accredited educational institution.

BIO-168 must be completed with a grade of "B" or higher within the last ten years prior to starting the Physical Therapist Assistant Term 2 coursework.

≫ While Hawkeye Community College is accepting Pass/Fail grades as an institution, due to accreditation, Hawkeye is **not accepting College or High School Pass/Fail grades for any admission criteria**.

Completion of pre-program coursework does not guarantee admission into the Physical Therapist Assistant program.

See the suggested sequence of study for pre-program coursework.

≫ **Please work with the pre-health advisor to assure understanding of academic expectations. The pre-program PTA student must maintain a 3.0 GPA with all pre-program prerequisite coursework to progress to In-program which occurs after Term 0.**

Observation Hours

Pre-program Physical Therapist Assistant students must complete their observation hours by the end of Term 0.

A minimum of 16 observation hours are required: 8 observation hours in an inpatient setting and 8 observation hours in an outpatient setting.

≫ **All observation hours must be complete and submitted to the director of the Physical Therapist Assistant program by December 1.** Please plan your observation hours well in advance of this deadline as a courtesy to the physical therapy companies in our communities.

Please see the Physical Therapist Assistant Pre-Admission Observation Hours form [pdf] for more details.

■ STEP 3   Physical Therapist Assistant Program Acceptance and Advising

Students who have completed Term 0 coursework and all observation hours can register for Term 1 coursework with the assistance of the pre-health advisor or Academic/College Success Advisor.

After progression into Term 1, students will be advised by the Academic/College Success Advisor.

As the student transitions into Term 2, the program director and program faculty will provide academic advisement.

Equal Opportunity Statement

Physical Therapist Assistant In-Program Requirements

Physical Therapist Assistant program technical coursework, Terms 3–5, begins summer term and will take approximately 15 months to complete.

Terms 3–5 require students to be on campus or in an assigned clinical site on a full-time basis.

Prior to entering an assigned clinical site, the student must:
- Have a physical examination with updated immunizations recorded on the Hawkeye Community College form. The form and instructions will be provided to all eligible students during the in-program orientation.

- Pass a criminal background, sex offender, and adult/dependent abuse background checks. Instructions will be provided during program orientation. Failing a background check will result in dismissal from the program.

- Complete Mandatory Reporting, Workplace Safety training, and HIPAA training. This training is part of the HSC-108 Introduction to Healthcare Professions course.

  Basic Life Support CPR level is also required and can be obtained through the Hawkeye Community College Business and Community Services department.

  All of these opportunities can be coordinated through communication with the Physical Therapist Assistant program director.

Students must achieve a minimum grade of "C" or higher in all program coursework.

You may only fail one program 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. You are responsible for transportation to and from clinicals, as well as any associated housing costs. You will not be allowed to select specific clinical sites, but may make requests for special needs or geographical locations.

The program has a dress code for both on-campus coursework and clinical education.

Physical Therapist Assistant AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 71
Program Start: Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
4WK2	Course meets the last 4 weeks of the term.
12WK1	Course meets the first 12 weeks of the term.

Pre-Program Coursework

A minimum of one semester of high school or college level physics class with a grade of "C" or higher must be completed by the end of Term 0 to be considered for transition from pre-program to in-program status.

BIO-168 must be completed with a grade of "B" or higher within the last ten years of starting the Physical Therapist Assistant program coursework unless waived by the program chair.

BIO-173 must be completed with a grade of "B" or higher.

A cumulative GPA of 3.0 or higher must be achieved for Term 0 and Term 1 coursework.

All pre-program coursework must be scheduled to be completed no later than the end of Term 1 – Spring prior to the program's summer start.

Also see Admissions Requirements for more information.

You are not eligible for the Iowa Vocational Technical Tuition Grant while taking prerequisite courses.

Term 0: Pre-Program Prerequisites			
BIO-168 Human Anatomy and Physiology I	E	4	◆
ENG-105 Composition I ▶	O E	3	◆
HSC-108 Introduction to Health Professions		2	
Must be completed by the end of Term 0			
PSY-111 Introduction to Psychology	O E	3	◆
SPC-101 Fundamentals of Oral Communication	O E	3	◆
Total Credits 15			

Term 1 — Spring			
BIO-173 Human Anatomy and Physiology II ▶	E	4	◆
HSC-113 Medical Terminology		2	
MAT-110 Math for Liberal Arts ▶	O E	3	◆
PSY-121 Developmental Psychology	O E	3	◆
Total Credits 12			

Technical Program Coursework

Term 2 — Summer

PTA-120 Kinesiology ▶		3
PTA-150 Pathophysiology ▶		3
PTA-310 PTA Clinical I ▶	4WK2	1
	Total Credits 7	

Term 3 — Fall

PTA-111 PTA Fundamentals ▶	12WK1	4
PTA-194 Therapeutic Agents I ▶	12WK1	3
PTA-211 Musculoskeletal I ▶	12WK1	3
PTA-231 Therapeutic Exercise for PTA ▶	12WK1	3
PTA-350 PTA Clinical II ▶	4WK2	2
	Total Credits 15	

Term 4 — Spring

PTA-113 Fundamentals for PTA II ▶	12WK1	3
PTA-195 Therapeutic Agents II ▶	12WK1	3
PTA-212 Musculoskeletal II ▶	12WK1	3
PTA-248 PTA Neurology ▶	12WK1	4
PTA-400 PTA Clinical III ▶	4WK2	2
	Total Credits 15	

Term 5 — Summer

PTA-284 PTA Professional Issues ▶		2
PTA-450 PTA Clinical IV ▶		5
	Total Credits 7	

Respiratory Care

The Respiratory Care program prepares you to recognize and treat respiratory disorders in patients of all ages. You will be trained to work with newborn babies having a rough start at life, children with asthma and trauma, and adults with heart and lung complications. You will gain the knowledge and skills to perform:

- Patient assessments
- Breathing treatments
- Lung clearance techniques
- Airway care
- Breathing tube insertion
- Blood draws
- Ventilator management
- Medical record documentation
- Sleep studies
- Electrocardiograms
- Pulmonary function tests

Hands-On Learning Opportunities

- Van Gerpen Patient Simulator Laboratory: Train in the state-of-the-art simulation lab using realistic full-body manikins and simulators to replicate a range of hospital settings and patient scenarios in a controlled environment.

- Clinical: Gain 800 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certification

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.

You will earn certifications in Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS), and Neonatal Resuscitation Program (NRP).

Accreditation

The Respiratory Care program, 200457, Associate of Applied Science, is accredited by the Commission on Accreditation for Respiratory Care.

Programmatic Outcomes Data

Careers

POSITIONS

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

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Respiratory Therapists	$44,600	$54,800	$59,900

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Grandview Healthcare Center	Oelwein, IA
Harmony House Health Care Center	Waterloo, IA
Mayo Clinic	Rochester and Mankato, MN
Mercy Medical Centers	Locations throughout Iowa
MercyOne	Locations throughout Iowa
Midwest Sleep Services	Waterloo, IA
UnityPoint Health	Locations throughout Iowa
University of Iowa Hospitals and Clinics	Iowa City, IA

Admissions Requirements

Admissions Process

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

In order to be considered for the Respiratory Care program, students must provide the Admissions office with the appropriate documentation showing completion of all requirements. Appropriate documentation consists of:

- Updated assessment scores and/or
- A transcript or degree audit showing successful completion of course requirements (i.e. developmental coursework).

It is the student's responsibility to:

- Monitor their progress towards meeting admissions requirements,
- Notify the Admissions office when requirements have been met, and
- Provide the Admissions office evidence of meeting the requirements.

Basic Skill Competencies Requirements

Students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor. Success courses do not apply toward graduation or the AAS degree.

High School GPA	Next Generation ACCUPLACER	ACT	Classic ACCUPLACER	COMPASS	Course Recommendation
2.80	259 QAS	19 Math	85 Elementary Algebra	42 Algebra	MAT-063: Elementary Algebra
2.80	253 Writing	19 English	82 Sentence Skills OR 06 Essay	65 English	ENG-061: College Prep Writing II
2.80	251 Reading	19 Reading	76 Reading	82 Reading	RDG-040 College Prep Reading III

Applicants can take the ACT assessment or the ACCUPLACER assessment at Hawkeye. Pre-registration is required.

Prerequisite Coursework

Students must complete all prerequisite coursework to fulfill program admission requirements. See Respiratory Care Courses for prerequisite coursework and grade and cumulative GPA requirements.

Prerequisite Coursework

Students must complete all prerequisite coursework to fulfill program admission requirements. <u>See Respiratory Care Courses for prerequisite coursework and grade and cumulative GPA requirements</u>.

Program Admittance

The Respiratory Care program begins each spring and admits 20 students.

Applicants who meet all admission requirements will be admitted based on eligibility date (driven by when prerequisites are successfully completed).

If the number of eligible students exceeds the number of available seats, students will be admitted in the following order:

1. Date all prerequisite coursework was completed.

2. Eligibility date — determined by either:
    a. The date the student registered for their final prerequisite course at Hawkeye, or

    b. The date the Admissions office received transcripts showing completion of prerequisite courses at another accredited institution.

3. Grade Point Average — Determined by grades in prerequisite courses.

Admitted students must have a physical exam with immunization record on Hawkeye Community College form. Criminal background, sex offender, and adult/dependent abuse background checks are required as well. Students will also be required to complete CPR, First Aid, Mandatory Reporting, HIPPA, and OSHA Training prior to clinical coursework.

<u>Hawkeye's Equal Opportunity Statement</u>

Respiratory Care AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 78
Program Start: Spring

As a student in a health program at Hawkeye Community College, and to participate in clinicals, you will be required to complete the following screenings: 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.

You are not eligible for the Iowa Vocational Technical Tuition Grant while taking prerequisite courses.

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Pre-Program Prerequisites *			
BIO-168 Human Anatomy and Physiology I	E	4	◆
BIO-173 Human Anatomy and Physiology II ►	E	4	◆
ENG-105 Composition I ►	O E	3	◆
PSY-111 Introduction to Psychology	O E	3	◆
SPC-101 Fundamentals of Oral Communication	O E	3	◆
Total Credits 17			

* All prerequisite courses must be completed with a grade of "C" or higher.

* A minimum cumulative GPA of 2.50 is required in the prerequisite courses.

* Prerequisite coursework can be completed at Hawkeye Community College or at any accredited transfer institution.

Semester 1 — Spring

BIO-186	Microbiology	E 4 ◆
CHM-122	Introduction to General Chemistry ▶	E 4 ◆
HSC-108	Introduction to Health Professions	2
HSC-113	Medical Terminology	2
MAT-110	Math for Liberal Arts ▶ -OR-	O E 3 ◆
MAT-156	Statistics ▶	O E 3 ◆

Total Credits 15

Semester 2 — Summer

RCP-100	Introduction to Respiratory Care	3
RCP-260	Airway Maintenance Procedures ▶	4

Total Credits 7

Semester 3 — Fall

RCP-315	Cardiopulmonary Therapeutics ▶	4
RCP-350	Pulmonary Pathology ▶	3
RCP-561	Introduction to Ventilator Support ▶	3
RCP-600	Neonatal/Pediatric Respiratory Therapy ▶	3
RCP-680	Clinical Respiratory Care ▶	4

Total Credits 17

Semester 4 — Spring

RCP-410	Cardio/Pulmonary Diagnostics ▶	3
RCP-565	Intensive Respiratory Care ▶	3
RCP-690	Clinical Intensive Care ▶	8
RCP-875	Respiratory Care Applications ▶	2

Total Credits 16

Semester 5 — Summer

RCP-900	Clinical Preceptor ▶	4
RCP-910	Respiratory Care RRT Review	2

Total Credits 6

INDUSTRIAL AND ENGINEERING TECHNOLOGY

Civil and Construction Engineering Technology

CNC Machining and Tool-Making Technology

Electronics Engineering Technology

Heating and Air Conditioning

Industrial Automation Technology

Sustainable Construction and Design

Welding Technology/Welder

HAWKEYE
COMMUNITY COLLEGE

Civil and Construction Engineering Technology

The Civil and Construction Engineering Technology program prepares you for an entry-level career working as a technician under the direction of civil engineers, surveyors, contractors, and architects. If you'd like a job building bridges, highways, or facilities, this degree is for you. You'll learn how to use the latest technology in the areas of planning, designing, construction, and maintenance, while positioning yourself to earn a great salary. You'll learn to:

- Read building and highway blueprints
- Operate survey equipment and process data
- Sample and test materials
- Prepare construction plans
- Prepare quantity estimates
- Inspect civil infrastructure projects
- Use computer-aided drafting and design (CADD)

Hands-On Learning Opportunities

- Indoor and Outdoor Lab and Field Work Experiences: Use technology, tools, and equipment in real-world projects, including surveying, construction materials testing, engineering problem solving, and CAD.

- Job Opportunities: Many summer and part-time jobs are available while you are completing the program. These are not a requirement to graduate.

Transfer Information

An articulation agreement allows you to transfer some of your Civil and Construction Engineering Technology coursework to the Construction Management program and Technology Management program at the University of Northern Iowa. Additional transfer options may be available.

If you plan to transfer, work closely with a program advisor to ensure that courses transfer and program requirements are met.

Careers

POSITIONS

Graduates find employment working as civil technicians, CAD drafters, designers, surveyors, construction inspectors, material testing technicians, and estimators for engineering offices, material testing labs, surveying companies, civil construction contractors, city engineer offices, and county and state highway departments.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Civil Engineering Technicians	$36,600	$55,300	$64,700

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
AECOM	Waterloo and Des Moines, IA
Black Hawk County Engineer's Office	Waterloo, IA
CGA Consultants	Cedar Falls, Marshalltown, and Ackley, IA
City of Waterloo Engineering Department	Waterloo, IA
Fehr Graham Engineering and Environmental	Manchester and West Union, IA
Foth	Cedar Rapids and Des Moines, IA
Herold-Reicks Surveying	New Hampton, Waverly, and Clear Lake, IA
Iowa Department of Transportation	Ames, IA
McAninch Corporation	Des Moines, IA
WHKS, Inc.	Dubuque and Ames, IA
Peterson Contractors, Inc.	Reinbeck, IA
Terracon	Cedar Falls and Cedar Rapids, IA
WHKS Engineers and Land Surveyors	Mason City and Dubuque, IA

Admissions Requirements

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Civil and Construction Engineering program.

2. Request to have your transcripts sent to the Admissions office.

■ STEP 2   Basic Skill Competencies

In order to be eligible for the Civil and Construction Engineering program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
19 Math	85 Elementary Algebra	42 Algebra	259 Quantitative Reasoning, Algebra, and Statistics

■ STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Civil and Construction Engineering Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 72
Program Start: Fall

2021–2022 Suggested Sequence of Study

> **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

> **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

> Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
CAD-118 Technical Drawing and CAD ►		3	
CET-123 Constr Drawings and Cont ►		3	
CET-160 Surveying ►		3	
CSC-110 Introduction to Computers ►	O E	3	◆
EGT-416 Civil Engineering and Architecture		3	◆
MAT-741 Technical Mathematics I ► * -OR-		3	
MAT-121 College Algebra ►		4	◆
		Total Credits 18	

* Completion of MAT-128 with a minimum grade of C will satisfy the MAT-741 and MAT-748 course requirement.

Semester 2

CET-142	PC Concrete, HMA, and Testing	3	
CET-183	Structural Detailing and Civil Drafting ▶	3	
CET-213	Route Surveying/Roadway Design ▶	3	
CET-253	Fundamentals of Construction Estimating ▶	3	
COM-781	Written Communication in the Workplace ▶ -OR-	3	▣
ENG-105	Composition I ▶	O E 3	◆
MAT-748	Technical Math II ▶ * -OR-	3	▣
MAT-134	Trigonometry and Analytic Geometry ▶	3	◆

Total Credits 18

* Completion of MAT-128 with a minimum grade of C will satisfy the MAT-741 and MAT-748 course requirement.

Semester 3

CET-223	Soils, Testing, and Foundations ▶	3	
CET-233	Fundamentals of GPS and GIS ▶	3	
CON-266	Construction Safety	3	
EGT-243	Statics and Strength of Materials ▶	3	
PHY-183	Applied Physics ▶ -OR-	3	
PHY-162	College Physics I ▶	4	◆
PSY-102	Human and Work Relations -OR-	3	◆
PSY-111	Introduction to Psychology -OR-	O E 3	◆
SOC-110	Introduction to Sociology	O E 3	◆

Total Credits 18

Semester 4

CET-133	Construction Methods and Resources ▶	3	
CET-256	Land Surveying ▶	3	
CET-262	Environmental Technology ▶	3	
CET-285	Structural Steel/Reinforced Concrete Design ▶	3	
CET-296	Site Planning and Development ▶	3	
SPC-101	Fundamentals of Oral Communication	O E 3	◆

Total Credits 18

CNC Machining and Tool-Making Technology

The CNC Machining and Tool-Making Technology program prepares you for a variety of CNC careers.

During your first year, you will gain basic machining knowledge and skills using manual and CNC machines, computer-aided drafting (CAD) and computer-aided machining (CAM) programming, lathes, mills, and electrical-discharge machines (EDMs). After completing your first year, you can earn a diploma in CNC Machining Technology, a certificate as a CNC Machine Operator, or a certificate as a CNC Machine Set-Up Specialist.

During your second year, gain hands-on experience in tool-making, die building, mold making, jig and fixture building, tool room machining, and basic design skills. You are also introduced to manual and coordinate measuring machine (CMM) inspection. You will earn an Associate of Applied Science degree.

Hands-On Learning Opportunities

- CNC Lab: Use the latest equipment in the industry as you learn and perfect your skills on various type of CNC and production manufacturing machines.

- Virtual CNC: Practice and gain confidence in your programming skills of CNC machines, mills, and lathes of the most widely used brands.

Transfer Information

An articulation agreement allows you to transfer your CNC Machining and Tool-Making Technology coursework to the Manufacturing Technology and Technology Management programs at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates find employment working in a variety of positions including:

- Tool and die maker
- CNC machinist
- CNC machine operator
- CNC set-up specialist

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Computer Numerically Controlled Machine Tool Operators	$31,700	$41,300	$46,100
Computer Numerically Controlled Machine Tool Programmers	$35,000	$50,400	$58,200
Machinists	$31,500	$40,400	$44,900
Tool and Die Makers	$39,500	$50,200	$55,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Many graduates in this field work overtime. Overtime wages are not included in the above average wages.

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Accurate Gear and Machine, Inc.	Waterloo, IA
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

Admissions Requirements

STEP 1   Apply at Hawkeye

1. <u>Complete Hawkeye's online admissions application</u> to apply and be considered for the CNC Machining and Tool-Making Technology program.

2. <u>Request to have your transcripts sent to the Admissions office</u>.

STEP 2   Basic Skill Competencies

In order to be eligible for the CNC Machining and Tool-Making Technology program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
13 English	42 Sentence Skills	20 Writing	229 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

<u>Equal Opportunity Statement</u>

CNC Machining and Tool-Making Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 80
Program Start: Fall

2021–2022 Suggested Sequence of Study

⟫ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

⟫ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

⟫ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1				
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ► -OR-	O E	3	◆
MAT-121	College Algebra ► -OR-		4	◆
	Math Elective		3	
MFG-122	Machine Trade Printreading I		3	
MFG-157	Introduction to CNC Programming I	8WK1	2	▣
MFG-158	Introduction to CNC Programming II ►	8WK2	2	
MFG-211	Basic Machine Theory		2	
MFG-222	Machine Operations I ►		4	▣
MFG-302	CNC Fundamentals		3	
		Total Credits 19		

Semester 2

COM-781	Written Communication in the Workplace ▶ -OR-		3 ▣
ENG-105	Composition I ▶	O E	3 ◆
MFG-142	Geometric Dimensioning Tolerancing ▶		3
MFG-214	Advanced Machine Theory		2
MFG-228	Machine Operations II		4
MFG-309	CNC Programming Theory II ▶		4
MFG-335	CNC Operations ▶		3
		Total Credits 19	

Semester 3 — Summer

MFG-320	Computer Aided Machining		3
MFG-364	Hydraulic Jigs and Fixtures ▶		4
MFG-380	EDM Fundamentals		2
		Total Credits 9	

Semester 4

MFG-408	Basic Diemaking ▶		8
MFG-410	CAD Die Design		3
SPC-101	Fundamentals of Oral Communication	O E	3 ◆
WEL-402	Tool Steel Welding and Heat Treatment		2
		Total Credits 16	

Semester 5

MFG-107	Introduction to 3D Modeling		3
MFG-431	Die Revision and Repair ▶		5
MFG-452	Moldmaking ▶		3
MFG-525	CMM Inspection and SPC ▶		3
PSY-102	Human and Work Relations -OR-		3 ◆
PSY-111	Introduction to Psychology -OR-	O E	3 ◆
SOC-110	Introduction to Sociology	O E	3 ◆
		Total Credits 17	

Math Electives			
MAT-128 Precalculus ▶		4	◆
MAT-134 Trigonometry and Analytic Geometry ▶		3	◆
MAT-156 Statistics ▶	O E	3	◆
MAT-210 Calculus I ▶		4	◆
MAT-216 Calculus II ▶		4	◆
MAT-219 Calculus III ▶		4	◆

CNC Machining Technology Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 47
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1				
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ► -OR-	O E	3	◆
MAT-121	College Algebra ► -OR-		4	◆
	Math Elective		3	
MFG-122	Machine Trade Printreading I		3	
MFG-157	Introduction to CNC Programming I	8WK1	2	
MFG-158	Introduction to CNC Programming II ►	8WK2	2	
MFG-211	Basic Machine Theory		2	
MFG-222	Machine Operations I ►		4	
MFG-302	CNC Fundamentals		3	
		Total Credits 19		

Semester 2

COM-781	Written Communication in the Workplace ▶ -OR-		3 ▣
ENG-105	Composition I ▶	O E	3 ◆
MFG-142	Geometric Dimensioning Tolerancing ▶		3
MFG-214	Advanced Machine Theory		2
MFG-228	Machine Operations II		4
MFG-309	CNC Programming Theory II ▶		4
MFG-335	CNC Operations ▶		3
		Total Credits 19	

Semester 3

MFG-320	Computer Aided Machining		3
MFG-364	Hydraulic Jigs and Fixtures ▶		4
MFG-380	EDM Fundamentals		2
		Total Credits 9	

Math Electives

MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

CNC Machine Operator Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 19
Program Start: Fall

2021–2022 Suggested Sequence of Study

▷▷ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

▷▷ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

▷▷ Courses are subject to change.

◆	General education course.	
▣	Non-transfer general education course.	
►	Course has a prerequisite and/or corequisite.	
O	Course meets 100% online.	
E	Course meets face-to-face after 5:00pm.	
8WK1	Course meets the first 8 weeks of the semester.	
8WK2	Course meets the second 8 weeks of the semester.	

Semester 1			
MAT-772	Applied Math -OR-		3 ▣
MAT-110	Math for Liberal Arts ► -OR-	O E	3 ◆
MAT-121	College Algebra ► -OR-		4 ◆
	Math Elective		3
MFG-122	Machine Trade Printreading I		3
MFG-157	Introduction to CNC Programming I	8WK1	2
MFG-158	Introduction to CNC Programming II ►	8WK2	2
MFG-211	Basic Machine Theory		2
MFG-222	Machine Operations I ►		4
MFG-302	CNC Fundamentals		3
		Total Credits 19	

Math Electives			
MAT-128 Precalculus ▶		4	◆
MAT-134 Trigonometry and Analytic Geometry ▶		3	◆
MAT-156 Statistics ▶	O E	3	◆
MAT-210 Calculus I ▶		4	◆
MAT-216 Calculus II ▶		4	◆
MAT-219 Calculus III ▶		4	◆

CNC Machine Set-Up Specialist Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 38
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1				
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ► -OR-	O E	3	◆
MAT-121	College Algebra ► -OR-		4	◆
	Math Elective			
MFG-122	Machine Trade Printreading I		3	
MFG-157	Introduction to CNC Programming I	8WK1	2	
MFG-158	Introduction to CNC Programming II ►	8WK2	2	
MFG-211	Basic Machine Theory		2	
MFG-222	Machine Operations I ►		4	
MFG-302	CNC Fundamentals		3	
		Total Credits 19		

Semester 2

COM-781	Written Communication in the Workplace ▶ -OR-		3 ▣
ENG-105	Composition I ▶	O E	3 ◆
MFG-142	Geometric Dimensioning Tolerancing ▶		3
MFG-214	Advanced Machine Theory		2
MFG-228	Machine Operations II		4
MFG-309	CNC Programming Theory II ▶		4
MFG-335	CNC Operations ▶		3
		Total Credits 19	

Math Electives

MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

Electronics Engineering Technology

The Electronics Engineering Technology program prepares you with the knowledge and skills needed to work with electronics engineers to design, develop, and manufacture industrial and consumer electronic equipment. You will learn how to operate, program, test, troubleshoot, and repair equipment such as industrial control systems, navigational equipment, two-way radios, wireless technologies, radar, and computer systems. You will gain hands-on training with:

- Electrical schematic reading and drafting
- Electronic communications
- Electronics manufacturing
- Electronics maintenance
- Computer and business machine repair
- Electronics design and development
- In-depth computer programming with hardware interfacing
- Networking

Transfer Information

A formal articulation agreement allows you to transfer your Electronics Engineering Technology coursework to the Electrical Engineering Technology program or the Technology Management program at the University of Northern Iowa to earn a bachelor's degree.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates generally find employment at manufacturing, technology, and engineering companies. Positions include but are not limited to:

- Medical electronics technician
- Electronics communication technician
- Manufacturing test technician
- Engineering technician
- Computer repair technician
- Computer software technician
- Business machine service technician
- Computer network technician
- Industrial maintenance technician
- Quality assurance technicians

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Electrical and Electronics Engineering Technicians	$48,700	$66,600	$75,500
Electrical and Electronics Repairers for Commercial and Industrial Equipment	$43,300	$58,400	$66,000

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Collins Aerospace	Cedar Rapids, IA
ConAgra Foods, Inc.	Waterloo, IA
GARMIN	Olathe, KS
John Deere	Waterloo, IA
MercyOne	Waterloo, IA
Nestlé USA	Waverly, IA
Randstad Technologies	Cedar Rapids, IA
Skyworks Solutions, Inc.	Cedar Rapids, IA
Target Distribution Center	Cedar Falls, IA

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Electronics Engineering Technology program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Electronics Engineering Technology program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
19 Math	85 Elementary Algebra	42 Algebra	259 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies are eligible for acceptance.

Applicants not meeting the Basic Skill Competencies 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.

Equal Opportunity Statement

Electronics Engineering Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 85
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1				
EGT-108	Principles of Engineering -OR-		3	
EGT-410	PLTW - Principles of Engineering		3	
ELT-290	DC Electricity ►	8WK1	4	
ELT-291	AC Electricity ►	8WK2	4	
IND-100	Basic Mechanical Systems		2	
IND-111	Industrial Safety Mechanical Systems		1	
MAT-504	Electronics Math I ► -OR-		4	▣
MAT-210	Calculus I ►		4	◆
		Total Credits 18		

Semester 2

ELT-104	Electronics Drafting ▶ -OR-		3	
CAD-118	Technical Drawing and CAD ▶		3	
ELT-321	Operational Amplifiers ▶		3	
ELT-322	Electronics Devices ▶		4	
ELT-600	Applied Computer Programming		3	
MAT-514	Electronics Math II ▶		4	▣
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 20

Semester 3 — Summer

ELT-469	Digital Circuits and Systems ▶ -OR-		5	
EGT-420	PLTW - Digital Electronics		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 8

Semester 4

ELT-403	Visual Basic ▶		3	
ELT-415	Communication Circuits I ▶		5	
ELT-417	Computer Systems ▶		3	
ELT-494	Data Acquisition Systems ▶		5	
ELT-802	Electronics Design Project I		1	
PHY-183	Applied Physics ▶		3	▣

Total Credits 20

Semester 5

ELT-156	Industrial Electronics ▶		5	
ELT-497	Communication Circuits II ▶		6	
ELT-703	Introduction to Networking ▶		2	
ELT-704	Embedded Processors ▶		2	
ELT-803	Electronics Design Project II ▶		1	
ENG-105	Composition I ▶ -OR-	O E	3	◆
COM-781	Written Communication in the Workplace ▶		3	▣

Total Credits 19

Electronics Installer Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 35
Program Start: Fall

2021–2022 Suggested Sequence of Study

> **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

> **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

> Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1			
EGT-108	Principles of Engineering -OR-		3
EGT-410	PLTW - Principles of Engineering		3
ELT-290	DC Electricity ►	8WK1	4
ELT-291	AC Electricity ►	8WK2	4
IND-100	Basic Mechanical Systems		2
IND-111	Industrial Safety Mechanical Systems		1
MAT-504	Electronics Math I ► -OR-		4 ▣
MAT-210	Calculus I ►		4 ◆
		Total Credits	**18**

Semester 2		
ELT-104	Electronics Drafting ► -OR-	3
CAD-118	Technical Drawing and CAD ►	3
ELT-321	Operational Amplifiers ►	3
ELT-322	Electronics Devices ►	4
ELT-600	Applied Computer Programming	3
MAT-514	Electronics Math II ►	4 ▣
	Total Credits 17	

HAWKEYE COMMUNITY COLLEGE

Electronics Installer Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 35
Program Start: Fall

2021–2022 Suggested Sequence of Study

» **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

» **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1			
EGT-108	Principles of Engineering -OR-		3	
EGT-410	PLTW - Principles of Engineering		3	
ELT-290	DC Electricity ►	8WK1	4	
ELT-291	AC Electricity ►	8WK2	4	
IND-100	Basic Mechanical Systems		2	
IND-111	Industrial Safety Mechanical Systems		1	
MAT-504	Electronics Math I ► -OR-		4	▣
MAT-210	Calculus I ►		4	◆
		Total Credits 18		

Semester 2		
ELT-104	Electronics Drafting ▶ -OR-	3
CAD-118	Technical Drawing and CAD ▶	3
ELT-321	Operational Amplifiers ▶	3
ELT-322	Electronics Devices ▶	4
ELT-600	Applied Computer Programming	3
MAT-514	Electronics Math II ▶	4 ▣

Total Credits 17

Heating and Air Conditioning

The Heating and Air Conditioning program prepares you for an entry-level career installing, maintaining, and repairing residential and commercial heating, air conditioning, and refrigeration equipment. You will become proficient in the theory and processes of electric, boiler, solar, and fossil fuel heat systems, as well as air cooling and refrigeration equipment. Also gain knowledge and skills in:

- Electricity and electronic controls
- Electrical and mechanical troubleshooting
- Air quality, moisture, and temperature control
- Sheet metal fabrication and installation

Hands-On Learning Opportunities

- HVAC Lab: Train on a variety of air conditioners, furnaces, heat pumps, air exchangers, boilers, and more.

- Field Experience: Gain 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certifications

You may take the EPA Section 608 Universal Refrigerant and the 410A High-Pressure Refrigerant national certification exams. You may also complete the following HVAC Excellence Employment Ready certifications: Air Conditioning, Electrical, and Gas Heat.

Apprenticeship Program

Graduates of the program will have completed the first three levels of the four level HVAC apprenticeship training program. Upon successful completion of level four and four years of on-the-job training, graduates will be eligible to take the journeyperson test to receive their journeyperson license.

Careers

POSITIONS

Graduates have a variety of career options including working for dealers, distributors, and commercial business as service technicians and installers.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$34,300	$50,900	$59,100

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

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The following is a partial list of employers who have hired graduates from this program:

Business	Location
Aire Serv Heating & Air Conditioning	Waterloo, IA
Bergen Plumbing, Heating, & Cooling, Inc.	Waterloo, IA
Dalton Plumbing, Heating, Cooling, Electric, and Fireplaces, Inc.	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

Admissions Requirements

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Heating and Air Conditioning program.

2. Request to have your transcripts sent to the Admissions office.

■ STEP 2   Basic Skill Competencies

In order to be eligible for the Heating and Air Conditioning program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
13 English	42 Sentence Skills	20 Writing	229 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

■ STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

HAWKEYE
COMMUNITY COLLEGE

Heating and Air Conditioning Diploma Courses

Award: Diploma (Diploma)
Required number of credits: 44
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes **refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
HCR-115 Residential Heating Systems	4WK4	4		
HCR-181 Introduction to HVACR	4WK1	3		
HCR-455 Applied Electricity for HVACR	4WK2	4		
HCR-456 Applied Electricity II	4WK3	4		
MAT-772 Applied Math -OR-		3	▣	
MAT-102 Intermediate Algebra -OR-		4	◆	
MAT-110 Math for Liberal Arts ▶ -OR-	O E	3	◆	
Math Elective		3		
	Total Credits 18			

Semester 2

COM-730	Communications		3	▣
HCR-137	Hydronic Heating Systems	4WK1	3	
HCR-143	Alternative Heating and Cooling Systems	4WK4	4	
HCR-171	Refrigeration	4WK2	4	
HCR-204	Principles of Air Conditioning	4WK3	4	

Total Credits 18

Semester 3 — Summer

HCR-264	Applied Practices	3	
HCR-429	HVAC App Controls with Automated Systems	2	
HCR-933	Internship — Air Conditioning	3	

Total Credits 8

Math Electives

MAT-121	College Algebra ▶		4	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Industrial Automation Technology

The Industrial Automation Technology program provides you the opportunity to develop skills and knowledge required in the manufacturing industry to install, program, maintain, repair, and troubleshoot high-tech, computerized machinery. You will gain hands-on training with:

- Programmable logic controller (PLC) computers
- CNC machines
- Robotics
- Electronic components
- Mechanical systems
- Fluid power
- And much more

With in-depth knowledge of the manufacturing process and state-of-the-art equipment, you will be a problem solver working to keep production running. You will learn through hands-on training using the state-of-the-art technology used in the workplace. Technology brands include but is not limited to:

- Fanuc
- Allen Bradley
- Siemens
- Okuma
- Hardinge
- Rockwell

John Deere Electrical and Mechanical School to Work Program

John Deere is currently accepting applications for the John Deere Electrical and Mechanical School to Work Program. Learn more about this program and how to apply.

Transfer Information

An articulation agreement allows you to transfer your Industrial Automation Technology coursework to the Technology Management program at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Enhance Iowa Grant

The Industrial Automation Technology 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.

Careers

POSITIONS

Graduates generally work in industrial maintenance positions and find employment in manufacturing, food processing, and business environments. Positions include but are not limited to:

- CNC installation/maintenance technician
- Industrial electricians
- Industrial mechanics
- Industrial programmers
- Industrial maintenance workers

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Advanced Heat Treat Corporation	Waterloo, IA
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
TDS Automation, Inc.	Waverly, IA
Tyson Foods, Inc.	Waterloo, IA

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Electrical and Electronics Repairers, Commercial and Industrial Equipment	$43,300	$58,400	$66,000
General Maintenance and Repair Workers	$28,300	$41,900	$48,700
Industrial Machinery Mechanics	$38,200	$51,600	$58,300
Machinery Maintenance Workers	$36,800	$48,600	$54,400
Mechanical Engineering Technologists and Technicians	$41,100	$53,800	$60,100
Electro-Mechanical and Mechatronics Technologists and Technicians (Robotics Technicians)	$45,300	$60,000	$67,300

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

■ STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Industrial Automation Technology program.

2. Request to have your transcripts sent to the Admissions office.

■ STEP 2   Basic Skill Competencies

In order to be eligible for the Industrial Automation Technology program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
19 Reading	76 Reading	82 Reading	251 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

■ STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Industrial Automation Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 71
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

Code	Course			Credits	
EGT-140	Fluid Power	8WK2		2	
ELT-139	Electrical Systems ▶	8WK1		3	▣
ELT-239	Advanced Electrical Systems ▶	8WK2		3	
ELT-315	Digital Logic for Industrial Applications ▶ -OR-			2	
EGT-420	PLTW - Digital Electronics			3	
IND-100	Basic Mechanical Systems	8WK1		2	▣
IND-111	Industrial Safety Mechanical Systems			1	
IND-145	Mechanical Power Transfer ▶	8WK2		2	
MAT-772	Applied Math -OR-			3	▣
MAT-110	Math for Liberal Arts ▶ -OR-		O E	3	◆
MAT-121	College Algebra ▶ -OR-			4	◆
MAT-128	Precalculus ▶ -OR-			4	◆
MAT-134	Trigonometry and Analytic Geometry ▶ -OR-			3	◆
MAT-156	Statistics ▶		O E	3	◆

Total Credits 18

Semester 2

Code	Course			Credits	
EGT-149	Fluid Power Systems II ▶			3	
ELT-215	Motors and Controls ▶	8WK1		2	
ELT-234	PLC Programming ▶	8WK2		2	
ELT-736	Instrumentation and Control ▶	8WK1		2	
MFG-193	Machine Shop Processes			3	
PSY-102	Human and Work Relations -OR-			3	◆
PSY-111	Introduction to Psychology -OR-		O E	3	◆
SOC-110	Introduction to Sociology		O E	3	◆
WEL-339	Electromechanical Maintenance	8WK2		3	

Total Credits 18

Semester 3

Code	Course			Credits	
EGT-154	Pneumatics	8WK1		2	
EGT-212	Hydraulics Troubleshooting ▶	8WK1		2	
ELT-120	Schematics for Electromechanical Techs ▶			3	
ELT-216	DC Controls Circuits ▶	8WK2		2	
ELT-240	PLCs II ▶	8WK2		2	
ELT-532	Semiconductors for Industrial Applications ▶	8WK1		2	
MFG-365	General CNC Lathe Maintenance	8WK2		2	
SPC-101	Fundamentals of Oral Communication		O E	3	◆

Total Credits 18

Semester 4

ATR-145	Applied Industrial Robotics	8WK2		2
COM-781	Written Communication in the Workplace ▶ -OR-			3 ▣
ENG-105	Composition I ▶		O E	3 ◆
EGT-152	Advanced Fluid Power and Servo Systems ▶	8WK1		2
ELT-133	Electric Motor Drives	8WK1		2
ELT-245	PLCs III ▶	8WK1		2
ELT-444	Industrial Networking ▶	8WK2		2
ELT-818	Electrical Troubleshooting ▶	8WK2		2
MFG-366	General CNC Mill Maintenance	8WK1		2

Total Credits 17

Industrial Equipment Maintenance Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 33
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

EGT-140	Fluid Power	8WK2	2	
ELT-139	Electrical Systems ▶	8WK1	3	
ELT-239	Advanced Electrical Systems ▶	8WK2	3	
ELT-315	Digital Logic for Industrial Applications ▶ -OR-		2	
EGT-420	PLTW - Digital Electronics		3	
IND-100	Basic Mechanical Systems	8WK1	2	
IND-111	Industrial Safety Mechanical Systems		1	
IND-145	Mechanical Power Transfer ▶	8WK2	2	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
MAT-128	Precalculus ▶ -OR-		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶ -OR-		3	◆
MAT-156	Statistics ▶	O E	3	◆
		Total Credits 18		

Semester 2

EGT-149	Fluid Power Systems II ▶		3
ELT-215	Motors and Controls ▶	8WK1	2
ELT-234	PLC Programming ▶	8WK2	2
ELT-736	Instrumentation and Control ▶	8WK1	2
MFG-193	Machine Shop Processes		3
WEL-339	Electromechanical Maintenance	8WK2	3
		Total Credits 15	

Sustainable Construction and Design

The Sustainable Construction and Design program prepares you to design and construct sustainable and highly energy-efficient residences. Learn how to construct new homes that are durable; provide a healthy environment; and use very little energy for heating, cooling, and lighting. Utilizing a "whole systems approach", you will understand the integral relationship between materials, building techniques, mechanical systems, and subcontractors in the production of energy-efficient and sustainable homes. Learn how to use green and renewable materials, properly install all components and subsystems, and reduce construction site waste.

The program follows the National Center for Construction Education and Research (NCCER) training, assessment, certification, and career development standards for residential construction professionals. Program concepts align with the U.S. Green Building Council's initiatives.

Hands-On Learning Experiences

- Building Experiences: Put the theories and concepts you learn into practice with foundations, concrete work, framing, siding, roofing, thermal/moisture protection, drywall installation/finishing, stair construction, finishing, cabinet installation, HVAC, electrical, plumbing, appliances, and landscaping.

- Energy Audits: Perform energy audits on existing homes to identify problems, develop solutions, and retrofit solutions cost effectively.

- Employment Experience: Gain 256 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Transfer Information

An articulation agreement allows you to transfer your Sustainable Construction and Design coursework to the Technology Management program at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates find jobs as building designers, sustainable construction professionals, carpenters, insulation workers, residential site supervisors, and energy auditors.

Graduates are also prepared to continue their education to become construction managers, building inspectors, commercial drafters, electricians, plumbers, and HVAC installers.

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Builders Select	Cedar Falls, IA
Dietz Construction L.L.C.	Nashua, IA
Johnny B's Construction, Inc.	Denver, IA
Peterson Contractors, Inc.	Reinbeck, IA
Steve McDonald Construction	Cedar Falls, IA
Woods Construction, Inc.	Fairbank, IA

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Carpenters	$31,600	$44,500	$51,000
Construction Managers	$54,100	$86,200	$102,200
Drywall and Ceiling Tile Installers	$27,400	$37,500	$42,500
First-Line Supervisors of Construction Trades	$46,800	$65,200	$74,400

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Sustainable Construction and Design AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 72
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

Course	Title		Credits	
CON-102	Introduction to Residential Construction		2	
CON-108	Construction Safety -OR-		1	
CON-266	Construction Safety		3	
CON-130	Concrete Theory		1	
CON-131	Site Layout and Blueprint Reading		1	
CON-133	Construction Technology Lab		4	
CON-140	Concrete Lab ▶	8WK1	2	
CON-201	Framing Techniques and Lab I	8WK2	2	
CON-302	Building Science I		1	
MAT-772	Applied Math -OR-		3	▣
MAT-102	Intermediate Algebra -OR-		4	◆
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
MAT-128	Precalculus ▶ -OR-		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆

Total Credits 17

Semester 2

Course	Title		Credits	
CON-121	Carpentry Fundamentals I ▶		4	
CON-146	Construction Technology Lab 2 ▶		3	
CON-217	Exterior Finishing		3	
HEQ-190	Introduction to Utility Equipment Operations ▶		2	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
SPC-101	Fundamentals of Oral Communication -OR-	O E	3	◆
SPC-112	Public Speaking		3	◆

Total Credits 18

Semester 3 — Summer

Course	Title	Credits
CON-933	Employment Training Experience ▶	4

Total Credits 4

Semester 4

BUS-102	Introduction to Business		O E	3	◆
CAD-200	CAD SoftPlan ▶			3	
CON-228	Methods of Interior Finishing	8WK2		3	
CON-243	Advanced Framing Techniques ▶	8WK1		3	
CON-486	Building Science 2 Sustainable Design ▶			1	
CON-510	Construction Technology Lab 3 ▶			3	
HEQ-200	Utility Equipment Operations ▶			1	

Total Credits 17

Semester 5

CAD-208	SoftPlan 2 ▶			3	
COM-781	Written Communication in the Workplace ▶ -OR-			3	▣
ENG-105	Composition I ▶		O E	3	◆
CON-290	Construction Estimating and Project Management ▶			2	
CON-512	Construction Technology Lab 4 ▶			3	
ENV-155	Residential Energy Auditing			4	
HCR-200	Manual J and D HVAC Design ▶			1	

Total Credits 16

Welding Technology/Welder

The Welding Technology/Welder program prepares you for a variety of welding careers. Coursework is aligned with the American Welding Society's SENSE standards. You will learn various welding techniques, including:

- Gas metal arc welding
- Thermal cutting
- Shielded metal arc welding
- Flux cored arc welding
- Gas tungsten arc welding

You will also gain the knowledge and skills in:

- Blueprint reading
- Metal types and the welding applications to use with them
- Metal cutting and fabrication
- Welding positions
- Pipe welding
- Weld inspection and testing
- Robotic welding

The program offers three levels of welding skills and techniques that build up to the two-year Welding Technology/Welder program.

- The one-semester Welding certificate prepares you with the skills needed for general maintenance or production welding.

- The two-semester Intermediate Manufacturing Welding diploma prepares you with the skills needed for custom fabrication and construction welding.

- The three-semester Advanced Manufacturing Welding diploma prepares you with the skills needed in food production maintenance and high-end custom fabrication.

Hands-On Learning Opportunities

- Welding Lab: Use the latest welding equipment in the industry as you learn and perfect your welding skills on various type of metals.

- Virtual Welder: Become comfortable with various types of welds while learning how to reduce costs and improving your efficiency in a safe, controlled environment.

- Robotic Welder: Learn how to program and use robots to weld in modern manufacturing.

Certification

An independent certification laboratory evaluates your performance for possible certification with the American Welding Society.

Careers

POSITIONS

Graduates find jobs as maintenance, production, manufacturing, construction, custom fabrication, or job shop welders. With advanced skill, graduates may find employment as pipe welders or iron workers.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Welders, Cutters, Solderers, and Brazers	$31,200	$39,900	$44,200
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	$33,700	$40,300	$43,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Many graduates in this field work overtime. Overtime wages are not included in the above average wages.

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
ADA Enterprises, Inc.	Northwood, IA
Baumgartner Gate Factory	Manchester, IA
GMT Corporation	Waverly, IA
Iowa Laser Technology	Cedar Falls, IA
John Deere	Waterloo and Ottumwa, IA

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Welding Technology/Welder program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Welding program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Welding Technology/Welder AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 64
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When underline registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

MAT-772	Applied Math -OR-			3	▣
MAT-102	Intermediate Algebra -OR-			4	◆
MAT-110	Math for Liberal Arts ▶ -OR-		O E	3	◆
	Math Elective			3	
WEL-228	Introduction to Welding, Safety, and Health of Welders: SENSE1	8WK1		1	
WEL-233	Print Reading and Welding Symbol Interpretation: SENSE1	8WK1		3	
WEL-245	Gas Metal Arc Welding Spray Transfer: SENSE1 ▶	8WK2		2	
WEL-262	Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶	8WK2		2	
WEL-263	Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶	8WK2		2	
WEL-274	Shielded Metal Arc Welding I: SENSE1 ▶	8WK1		3	
WEL-345	GMAW Developmental II ▶	8WK2		2	
WEL-374	SMAW Developmental I ▶	8WK1		2	

Total Credits 20

Semester 2

PSY-102	Human and Work Relations -OR-			3	◆
PSY-111	Introduction to Psychology -OR-		O E	3	◆
SOC-110	Introduction to Sociology		O E	3	◆
WEL-244	Gas Metal Arc Welding Short Circuit Transfer: SENSE1 ▶	8WK1		2	
WEL-275	Shielded Metal Arc Welding II: SENSE1 ▶	8WK2		3	
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1 ▶	8WK1		2	
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1 ▶	8WK1		2	
WEL-344	GMAW Developmental I ▶	8WK1		2	
WEL-375	SMAW Developmental II ▶	8WK2		2	

Total Credits 16

Semester 3

SPC-101	Fundamentals of Oral Communication		O E	3	◆
WEL-251	Gas Tungsten Arc Welding for Carbon Steel: SENSE1 ▶	8WK1		2	
WEL-252	Gas Tungsten Arc Welding for Aluminum: SENSE1 ▶	8WK1		1	
WEL-253	Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1 ▶	8WK1		1	
WEL-254	Welding Inspection and Testing Principles: SENSE1 ▶	8WK2		1	
WEL-303	Pipe Welding SMAW ▶	8WK2		3	
WEL-353	GTAW Developmental ▶	8WK1		1	
WEL-928	Independent Study	Optional		1	

Total Credits 12 ▣

Semester 4

AGC-103	Ag Computers		3	▣
COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶	O E	3	◆
WEL-106	Welding Design	8WK2	1	
WEL-201	Procedures and Qualifications	8WK1	1	
WEL-296	Pipe Welding GTAW ▶	8WK1	5	
WEL-701	Robotic Welding	8WK2	3	
		Total Credits 16		

Math Electives

MAT-121	College Algebra ▶		4	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Advanced Manufacturing Welding Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 48
Program Start: Fall

2021–2022 Suggested Sequence of Study

» **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

» **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

MAT-772	Applied Math -OR-			3	▣
MAT-102	Intermediate Algebra -OR-			4	◆
MAT-110	Math for Liberal Arts ▶ -OR-		O E	3	◆
	Math Elective			3	
WEL-228	Introduction to Welding, Safety, and Health of Welders: SENSE1	8WK1		1	
WEL-233	Print Reading and Welding Symbol Interpretation: SENSE1	8WK1		3	
WEL-245	Gas Metal Arc Welding Spray Transfer: SENSE1 ▶	8WK2		2	
WEL-262	Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶	8WK2		2	
WEL-263	Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶	8WK2		2	
WEL-274	Shielded Metal Arc Welding I: SENSE1 ▶	8WK1		3	
WEL-345	GMAW Developmental II ▶	8WK2		2	
WEL-374	SMAW Developmental I ▶	8WK1		2	
			Total Credits 20		

Semester 2

PSY-102	Human and Work Relations -OR-			3	◆
PSY-111	Introduction to Psychology -OR-		O E	3	◆
SOC-110	Introduction to Sociology		O E	3	◆
WEL-244	Gas Metal Arc Welding Short Circuit Transfer: SENSE1 ▶	8WK1		2	
WEL-275	Shielded Metal Arc Welding II: SENSE1 ▶	8WK2		3	
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1 ▶	8WK1		2	
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1 ▶	8WK1		2	
WEL-344	GMAW Developmental I ▶	8WK1		2	
WEL-375	SMAW Developmental II ▶	8WK2		2	
			Total Credits 16		

Semester 3

SPC-101	Fundamentals of Oral Communication		O E	3	◆
WEL-251	Gas Tungsten Arc Welding for Carbon Steel: SENSE1 ▶	8WK1		2	
WEL-252	Gas Tungsten Arc Welding for Aluminum: SENSE1 ▶	8WK1		1	
WEL-253	Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1 ▶	8WK1		1	
WEL-254	Welding Inspection and Testing Principles: SENSE1 ▶	8WK2		1	
WEL-303	Pipe Welding SMAW ▶	8WK2		3	
WEL-353	GTAW Developmental ▶	8WK1		1	
			Total Credits 12		

Math Electives

MAT-121	College Algebra ▶		4 ◆
MAT-128	Precalculus ▶		4 ◆
MAT-134	Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156	Statistics ▶	O E	3 ◆
MAT-210	Calculus I ▶		4 ◆
MAT-216	Calculus II ▶		4 ◆
MAT-219	Calculus III ▶		4 ◆

Welding Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 20
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

MAT-772	Applied Math -OR-		3	▣
MAT-102	Intermediate Algebra -OR-		4	◆
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
	Math Elective		3	
WEL-228	Introduction to Welding, Safety, and Health of Welders: SENSE1	8WK1	1	
WEL-233	Print Reading and Welding Symbol Interpretation: SENSE1	8WK1	3	
WEL-245	Gas Metal Arc Welding Spray Transfer: SENSE1 ▶	8WK2	2	
WEL-262	Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶	8WK2	2	
WEL-263	Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶	8WK2	2	
WEL-274	Shielded Metal Arc Welding I: SENSE1 ▶	8WK1	3	
WEL-345	GMAW Developmental II ▶	8WK1	2	
WEL-374	SMAW Developmental I ▶	8WK1	2	

Total Credits 20

Math Electives

MAT-121	College Algebra ▶		4	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Intermediate Manufacturing Welding Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 36
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1

MAT-772	Applied Math -OR-		3	▣
MAT-102	Intermediate Algebra -OR-		4	◆
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
	Math Elective		3	
WEL-228	Introduction to Welding, Safety, and Health of Welders: SENSE1	8WK1	1	
WEL-233	Print Reading and Welding Symbol Interpretation: SENSE1	8WK1	3	
WEL-245	Gas Metal Arc Welding Spray Transfer: SENSE1 ▶	8WK2	2	
WEL-262	Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1 ▶	8WK2	2	
WEL-263	Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1 ▶	8WK2	2	
WEL-274	Shielded Metal Arc Welding I: SENSE1 ▶	8WK1	3	
WEL-345	GMAW Developmental II ▶	8WK2	2	
WEL-374	SMAW Developmental I ▶	8WK1	2	

Total Credits 20

Semester 2

PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
WEL-244	Gas Metal Arc Welding Short Circuit Transfer: SENSE1 ▶	8WK1	2	
WEL-275	Shielded Metal Arc Welding II: SENSE1 ▶	8WK2	3	
WEL-280	Flux Cored Arc Welding (Self-Shielded): SENSE1 ▶	8WK1	2	
WEL-281	Flux Cored Arc Welding (Gas-Shielded): SENSE1 ▶	8WK1	2	
WEL-344	GMAW Developmental I ▶	8WK1	2	
WEL-375	SMAW Developmental II ▶	8WK2	2	

Total Credits 16

Math Electives

MAT-121	College Algebra ▶		4	◆
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Program Area

INFORMATION TECHNOLOGY

Cybersecurity

Information Systems Management

Network Administration and Engineering

Web Programming and Development

HAWKEYE
COMMUNITY COLLEGE

Cybersecurity

The Cybersecurity program prepares students to plan, implement, and defend networks of all sizes. Cybersecurity professionals specialize in protecting networks for threats that can cause loss of money or time due to systems being unavailable. Hawkeye's dedicated data center for students provides all of the tools and equipment needed to learn security best practices in a hands-on environment.

The Cybersecurity program prepares you to design setup, and secure devices and networks. You will gain knowledge and skills in:

- Computer hardware
- Desktop and server operating systems
- Server configuration and administration
- Network security
- Secure VPN solutions
- Wireless network security and administration
- Server, host device, and network device hardening
- Programming and scripting
- Network attacks and countermeasures
- Project management

Hands-on Learning Experiences

Data Center: Learn to build and maintain industry-standard networks, including how to secure the network, protect against hacking attacks, and how to recover from an attack. Gain experience with a variety of operating systems and implement strategies to maintain network uptime and data confidentiality and integrity.

Internship: Gain 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certifications

In the information technology industry certifications are a must. Hawkeye is recognized as a Cisco Regional Academy and a VMware IT Academy. You may receive the CompTIA A+ Net+ and Security+, Cisco Certified Network Associate (CCNA), Microsoft Technology Associate (MTA), and VMware certifications.

Transfer Information

An articulation agreement with the University of Northern Iowa allows you to transfer your Cybersecurity coursework to UNI's Technology Management program.

Our transfer agreement with Upper Iowa University allows you to transfer your Cybersecurity coursework to Upper Iowa University's Bachelor of Science in Information Technology program.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Our graduates can be employed in many careers, including:

- Information Security Analyst
- Computer Network Support Specialist
- Network and Computer Systems Administrator
- Computer and Information Systems Manager

Source: 2019 Economic Development and Employer Planning System

Many business sectors have a growing need for Security professionals including:

- IT Managed Services Providers
- Banking, Credit and Finance
- Healthcare and Medical
- Energy and Utilities
- Government
- Manufacturing
- Education
- Retail and Food Service

EXAMPLE CAREERS AND AVERAGE WAGES

Occupation	Growth *	Entry	Average	Experienced
Computer and Information Systems Manager	12%	$83,500	$123,600	$143,600
Computer Network Support Specialist	12%	$39,300	$55,800	$64,000
Computer User Support Specialists	14.4%	$35,500	$50,600	$58,100
Information Security Analyst	34%	$58,700	$87,100	$101,300
Network and Computer Systems Administrator	8%	$53,600	$76,700	$88,200

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Cybersecurity program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Cybersecurity program, you must have a high school GPA of 2.50, or meet minimum score requirements listed below, and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor. Success course credits do not apply towards graduation or the AAS degree.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
16 Math	63 Arithmetic	39 Pre-Algebra	255 Arithmetic
			246 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Cybersecurity AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 70
Program Start: Fall

2021–2022 Suggested Sequence of Study

>> **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

>> **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

>> Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
CIS-303	Introduction to Database		3	
CSC-116	Information Computing ► -OR-		3	◆
CSC-110	Introduction to Computers ► -OR-	O E	3	◆
BCA-205	Database/Spreadsheets ►		3	▣
MAT-110	Math for Liberal Arts ► -OR-	O E	3	◆
MAT-102	Intermediate Algebra -OR-		4	◆
MAT-121	College Algebra ► -OR-		4	◆
	Math Elective		3	
NET-109	A+ Certification Prep Course		4	
NET-115	College Experience		1	
NET-178	Intro to Cyber Security		3	
	Total Credits 17			

Semester 2

Course	Title		Credits	
NET-202	Programming for Network Administrators ▶		3	
NET-213	Cisco Networking ▶		4	
NET-313	Windows Server ▶		3	
NET-412	Linux System Administration		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 16

Semester 3 — Summer

Course	Title		Credits	
NET-228	Cisco Networking II ▶		4	◆
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 7

Semester 4

Course	Title		Credits	
BUS-180	Business Ethics -OR-	O E	3	◆
PHI-105	Introduction to Ethics	O E	3	◆
COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶	O E	3	◆
NET-310	Virtual Machines ▶		3	
NET-350	Cisco Security ▶		4	
NET-612	Fundamentals of Network Security ▶		3	

Total Credits 16

Semester 5

Course	Title		Credits	
CIS-750	Project Management ▶		3	
NET-619	Network Attacks: Detection, Analysis & Countermeasures ▶		3	
NET-916	Experiential Learning ▶		5	
NET-932	Internship ▶		3	

Total Credits 14

Math Electives

Course	Title		Credits	
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Cybersecurity Certificate Courses

Award: Certificate (Certificate)
Required number of credits: 16
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1		
NET-178 Intro to Cyber Security		3
NET-612 Fundamentals of Network Security ▶		3
NET-619 Network Attacks: Detection, Analysis & Countermeasures ▶		3
	Total Credits 9	

Semester 2			
BUS-180 Business Ethics -OR-	O E	3	◆
PHI-105 Introduction to Ethics	O E	3	◆
NET-350 Cisco Security ▶		4	
		Total Credits 7	

Information Systems Management

Learn to implement and manage the systems that support a business's key objectives, goals, and business practices—combining your computer and management skills. You can continue your education at the University of Northern Iowa or the University of Iowa.

The Information Systems Management program prepares you to implement and manage the information technology systems that support a business's key objectives, goals, and business practices. You will gain the knowledge and skills in:

- Computer hardware and software
- Operating systems
- Network structure and equipment
- Accounting
- Human relations
- Management
- Project management

Hands-on Learning Experiences

- Internship: Gain 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certifications

In the information technology industry certifications are a must. Hawkeye is recognized as a Cisco Regional Academy. You may receive the Cisco Certified Entry Networking Technician (CCENT), and CompTIA certifications.

Transfer Information

An articulation agreement allows you to transfer your Information Systems Management coursework to the Technology Management program at the University of Northern Iowa.

Our transfer agreement with Upper Iowa University allows you to transfer your Information Systems Management coursework to Upper Iowa University's Bachelor of Science in Information Technology program.

Hawkeye also has a transfer relationship with the University of Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

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

- Support specialist
- Account representative
- Help desk technician
- Computer repair technician
- Network manager
- Help desk manager
- Information systems manager

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Computer User Support Specialists	$35,500	$50,600	$58,100

Source: 2020 Iowa Wage Report, Iowa Workforce Development

The following is a partial list of employers who have hired graduates from this program:

Business	Location
CBE Group	Cedar Falls, IA
Cedar Valley Medical Specialists, P.C.	Waterloo, IA
The VGM Group	Waterloo, IA
Veridian Credit Union	Waterloo, IA
Waverly Utilities	Waverly, IA

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Information Systems Management program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Information Systems Management program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
16 Math	63 Arithmetic	39 Pre-Algebra	255 Arithmetic
			246 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Information Systems Management AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 63
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
CIS-303	Introduction to Database		3	
CSC-116	Information Computing ▶ -OR-		3	◆
CSC-110	Introduction to Computers ▶ -OR-	O E	3	◆
BCA-205	Database/Spreadsheets ▶		3	
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶ -OR-		3	◆
MAT-210	Calculus I ▶		4	◆
NET-109	A+ Certification Prep Course		4	
NET-115	College Experience		1	
NET-213	Cisco Networking ▶		4	

Total Credits 18

Semester 2

BUS-102	Introduction to Business	O E	3	◆
COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶	O E	3	◆
NET-228	Cisco Networking II ▶		4	◆
NET-313	Windows Server ▶		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
		Total Credits 16		

Semester 3

ACC-131	Principles of Accounting I ▶	O E	4	◆
MAT-156	Statistics ▶	O E	3	◆
MGT-101	Principles of Management	O E	3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆
		Total Credits 13		

Semester 4

ACC-132	Principles of Accounting II ▶	O E	4	◆
CIS-750	Project Management ▶		3	
MGT-170	Human Resource Management		3	
NET-932	Internship ▶		3	
	Information Technology Elective		3	
		Total Credits 16		

Information Technology Electives

BUS-183	Business Law	O E	3	◆
NET-229	Cisco Networking III ▶		4	◆
NET-310	Virtual Machines ▶		3	
NET-346	Windows Exchange Server ▶		3	
NET-412	Linux System Administration		3	
NET-474	Certification Preparation ▶		1	
NET-475	Certification Preparation ▶		2	
NET-612	Fundamentals of Network Security ▶		3	
NET-949	Special Topics		1	

Network Administration and Engineering

Learn to design, layout, setup, and maintain every aspect of a computer network. You'll train in Hawkeye's state-of-the-art data center, where you learn to build a network, secure the network, and restore the network after an outage.

The Network Administration and Engineering program prepares you to design, layout, setup, and maintain information technology networks and equipment. You will gain knowledge and skills in:

- Computer hardware
- Operating systems
- Server configuration and administration
- Network management
- Database and mail servers
- Project management
- Routers and switches
- Wireless networks
- Virtual machines
- VPN solutions
- Network security

Hands-on Learning Experiences

- Data Center: Learn to build and maintain industry-standard networks, including how to secure the network, protect against hacking attacks, and how to recover from an attack. Gain experience with the latest Microsoft desktop, server, Exchange, and SQL server platforms.

- Internship: Gain 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Certifications

In the information technology industry certifications are a must. Hawkeye is recognized as a Cisco Regional Academy and a VMware IT Academy. You may receive the Cisco Certified Network Associate (CCNA), CompTIA, and VMware certifications.

Transfer Information

An articulation agreement with the University of Northern Iowa allows you to transfer your Network Administration and Engineering coursework to UNI's Technology Management program.

Our transfer agreement with Upper Iowa University allows you to transfer your Network Administration and Engineering coursework to Upper Iowa University's Bachelor of Science in Information Technology program.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Our graduates can be employed in many careers, including:

- Network administrator
- Network technician
- LAN/WAN engineer
- LAN/WAN administrator
- Help desk technician

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Computer Network Support Specialists	$39,300	$55,800	$64,100
Computer User Support Specialists	$35,500	$50,600	$58,100

Source: 2020 Iowa Wage Report, Iowa Workforce Development

The following is a partial list of employers who have hired graduates from this program:

Business	Location
ACES	Cedar Falls, IA
BerganKDV	Waterloo, IA
CBE Group	Cedar Falls, IA
CDW	Minneapolis, MN
Cedar Falls Utilities	Cedar Falls, IA
John Deere	Waterloo, IA
EO Johnson Business Technologies	Cedar Falls, IA
The VGM Group	Waterloo, IA

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Network Administration and Engineering program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Network Administration and Engineering, all students must meet minimum score requirements and/or complete required success courses. Success course credits do not apply towards graduation or the AAS degree.

In order to be eligible for the Network Administration and Engineering program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
16 Math	63 Arithmetic	39 Pre-Algebra	255 Arithmetic
			246 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Network Administration and Engineering AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 68
Program Start: Fall

2021–2022 Suggested Sequence of Study

» **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

» **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

» Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
CIS-303	Introduction to Database		3	
CSC-116	Information Computing ▶ -OR-		3	◆
CSC-110	Introduction to Computers ▶ -OR-	O E	3	◆
BCA-205	Database/Spreadsheets ▶		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-102	Intermediate Algebra -OR-		4	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
NET-109	A+ Certification Prep Course		4	
NET-115	College Experience		1	
NET-213	Cisco Networking ▶		4	
	Total Credits 18			

Semester 2

Course	Title		Credits	
COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶	O E	3	◆
NET-228	Cisco Networking II ▶		4	◆
NET-313	Windows Server ▶		3	
NET-412	Linux System Administration		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 16

Semester 3

Course	Title	Credits	
NET-168	Administering Windows Server ▶	3	
NET-229	Cisco Networking III ▶	4	◆
NET-310	Virtual Machines ▶	3	
NET-346	Windows Exchange Server ▶	3	
NET-612	Fundamentals of Network Security ▶	3	

Total Credits 16

Semester 4

Course	Title		Credits	
CIS-750	Project Management ▶		3	
NET-475	Certification Preparation ▶ -OR-		2	
CIS-604	Visual Basic -OR-		3	
NET-474	Certification Preparation ▶ -AND-		1	
NET-949	Special Topics		1	
NET-710	SQL Database ▶		2	
NET-916	Experiential Learning ▶		5	
NET-932	Internship ▶		3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 18

* Must take a minimum of 2 credits from this elective list.

Math Electives

Course	Title		Credits	
MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Computer Networking Technician Diploma Courses

Award: Diploma (Diploma)
Required number of credits: 34
Program Start: Fall

2021–2022 Suggested Sequence of Study

⯈⯈ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

⯈⯈ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

⯈⯈ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1			
CIS-303	Introduction to Database		3	
CSC-116	Information Computing ▶ -OR-		3	◆
CSC-110	Introduction to Computers ▶ -OR-	O E	3	◆
BCA-205	Database/Spreadsheets ▶		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-102	Intermediate Algebra -OR-		4	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	
NET-109	A+ Certification Prep Course		4	
NET-115	College Experience		1	
NET-213	Cisco Networking ▶		4	
		Total Credits 18	

Semester 2

COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶	O E	3	◆
NET-228	Cisco Networking II ▶		4	◆
NET-313	Windows Server ▶		3	
NET-412	Linux System Administration		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
		Total Credits 16		

Math Electives

MAT-128	Precalculus ▶		4	◆
MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Web Programming and Development

Gain the knowledge and skills to plan, program, and test dynamic web applications. You'll learn programming languages that are standard in the industry. From the start, you'll develop your skills building basic websites and progressing to dynamic database-driven web applications.

The Web Programming and Development program prepares you with the knowledge and skills to plan, create, program, test, troubleshoot, and maintain dynamic web applications. You will learn multiple programming languages, including HTML5, CSS3, PHP, ASP.NET C#, SQL, and JavaScript. You will also gain skills in:

- Programming logic
- Database design and management
- Website standards
- Responsive, mobile, and desktop website layouts
- Web application building
- Programming algorithms

Hands-On Learning Opportunities

- Computer Lab: Practice your coding and programming skills with the latest in industry software.

- Internship: Gain 192 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

- Projects: Many courses have projects to showcase learning.

Evening Program

This program is offered in the evening with classes starting at 5:00pm, allowing you to work and go to school at the same time. You will also take hybrid and online classes to complete your degree.

Transfer Information

An articulation agreement allows you to transfer your Web Programming and Development coursework to the Technology Management program at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

POSITIONS

Graduates find employment in all types of businesses including:

- Advertising
- Manufacturing
- Service
- Education
- Distributors
- Retail
- Tourism
- Non-profit
- Government agencies

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Web Developers and Digital Interface Designers	$39,900	$66,300	$79,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Far Reach Technologies	Cedar Falls, IA
Hawkeye Community College	Waterloo, IA
Mudd Advertising	Waterloo, IA
VGM Forbin	Waterloo, IA
Scientific Games Interactive/Williams Interactive SoCaMo	Cedar Falls, IA

Admissions Requirements

STEP 1   Apply at Hawkeye

1. Complete Hawkeye's online admissions application to apply and be considered for the Web Programming and Development program.

2. Request to have your transcripts sent to the Admissions office.

STEP 2   Basic Skill Competencies

In order to be eligible for the Web Programming and Development program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
19 Reading	76 Reading	82 Reading	251 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
16 Math	63 Arithmetic	39 Pre-Algebra	255 Arithmetic
			246 Quantitative Reasoning, Algebra, and Statistics

STEP 3   Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

Equal Opportunity Statement

Web Programming and Development AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 61
Program Start: Fall

2020–2021 Suggested Sequence of Study

⟫ **The following suggested sequence of study is for new full-time students starting the program Fall 2020, Spring 2021, or Summer 2021**. Part-time students should visit with a program advisor for a modified sequence of study.

⟫ **When underlined registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

⟫ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.

Semester 1				
CIS-121	Introduction to Programming Logic		3	▣
CIS-355	Database Design and Management		4	
COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶	O E	3	◆
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
MAT-128	Precalculus ▶ -OR-		4	◆
	Math Elective		3	
WDV-102	Introduction to Web Development		3	
		Total Credits 16		

Semester 2

CIS-215	Server Side Web Programming ▶		3	
CIS-231	PHP Programming ▶		3	
CIS-249	Web Languages ▶ -OR-		3	
MGT-110	Small Business Management -OR-		3	
WDV-105	Web Layouts -OR-		3	
WDV-928	Independent Study		1	
CIS-504	Structured Systems Analysis		3	
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 15

Semester 3

CIS-206	Web Scripting ▶		3	
CIS-217	Data Driven Web Page ▶		3	
CIS-225	Advanced Server Side Web Programming ▶		3	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆
	Elective		3	

Total Credits 15

Semester 4

CIS-184	Programming Algorithms ▶	3	
WDV-600	Project Development ▶	3	
WDV-800	Portfolio ▶	3	
WDV-930	Internship ▶	3	
	Elective	3	

Total Credits 15

Electives

CIS-234	Web Site Administration ▶		3
CIS-249	Web Languages ▶		3
CIS-274	E-Commerce Design ▶		3
CIS-364	Game Development I ▶		3
MGT-110	Small Business Management *Offered spring semester*		3
NET-109	A+ Certification Prep Course *Offered fall semester*		4
WDV-105	Web Layouts		3
WDV-300	Advanced Topics in Web Development ▶		3
WDV-928	Independent Study		1

Math Electives

MAT-134	Trigonometry and Analytic Geometry ▶		3	◆
MAT-156	Statistics ▶	O E	3	◆
MAT-210	Calculus I ▶		4	◆
MAT-216	Calculus II ▶		4	◆
MAT-219	Calculus III ▶		4	◆

Program Area

POWER TECHNOLOGY

Auto Collision Technologies

Automotive Technology

Diesel Truck Technology

HAWKEYE
COMMUNITY COLLEGE

Auto Collision Technologies

The Auto Collision Technologies program prepares students with the training and knowledge for an entry-level position in the auto collision industry. During the first year of the program students are provided with hands-on training in collision repair. Those who continue to the second year of the program will also gain skills in vehicle repair and maintenance.

Hands-On Learning Opportunities

- Virtual Paint System: Learn a variety of paint techniques, how to reduce costs and paint waste, and improve your efficiency on this state-of-the-art system.

- Collision Lab and Paint Booths: Use the tools and equipment of the industry to work on a variety of different vehicle makes and models and learn to adapt to the industry's changing technology. Gain real-world experience working on customer vehicles.

Certifications

Students will have the opportunity to gain industry certifications in various areas throughout this program including:
- I-Car Platinum Non-Structural Technician ProLevel 1
- I-Car Platinum Refinish Technician ProLevel 1
- I-CAR Welding Certification
- Air Conditioning, Painter

Transfer Information

Many four-year colleges and universities accept a limited number of transfer and elective credits.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates find work in collision repair centers, auto salvage businesses, and auto body shops doing vehicle restoration, collision repair and refinishing, body repair, and automotive customization. Positions include but are not limited to:

- Auto body specialists and technicians
- Auto refinisher
- Auto frame/unibody technicians and specialists
- Painters
- Parts manager
- Auto body product salespersons
- Collision specialist
- Estimator

With additional coursework and experience, graduates have become:

- Body shop managers
- Auto insurance adjusters
- Auto appraisers

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Anderson Collision Center	Cedar Falls, IA
Billion Auto	Clive, IA
Clemons Chevrolet	Marshalltown, IA
Deery Brothers Collision Center	Cedar Falls, IA
Iowa Auto Rebuilders	Waterloo, IA
Rydell Chevrolet	Waterloo, IA
Tophat Automotive Syndicate	Evansdale, IA
Witham Auto Centers	Waterloo, IA

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Automotive Body and Related Repairers *	$30,500	$44,000	$50,800
Automotive Glass Installers and Repairers	$27,600	$38,400	$43,900
Insurance Auto Damage Appraisers	$34,900	$47,400	$53,700

* Wages based on an hourly wage. Most shops pay on commission base.

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Auto Collision Technologies AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 80
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
4WK1	Course meets the first 4 weeks of the semester.
4WK2	Course meets the second 4 weeks of the semester.
4WK3	Course meets the third 4 weeks of the semester.
4WK4	Course meets the last 4 weeks of the semester.

Semester 1				
CRR-304	Introduction to Collision Repair	4WK3	4	
CRR-361	Collision Lab I ►	4WK4	4	
CRR-821	Introduction to Refinishing I	4WK1	3	
CRR-822	Introduction to Refinishing II ►	4WK2	3	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ► -OR-		3	◆
MAT-121	College Algebra ► -OR-		4	◆
	Math Elective		3	
		Total Credits 17		

Semester 2

CRR-658	Advanced Collision Repair	4WK3	4
CRR-659	Advanced Collision Production Tech	4WK4	4
CRR-751	Electronic Estimating	4WK2	2
CRR-874	Advanced Refinishing	4WK1	4 ▣
CRR-886	Advanced Refinishing II ▶	4WK2	4

Total Credits 18

Semester 3—Summer

CRR-511	Collision Production Technician	4WK2	4
CRR-879	Refinishing Production Technician	4WK1	4

Total Credits 8

Semester 4

AUT-504	Automotive Brake Systems	4WK3	4 ▣
AUT-537	Automotive Advanced Brake Systems	4WK4	4
AUT-643	Auto Starting, Charging, and Electrical	4WK2	4
COM-781	Written Communication in the Workplace ▶ -OR-		3 ▣
ENG-105	Composition I ▶		3 ◆
SPC-101	Fundamentals of Oral Communication -OR-		3 ◆
SPC-112	Public Speaking		3 ◆

Total Credits 18

Semester 5

AUT-307	Automotive Manual Transmissions and Transaxles	4WK2	4
AUT-404	Automotive Suspension and Steering	4WK1	4
AUT-704	Automotive Heating and Air Conditioning	4WK4	4
AUT-842	Automotive Computerized Engine Controls	4WK3	4
PSY-102	Human and Work Relations -OR-		3 ◆
PSY-111	Introduction to Psychology -OR-		3 ◆
SOC-110	Introduction to Sociology		3 ◆

Total Credits 19

Math Electives

MAT-128 Precalculus ▶	4	◆
MAT-134 Trigonometry and Analytic Geometry ▶	3	◆
MAT-156 Statistics ▶	3	◆
MAT-210 Calculus I ▶	4	◆
MAT-216 Calculus II ▶	4	◆
MAT-219 Calculus III ▶	4	◆

Collision Repair and Refinishing Diploma Option Courses

Award: Diploma (Diploma)
Required number of credits: 43
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
4WK1	Course meets the first 4 weeks of the semester.
4WK2	Course meets the second 4 weeks of the semester.
4WK3	Course meets the third 4 weeks of the semester.
4WK4	Course meets the last 4 weeks of the semester.

Semester 1			
CRR-304 Introduction to Collision Repair	4WK3	4	
CRR-361 Collision Lab I ►	4WK4	4	
CRR-821 Introduction to Refinishing I	4WK1	3	
CRR-822 Introduction to Refinishing II ►	4WK2	3	
MAT-772 Applied Math -OR-		3	▣
MAT-110 Math for Liberal Arts ► -OR-		3	◆
MAT-121 College Algebra ► -OR-		4	◆
Math Elective		3	
Total Credits 17			

Semester 2

CRR-658	Advanced Collision Repair	4WK3	4
CRR-659	Advanced Collision Production Tech	4WK4	4
CRR-751	Electronic Estimating	4WK2	2
CRR-874	Advanced Refinishing	4WK1	4
CRR-886	Advanced Refinishing II ▶	4WK2	4
		Total Credits 18	

Semester 3—Summer

CRR-511	Collision Production Technician	4WK2	4
CRR-879	Refinishing Production Technician	4WK1	4
		Total Credits 8	

Math Electives

MAT-128	Precalculus ▶	4	◆
MAT-134	Trigonometry and Analytic Geometry ▶	3	◆
MAT-156	Statistics ▶	3	◆
MAT-210	Calculus I ▶	4	◆
MAT-216	Calculus II ▶	4	◆
MAT-219	Calculus III ▶	4	◆

Automotive Technology

Program Overview

The Automotive Technology program prepares you for an entry-level career in automotive and vehicle repair, maintenance, and troubleshooting. You will gain hands-on skills in:

- Automotive electronics
- Testing and diagnosing
- Engine drivability diagnosis and performance
- Automatic transmissions
- Gas engines
- Suspension
- Alignment
- Brakes

Hands-On Learning Opportunities

- Automotive Lab: Use the latest systems, tools, and diagnostic equipment in the industry to work on a variety of different vehicle makes and models. Learn to adapt to changing technology as vehicle components and systems become increasingly sophisticated.

Transfer Information

An articulation agreement allows you to transfer your Automotive Technology coursework to the Technology Management program at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates find employment at automotive dealerships, independent automotive shops, service stations, car manufacturers, and national automotive service centers. Positions include but are not limited to:

- Automotive service technician
- Electronics installer
- Electronics technician
- Mechanic
- Service writer
- Service manager
- Truck technician

The following is a partial list of employers who have hired graduates from this program:

Business	Location
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

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Automotive Service Technicians and Mechanics	$26,800	$43,200	$51,500
Electronic Equipment Installers and Repairers	$25,600	$32,700	$36,200

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Automotive Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 76
Program Start: Fall

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
4WK1	Course meets the first 4 weeks of the semester.
4WK2	Course meets the second 4 weeks of the semester.
4WK3	Course meets the third 4 weeks of the semester.
4WK4	Course meets the fourth 4 weeks of the semester.

Semester 1

Code	Course	Session	Credits	
AUT-106	Introduction to Automotive Technology	4WK1	2	
AUT-109	Introduction to Automotive Technology II	4WK1	2	
AUT-504	Automotive Brake Systems	4WK3	4	▣
AUT-537	Automotive Advanced Brake Systems	4WK4	4	
AUT-643	Auto Starting, Charging, and Electrical	4WK2	4	
MAT-772	Applied Math -OR-		3	▣
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-121	College Algebra ▶ -OR-		4	◆
	Math Elective		3	

Total Credits 19

Semester 2

Code	Course	Session	Credits	
AUT-307	Automotive Manual Transmissions and Transaxles	4WK2	4	
AUT-404	Automotive Suspension and Steering	4WK1	4	
AUT-704	Automotive Heating and Air Conditioning	4WK4	4	
AUT-842	Automotive Computerized Engine Controls	4WK3	4	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-	O E	3	◆
SOC-110	Introduction to Sociology	O E	3	◆

Total Credits 19

Semester 3

Code	Course	Session	Credits	
AUT-164	Automotive Engine Repair	4WK1	4	▣
AUT-204	Automotive Automatic Transmissions and Transaxles	4WK4	4	
AUT-610	Automotive Electrical I	4WK3	4	
AUT-631	Automotive Electronics	4WK2	4	
COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶	O E	3	◆

Total Credits 19

Semester 4

Code	Course	Session	Credits	
AUT-315	Automotive Differentials and 4-Wheel Drive	4WK4	4	
AUT-827	Automotive Ignition Systems ▶	4WK3	4	
AUT-834	Automotive Fuel Systems	4WK2	4	
AUT-886	Comprehensive Application ▶	4WK1	4	
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 19

Math Electives

MAT-128 Precalculus ▶		4 ◆
MAT-134 Trigonometry and Analytic Geometry ▶		3 ◆
MAT-156 Statistics ▶	O E	3 ◆
MAT-210 Calculus I ▶		4 ◆
MAT-216 Calculus II ▶		4 ◆
MAT-219 Calculus III ▶		4 ◆

Diesel Technology

The Diesel Technology program prepares you to maintain, troubleshoot, and repair diesel engines a variety of transportation and construction vehicles and equipment and agricultural equipment such as tractors, combines, planters, cultivators/plows, and sprayers. You will learn the knowledge and skills needed to work with:

- Gas engines
- Diesel engines
- Hydraulics
- Diesel fuel systems
- Electronic systems and components
- Power trains
- Computer diagnostics
- Engine emissions

Hands-On Learning Opportunities

- Latest Equipment: Work on the latest systems and equipment in the industry as well a variety of different makes and models of equipment.

- Simulators: Practice your electrical and hydraulic skills in a variety of scenarios in a controlled environment.

- Partnership with Freightliner: Through this partnership, you will gain the same hands-on training and knowledge as a Freightliner technician.

Transfer Information

An articulation agreement allows you to transfer your Diesel Technology coursework to the Technology Management program at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Careers

Graduates find jobs as mechanics, service technicians, and diesel engine specialists in implement dealerships, factories, construction, independent shops, heavy equipment shops, engine machine shops, truck stops, heavy equipment dealerships, consumer product dealerships, independent farms, independent repair shops, and consumer product dealerships.

This profession is expected to grow by 18%* through 2024 in Iowa.

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Altorfer, Inc.	Cedar Rapids, IA
Cedar Valley Corp., LLC	Waterloo, IA
Deike Implement Co.	Waverly, IA
Don's Truck Sales	Fairbank, IA
Growmark	Waterloo, IA
Harrison Truck Centers	Waterloo, IA
MHC Kenworth	Cedar Rapids, IA
P&K Midwest	Waterloo and Keystone, IA
Ryder	Cedar Falls, IA
Thompson Truck and Trailer, Inc.	Cedar Rapids and Waterloo, IA
Titan Machinery	Waverly, IA
Warren Transport, Inc.	Waterloo, IA
Ziegler CAT	Mason City and Postville, IA

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Bus and Truck Mechanics and Diesel Engine Specialists	$31,100	$45,800	$53,200
Farm Equipment Mechanics and Service Technicians	$33,300	$44,700	$50,400

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Diesel Technology AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 72

2021–2022 Suggested Sequence of Study

>> **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

>> **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

>> Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
4WK1	Course meets the first 4 weeks of the semester.
4WK2	Course meets the second 4 weeks of the semester.
4WK3	Course meets the third 4 weeks of the semester.
4WK4	Course meets the fourth 4 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Term 1			
AGM-111	Gas Engine Rebuild	4WK2	4
AGM-124	Technical Procedures for Power Mechanics Techs	4WK1	3
DSL-377	Diesel Engine Rebuild	8WK2	7
MAT-772	Applied Math -OR-		3 ▣
MAT-110	Math for Liberal Arts ► -OR-		3 ◆
MAT-121	College Algebra ► -OR-		4 ◆
	Math Elective		3
		Total Credits 17	

Term 2

AGM-104	Electricity	4WK1	4	▣
AGM-333	Electronics ▶	4WK2	3	
COM-781	Written Communication in the Workplace ▶ -OR-		3	▣
ENG-105	Composition I ▶		3	◆
DSL-360	Advanced Diesel Engines, Emissions, and Fuel Systems ▶	4WK4	4	◆
DSL-444	Fuel Systems	4WK3	4	◆

Total Credits 18

Term 3

AGM-119	Hydraulics I ▶	4WK3	4	◆
AGM-224	Hydraulics II ▶	4WK4	4	
DSL-424	EFI Engine Systems ▶	4WK2	4	◆
DSL-831	Preventative Maintenance ▶	4WK1	4	
PSY-102	Human and Work Relations -OR-		3	◆
PSY-111	Introduction to Psychology -OR-		3	◆
SOC-110	Introduction to Sociology		3	◆

Total Credits 19

Term 4

AGM-401	Ag Power Transfer Systems ▶	4WK1	4	◆
AGM-402	Equipment Repair II ▶	4WK4	3	◆
DSL-404	Diesel Truck Power Transfer Systems ▶	4WK2	4	◆
DSL-411	Equipment Repair I ▶	4WK3	4	◆
SPC-101	Fundamentals of Oral Communication		3	◆

Total Credits 18

Math Electives

MAT-128	Precalculus ▶	4	◆
MAT-134	Trigonometry and Analytic Geometry ▶	3	◆
MAT-156	Statistics ▶	3	◆
MAT-210	Calculus I ▶	4	◆
MAT-216	Calculus II ▶	4	◆
MAT-219	Calculus III ▶	4	◆

Program Area

SAFETY SERVICES

Emergency Medical Services

Police Science

HAWKEYE
COMMUNITY COLLEGE

Emergency Medical Services

Paramedics use their skills to treat acute illnesses and work in traumatic situations along side firefighters. You'll learn all aspects of patient care in Hawkeye's state-of-the-art simulation lab before gaining real world experience through our hospital and field internship program.

The Emergency Medical Services (EMS) program prepares you for entry-level emergency medical technician (EMT) and paramedic positions. You will 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. You'll be prepared to provide optimal response and care to victims of any emergency, disaster, or mass casualty event. Skills include but are not limited to:

- Patient assessment and stabilization
- Medication administration
- Airway management and ventilation
- Patient records and documentation
- Wound care

EMS is a unique combination of public health, public safety, and acute patient care.

Hands-On Learning Opportunities

- Patient Simulator Lab and Ambulance: Learn how to handle and react to a variety of patient scenarios in controlled environments.

- Clinical Experience: Gain real-world work experience ensuring you have the skills you need to succeed in your future career.

Accreditation

The Emergency Services Program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

To Contact CAAHEP

Commission on Accreditation of Allied Health Education Programs
9355 - 113th St. N, #7709
Seminole, FL 33775
727-210-2350
www.caahep.org

To Contact COAEMSP

8301 Lakeview Parkway, Suite 111-312
Rowlett TX 75088
214-703-8445
214-703-8992 (fax)
www.coaemsp.org

The Emergency Medical Services program is authorized by the Iowa Department of Public Health, Bureau of Emergency Medical Services (EMS).

Certification

Upon successful EMS course completion, you will be eligible to take national certification exams through the National Registry of Emergency Medical Technicians (NREMT).

Paramedic Program Student Outcomes

	2017	2018	2019
Graduates	8	9	14
Retention	80%	90%	93%
Certification	75%	75%	78%
Positive Placement	100%	100%	100%

Transfer Information

Articulation agreements with Columbia Southern University and Upper Iowa University allow you to transfer your Emergency Medical Services coursework to earn a Bachelor of Science degree.

- See Columbia Southern University's online Bachelor of Science in emergency medical services administration program.

- Upper Iowa University Bachelor of Science (BS) in Public Administration — Emergency Management Emphasis articulation agreement [pdf]

- Upper Iowa University Bachelor of Science (BS) in Emergency and Disaster Management [pdf]

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Your 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.

Careers

POSITIONS

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.

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Emergency Medical Technicians and Paramedics	$24,900	$36,700	$42,600

Source: 2020 Iowa Wage Report, Iowa Workforce Development

EMPLOYERS

The following is a partial list of employers who have hired graduates from this program:

Business	Location
Area Ambulance Service	Cedar Rapids, IA
CARE Ambulance, LLC	Iowa City, IA
Mason City Fire Department	Mason City, IA
MercyOne	Waterloo, IA
North Benton Ambulance Service	Vinton, IA
Waterloo Fire Rescue	Waterloo, IA
Waverly Health Center	Waverly, IA

Admissions Requirements

1. Apply for admission at Hawkeye.
2. Request to have your official transcripts sent to the Admissions office.
3. Meet basic skill competencies in reading, writing, and math.

You can check the status of your application by logging into your Admissions Account.

Hawkeye's Equal Opportunity Statement

Emergency Medical Services AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 69
Program Start: Fall, Spring, Summer

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆	General education course.
▶	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1				
BIO-168	Human Anatomy and Physiology I		E	4 ◆
EMS-201	Emergency Medical Technician -OR-			7
EMS-363	Emergency Medical Technician I ▶ -AND-	8WK2		3
EMS-364	Emergency Medical Technician II ▶ -AND-	8WK1		3
EMS-365	Emergency Medical Technician II Clinical ▶	8WK1		1
ENG-105	Composition I ▶		O E	3 ◆
HSC-113	Medical Terminology			2
			Total Credits	**16**

Semester 2

BIO-173	Human Anatomy and Physiology II ▶		E	4	◆
EMS-114	Emergency Medical Responder -OR-			2	
EMS-856	Management of Emergency Medical Services -OR-			3	
EMS-900	Education in EMS -OR-			3	
FIR-139	Fire Fighter I -OR-			4	
FIR-213	Principles of Emergency Services -OR-			3	
FIR-214	Legal Aspects of Emergency Services -OR-			3	
CRJ-285	Physical Conditioning for Public Services			2	
MAT-110	Math for Liberal Arts ▶ -OR-	O E		3	◆
MAT-156	Statistics ▶ -OR-	O E		3	◆
MAT-121	College Algebra ▶			4	◆
SOC-110	Introduction to Sociology -OR-	O E		3	◆
PSY-111	Introduction to Psychology	O E		3	◆
SPC-101	Fundamentals of Oral Communication	O E		3	◆

Total Credits 15

Semester 3

EMS-541	Clinical I ▶	3
EMS-610	Paramedic Pharmacology and Medication Administration ▶	4
EMS-619	Airway and Patient Assessment ▶	4
EMS-641	Introduction to Paramedicine ▶	3
EMS-674	Cardiology for the Paramedic ▶	4

Total Credits 18

Semester 4

EMS-546	Clinical II ▶	3
EMS-650	Medical and Psychological Emergencies ▶	4
EMS-677	Special Populations for the Paramedic ▶	4
EMS-678	Traumatic Emergencies for the Paramedic ▶	3

Total Credits 14

Semester 5 — Summer

EMS-654	EMS Operations ▶	2
EMS-655	Transition to Paramedic Practice ▶	4

Total Credits 6

Paramedic Certificate Option Courses

Award: Certificate (Certificate)
Required number of credits: 48
Program Start: Fall

Prior to the first day of classes you will be required to complete all of the following background screenings: Drug screening, criminal background, sex offender, and adult/dependent abuse background checks. Failing a drug screening or background check will result in dismissal from the program.

Prior to the first day of classes you must be Basic Life Support for Healthcare Provider CPR certified.

2021–2022 Suggested Sequence of Study

The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022. Part-time students should visit with a program advisor for a modified sequence of study.

When registering for classes refer to your Academic Evaluation to see your specific program requirements and ensure proper registration.

Courses are subject to change.

◆ General education course.

▶ Course has a prerequisite and/or corequisite.

E Course meets face-to-face after 5:00pm.

Students must achieve a minimum "C" grade in all courses required to complete the program.

Prerequisites				
BIO-168	Human Anatomy and Physiology I	E	4	◆
BIO-173	Human Anatomy and Physiology II ▶	E	4	◆
HSC-113	Medical Terminology		2	
	Total Credits 10			

Semester 1

Course	Title	Credits
EMS-541	Clinical I ▶	3
EMS-610	Paramedic Pharmacology and Medication Administration ▶	4
EMS-619	Airway and Patient Assessment ▶	4
EMS-641	Introduction to Paramedicine ▶	3
EMS-674	Cardiology for the Paramedic ▶	4
	Total Credits 18	

Semester 2

Course	Title	Credits
EMS-546	Clinical II ▶	3
EMS-650	Medical and Psychological Emergencies ▶	4
EMS-677	Special Populations for the Paramedic ▶	4
EMS-678	Traumatic Emergencies for the Paramedic ▶	3
	Total Credits 14	

Semester 3 — Summer

Course	Title	Credits
EMS-654	EMS Operations ▶	2
EMS-655	Transition to Paramedic Practice ▶	4
	Total Credits 6	

Police Science

Interested in a career where you can make a difference? Consider a career in public service!

The Police Science program prepares you for a career in public service. This degree will enable you to work in law enforcement, corrections, or security; plus lay a foundation for you to work in adult or juvenile probation and parole, or legal work. Our graduates work in many different roles at the city, county, state, and federal levels.

Careers in public service need trainable people who are of good character with limited criminal history and devoted to solving problems and making communities better. An interest in law is helpful, but not required; but prepare to hone your writing, math, and speaking skills.

Next generation public service professionals are people just like you, interested in helping and protecting others, solving problems, advocating for victims, and interacting with their community. All you need to have is a willingness to build your knowledge, physical fitness, technical, and interpersonal skills.

At Hawkeye Community College our curriculum focuses on building your knowledge and skills through classes such as:

- Police operations
- Crime scene, accident, and general investigations
- Critical incident management
- Criminal and constitutional law
- Report writing and testifying
- Physical fitness conditioning
- Safe and legal use of force in defensive tactics and firearms

All Police Science instructors have law enforcement experience, academic training, and are dedicated to mentoring students. Instructors will coach you to ensure you make ethical choices, maintain a clear criminal history, and care for your physical and emotional fitness and resiliency.

Hands-On Learning Opportunities

- Crime Scene Lab: Practice legal and ethical evidence collection techniques and analysis.

- Indoor and Outdoor Firing Ranges: Learn safe operation of, and care and maintenance of, firearms

- Virtual Firearms Simulator System (MILO): Learn and practice decision making skills with scenarios that require you to reason appropriate use of force.

- Internship: Gain 128 hours of real-world work experience ensuring you have the skills you need to succeed in your future career.

Police Academy

Graduates, either newly hired or sponsored by a law enforcement agency, are eligible to attend the New Officer 9-Week Basic Level II Certification Academy. Hawkeye is designated as a Regional Law Enforcement Training Facility by the Iowa Law Enforcement Academy.

Transfer Information

An articulation agreement allows you to transfer your Police Science coursework to the Bachelor of Applied Science in Criminal Justice program at the University of Northern Iowa.

If you plan to transfer, work closely with a program advisor to ensure courses transfer and you meet program requirements.

Your 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.

Careers

POSITIONS

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 private/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. Learn how your criminal history matters.

EMPLOYERS

The following is a list of employers who have hired graduates from this program:

- 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

EXAMPLE CAREERS AND AVERAGE WAGES

	Entry	Average	Experienced
Detectives and Criminal Investigators	$50,600	$73,100	$84,400
Gambling Surveillance Officers and Gambling Investigators	$25,500	$33,800	$38,000
Police and Sheriff's Patrol Officers	$44,100	$59,700	$67,500
Private/Corporate Security Guards	$21,800	$32,700	$38,200

Source: 2020 Iowa Wage Report, Iowa Workforce Development

Admissions Requirements

◼ STEP 1 Apply at Hawkeye

1. <u>Complete Hawkeye's online admissions application</u> to apply and be considered for the Police Science program.

2. <u>Request to have your transcripts sent to the Admissions office</u>. If you have military or reserve officer training, send transcripts for evaluation to receive possible credit for your training.

◼ STEP 2 Basic Skill Competencies

In order to be eligible for the Police Science program, all students must meet minimum score requirements and/or successfully complete the required college success courses in English, reading, and math with a "C" grade or higher at Hawkeye Community College or comparable courses at another accredited college. For appropriate college success course placement, work with your program advisor.

ACT	ACCUPLACER	COMPASS	ACCUPLACER Next Generation
16 Reading	58 Reading	69 Reading	239 Reading
16 English	64 Sentence Skills	41 Writing	240 Writing
14 Math	40 Arithmetic	24 Pre-Algebra	240 Arithmetic
			241 Quantitative Reasoning, Algebra, and Statistics

◼ STEP 3 Program Acceptance

Applicants meeting the Basic Skill Competencies Requirements criteria are eligible for 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.

<u>Equal Opportunity Statement</u>

Police Science AAS Degree Courses

Award: Associate of Applied Science (AAS)
Required number of credits: 62
Program Start: Fall

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.

2021–2022 Suggested Sequence of Study

⮞ **The following suggested sequence of study is for new full-time students starting the program Fall 2021, Spring 2022, or Summer 2022**. Part-time students should visit with a program advisor for a modified sequence of study.

⮞ **When registering for classes refer to your Academic Evaluation** to see your specific program requirements and ensure proper registration.

⮞ Courses are subject to change.

◆	General education course.
▣	Non-transfer general education course.
►	Course has a prerequisite and/or corequisite.
O	Course meets 100% online.
E	Course meets face-to-face after 5:00pm.
8WK1	Course meets the first 8 weeks of the semester.
8WK2	Course meets the second 8 weeks of the semester.

Semester 1				
CRJ-100	Introduction to Criminal Justice	O E	3	◆
CRJ-143	Police Operations		3	
CRJ-234	Traffic Law		2	
CRJ-320	Criminal Justice Ethics	O	3	◆
SOC-110	Introduction to Sociology -OR-	O E	3	◆
SOC-115	Social Problems -OR-	O E	3	◆
SOC-205	Diversity in America	O E	3	◆
		Total Credits 14		

Semester 2

CRJ-135	Criminal Evidence ▶		3	
CRJ-237	Criminal and Constitutional Law		3	
CRJ-244	Advanced Accident Investigation ▶		3	
CRJ-316	Juvenile Justice ▶		3	◆
MAT-110	Math for Liberal Arts ▶ -OR-	O E	3	◆
MAT-156	Statistics ▶ -OR-	O E	3	◆
MAT-772	Applied Math		3	▣

Total Credits 15

Semester 3

CRJ-151	Defensive Tactics ▶		2	
CRJ-200	Criminology	O E	3	
CRJ-252	Basic Firearms ▶	8WK1	1	
CRJ-254	Advanced Firearms ▶	8WK2	1	
CRJ-282	Crime Scene Investigation ▶		3	
CRJ-285	Physical Conditioning for Public Services		2	
EMS-114	Emergency Medical Responder -OR-		2	
EMS-201	Emergency Medical Technician		7	
ENG-105	Composition I ▶	O E	3	◆

Total Credits 17

Semester 4

CRJ-141	Criminal Investigation ▶		3	
CRJ-266	Report Writing and Testifying ▶		3	
CRJ-315	Crisis Intervention ▶		3	
CRJ-322	Tactical Police Operations ▶		2	
CRJ-952	Internship ▶		2	
SPC-101	Fundamentals of Oral Communication	O E	3	◆

Total Credits 16

COURSE DESCRIPTIONS

ACC: Accounting

ACC-115 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: 64

ACC-116 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 ACC-115 or ACC-131.

ACC-131 Principles of Accounting I　　◆

4 credits—This course is an introduction to basic financial accounting concepts and procedures for service and merchandising businesses and the corporate form of ownership. Topics included are the accounting cycle; accounting systems; financial statements; accounting for cash, receivables, payables, inventories, plant assets, bonds, and stock.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D- in MAT-063, or minimum score of 42 on the Algebra test, or Math ACT score of 19 or higher.

ACC-132 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 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 ACC-131.

Pre/Co-requisite(s):

ACC-160 Payroll Accounting

2 credits—This course is a study of payroll from payroll laws to journalizing payroll transactions. Emphasis is on computing wages, social security taxes, income tax withholding, unemployment taxes, and journalizing payroll transactions with hands-on experience in preparing all the necessary monthly, quarterly and annual reports. An accounting payroll project will provide hands-on experience in preparing a payroll.

Lecture Hours: 16   Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of C- in ACC-115 or ACC-131.

ACC-190 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 ACC-132 or ACC-116.

ACC-222 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 ACC-132 or ACC-116.

ACC-231 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 ACC-116 or ACC-132.

ACC-232 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 ACC-231.

ACC-265 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

ACC-310 Computer Accounting

2 credits—Provides students with practice and application of the accounting cycle on microcomputers. Topics include ledgers, accounts receivable and payable, payroll, inventory and depreciation. Integrated software packages are introduced.

Lab Hours: 64

Prerequisite(s): A minimum grade of C- in ACC-115 or ACC-131.

ACC-360 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 BCA-205.

ACC-803 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 ACC-115 or ACC-131.

ACC-924 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. This course can be repeated with different content for credit.

Can be completed for up to three credits.

Lecture Hours: 16

ADM: Administrative Assistant

ADM-105 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

ADM-108 Keyboarding Skill Development

1 credits—The touch keyboarding skill building process is continued. This course assists students to improve speed and accuracy and improve their technique on the alphabetic, number and symbol keys. 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 ADM-105.

ADM-157 Business English

3 credits—The Business English course focuses on having the students improve their English language skills. Students learn to apply the principles of English grammar, punctuation, and style. This course will emphasize correct grammar usage, spelling, vocabulary, and proofreading/editing skills for the office professional.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D- in ENG-061 or appropriate placement score.

ADM-162 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 BCA-134.

Pre/Co-requisite(s): A minimum grade of D- in ADM-157.

ADM-200 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 BCA-134.

Pre/Co-requisite(s): A minimum grade of D- in ADM-157.

ADM-203 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 BCA-134.

ADM-208 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

ADN: Associate Degree Nursing

◆ **General Education course**

ADN-121 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. Course content includes an overview of ethical, legal, and the professional roles/responsibilities of the registered nurse, delegation, prioritization, nursing process, and critical thinking.

Admission to the Associate Degree Nursing Program. This course begins the 3 year time limit for completion of the ADN curriculum. An active permanent Practical Nursing license in good standing is required prior to ADN-226.,

Lecture Hours: 32

Pre/Co-requisite(s): Minimum grade of B in ADN-122 and ADN-231.

ADN-122 Advanced Nursing Skills

2 credits—This course provides supervised practice in a variety of advanced nursing skills in both a lab and clinical setting. Competence in selected nursing skills will be demonstrated in the provision of safe nursing care.

Admission without conditions to the Associate Degree Nursing Program for the current semester.

Lecture Hours: 16   Lab Hours: 32

Pre/Co-requisite(s): Minimum grade of B in ADN-121 and ADN-231.

ADN-124 Complex Health Alterations   ◆

3 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 complex medical and surgical care. The content includes a review of select respiratory (acid base), endocrine, musculoskeletal, neurological, pain, immunity, and HIV/AIDs health alterations.

Lecture Hours: 48

Pre/Co-requisite(s): Minimum grade of (P/F) in ADN-125. Minimum grade of B in ADN-128.

ADN-125 Nursing Clinical V   ◆

2 credits—This clinical course provides opportunities for students to incorporate concepts from course work in bio/psycho/social sciences, humanities, nursing and current evidence-based literature to provide safe, competent care of adult clients experiencing common complex alterations in body systems. The course utilizes the nursing process in order to achieve best practice outcomes in a medical/surgical setting. Particular emphasis is placed on concepts of holistic care, client education, and critical thinking for clients with respiratory (acid base), endocrine, musculoskeletal, neurological, sensory, pain, and immunity disorders complex health alterations.

Clinic Hours: 96

Pre/Co-requisite(s): Minimum grade of B in ADN-124 and ADN-128.

ADN-128 Community and Mental Health Nursing ◆

2 credits—This course focuses on the study and application of modern concepts of community and advanced psychiatric nursing. The nursing process will be used to therapeutically plan client cares, applying the principles of community nursing, mental health, and psychiatric nursing.

Lecture Hours: 32

Pre/Co-requisite(s): Minimum grade of B in ADN-124. Minimum grade of (P/F) in ADN-125.

ADN-224 Complex Health Alterations B ◆

3 credits—The course is a study of the concepts of health and illness utilizing the nursing process in providing comprehensive nursing care for adults requiring complex medical and surgical care. The content includes a review of select cardiovascular, hematology/oncology, fluids/electrolytes (hypovolemic shock), integumentary (burns), gastrointestinal, renal/male reproductive health alterations and physiological adaptations.

Lecture Hours: 48

Prerequisite(s): Admission criteria. PN Practical Nurse License in Good Standing.

Pre/Co-requisite(s): Minimum grade of (P/F) in ADN-225. Minimum grade of B in ADN-331.

ADN-225 Nursing Clinical VI ◆

2 credits—This clinical course provides opportunities for students to incorporate concepts from course work in bio/psycho/social sciences, humanities, nursing and current evidence-based literature to provide safe, competent care of adult clients experiencing common complex alterations in body systems. The course utilizes the nursing process in order to achieve best practice outcomes in a medical/surgical setting. Particular emphasis is placed on concepts of holistic care, client education and critical thinking for clients with cardiovascular, hematology/oncology, fluids/electrolytes (hypovolemic shock), integumentary (burns), gastrointestinal, and renal/male reproductive.

Clinic Hours: 96

Prerequisite(s): Minimum grade of B in ADN-224 and ADN-331.

ADN-226 Complex Maternal Child Health Alterations ◆

3 credits—This course builds on the concepts of previous nursing courses with an emphasis on the care of high risk maternal and pediatric clients. The focus will be on health promotion, ethical/legal considerations, family-centered care and common alterations seen in high risk maternal and pediatric clients.

Lecture Hours: 48

Prerequisite(s): Minimum grade of B in ADN-121, ADN-122, ADN-124, ADN-231, and ADN-128.

Pre/Co-requisite(s): Minimum grade of (P/F) in ADN-227. Minimum grade of B in ADN-333.

ADN-227 Nursing Clinical Community and Special Populations ◆

2 credits—This clinical course provides opportunities for students to incorporate concepts from course work in bio/psycho/social sciences, humanities, nursing and current evidence-based literature to provide safe, competent care of maternal, pediatric, mental health and community clients experiencing complex alterations in body systems. The course utilizes the nursing process in order to achieve best practice outcomes in a medical/surgical setting. Particular emphasis is placed on concepts of holistic care, client education and critical thinking.

Clinic Hours: 96

Prerequisite(s): Minimum grade of B in ADN-121, ADN-122, ADN-124, ADN-125, ADN-128, and AND-231.

Pre/Co-requisite(s): Minimum grade of B in ADN-226 and ADN-333.

ADN-231 Advanced Pharmacology ◆

2 credits—This course examines advanced medication administration principles. Emphasis will be placed on intravenous medication therapy, calculation of dosages, infusion rates and titrations. Nursing implications of medication administration in complex health conditions are explored.

Lecture Hours: 32

Pre/Co-requisite(s): Minimum grade of B in ADN-121 and ADN-122.

ADN-315 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 roles of the registered nurse, the nursing process, critical thinking, and Evidence Based Practice guidelines within nursing practice. Preparation for employment is also included.

Lecture Hours: 32

ADN-331 Issues in Nursing Management ◆

2 credits—This course focuses on the study and application of the managerial and leadership aspects of professional nursing. Preparation for the licensing exam, career opportunities, and job searches are also included.

Lecture Hours: 32

Prerequisite(s): Minimum grade of B in ADN-121, ADN-122, ADN-124, ADN-128, and ADN-231.

Pre/Co-requisite(s): Minimum grade of B in ADN-128, ADN-224, ADN-226, and ADN-333.

ADN-333 Holistic Client Care ◆

2 credits—The course reviews holistic care including personal wellness, clinical reasoning, critical thinking, alternative therapies and end of life care.

Lecture Hours: 32

Pre/Co-requisite(s): Minimum grade of B in ADN-226. Minimum grade of (P/F) in ADN-227.

ADN-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

AGA: Agriculture − Agronomy

◆ General Education course

AGA-114 Principles of Agronomy

3 credits—Provides a foundation course in agronomy. Applies crop, soil, and environmental sciences in understanding agricultural systems in the world. Introduces concepts of plant, soil, tillage, pest, environmental, and sustainable aspects of crop production. It includes hands-on learning experiences.

Lecture Hours: 32   Lab Hours: 32

AGA-154 Fundamentals of Soil Science

3 credits—Introduces physical, chemical, and biological properties of soils, their formation, classification, and distribution. Uses soils survey and other information sources in balancing agronomic, economic, and environmental concerns in soil management.

Lecture Hours: 32   Lab Hours: 32

AGA-214 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

AGA-284 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

AGA-376 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.

Lecture Hours: 32   Lab Hours: 32

AGA-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

AGB: Agriculture — Farm Management

◆ **General Education course**

AGB-101 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

AGB-235 Introduction to Agriculture Markets

3 credits—Presents basic concepts and economics principles related to markets for agricultural inputs and products. Overview of current marketing problems faced by farms and agribusinesses, farm and retail price behavior, structure of markets, food marketing channels, food quality and food safety, and the role of agriculture in the general economy. The implications of consumer preferences at the farm level. Introduction to hedging, futures, and other risk management tools.

Lecture Hours: 32   Lab Hours: 32

AGB-303 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

AGB-330 Farm Business Management   ◆

3 credits—Applies business and economic principles of decision making and problem solving in the management of a farm business. Covers cash flow, partial, enterprise, and whole farm budgeting. Reviews information systems for farm accounting, analysis, and control. Examines obtaining and managing land, capital, and labor resources. Provides alternatives for farm business organization and risk management.

Lecture Hours: 32   Lab Hours: 32

AGB-331 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

AGB-336 Agricultural Selling

3 credits—The course teaches the principles of selling with application to agricultural and food related businesses. Reviews attitudes, value systems, and behavioral patterns that relate to agricultural sales. The following concepts will be examined: marketing, selling strategies, preparing for sales calls, making sales presentations, handling objections, and closing sales. The buying or purchasing process will also be analyzed along with evaluating the agri-selling profession.

Lecture Hours: 32   Lab Hours: 32

AGC: Agriculture − Comprehensive − Miscellaneous

◆ **General Education course**

AGC-103 Ag Computers

3 credits—This course will introduce students to the hardware, software, word processing, presentation, database and spreadsheet programs. Applications of various agricultural management uses are covered throughout. Online applications and resources, Global Positioning Systems, and Geographic Information Systems are also introduced.

Lecture Hours: 32   Lab Hours: 32

AGC-999 Study Abroad   ◆

3 credits—This course explores relative differences between the student's country and another country with emphasis in discipline of study. Topics include history, geography, culture, food, language, and discipline specific topics. This course can be repeated with different content for credit. This course may be taken for 1 − 5 credits.

Lecture Hours: 48

AGH: Agriculture − Horticulture

AGH-107 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.

Lab Hours: 32

AGH-108 Horticulture Safety

1 credits—The Horticulture safety course will provide students with the knowledge to recognize safe working practices in the horticulture industry. Outline the standards and expectations required to work safely in the numerous occupations of the horticulture 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.

Lab Hours: 32

AGH-112 Introduction to Turfgrass Management

3 credits—The course introduces the students to the field of Turfgrass Science. Applying the principles and practices involved in successful maintenance of turfgrass areas will be presented.

Lecture Hours: 48

AGH-140 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

AGH-142 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   Lab Hours: 32

AGH-143 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

AGH-161 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

AGH-200 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   Lab Hours: 32

AGH-211 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, tees, bunkers, basic golf course design is presented. Budgets, irrigation, maintenance and an integrated pest management program are presented.

Lecture Hours: 48

AGH-221 Principles of Horticulture

3 credits—The course provides an introduction to horticulture covering the basic knowledge and skills associated with growth and development of plants including fruits, vegetables, turfgrass, and ornamentals.

Lecture Hours: 48

AGH-248 Identifying Plant and Landscape Problems

3 credits—This course will cover common insect, disease, and weed identification in various landscape applications along with environmental problems. Techniques for problem identification and finding the tools needed to reach a solution will be a major focus. Strategies such as integrated pest management and chemical treatment will be covered.

Lecture Hours: 32   Lab Hours: 32

AGH-400 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

AGH-425 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

AGH-431 Maintaining Turf and Landscape Equipment

3 credits—This course covers the fundamentals of turf grass and equipment maintenance including shop layout and maintenance scheduling. Practical applications will be covered involving routine and scheduled maintenance of specialty equipment along with practices such as bearing replacement and reel grinding.

Lecture Hours: 32   Lab Hours: 32

AGH-912 Current Topics in Hort.

1 credits—This is a capstone course for the Horticulture program. This course provides an overview of current and potential future trends in the green industry. Case studies will be investigated.

Lecture Hours: 16

AGM: Agriculture − Mechanics

◆ **General Education course**

AGM-104 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

AGM-111 Gas Engine Rebuild

4 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: 32   Lab Hours: 64

AGM-119 Hydraulics I   ◆

4 credits—This course covers theory and symbols of hydraulic components. Testing and repair of components is performed according to manufacturers' specifications.

Lecture Hours: 16   Lab Hours: 96

Prerequisite(s): Minimum grade of C- in AGM-124

AGM-124 Technical Procedures for Power Mechanics Techs

3 credits—Identifies the general knowledge and procedures used by power technicians. Covers tool selection, general shop safety, fire safety and forklift operation.

Lecture Hours: 16   Lab Hours: 64

AGM-126 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 EGT-144.

AGM-128 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 EGT-144.

AGM-142 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 EGT-144.

AGM-224 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 C- in AGM-333.

Pre/Co-requisite(s): A minimum grade of C- in AGM-119.

AGM-333 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 C- in AGM-124.

Pre/Co-requisite(s): A minimum grade of C- in AGM-104.

AGM-401 Ag Power Transfer Systems   ◆

4 credits—A study of the Ag 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: 16   Lab Hours: 96

Prerequisite(s): Minimum grade of C- in AGM-119, AGM-104, AGM-124, AGM-333, and AGM-224

AGM-402 Equipment Repair II   ◆

3 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects.

Lecture Hours: 16   Lab Hours: 64

Pre/Co-requisite(s): Minimum grade of C- in AGM-401 and DSL-404

AGP: Agriculture — Precision Ag

AGP-333 Precision Farming Systems

3 credits—Provides an overview of precision farming concepts and the tools of precision farming (GPS, GIS and VRT). Introduces the use of each of these tools within the processes of a precision farming system. Provides hands-on activities in the use of these tools. Discusses economic and environmental benefits.

Lecture Hours: 32   Lab Hours: 32

AGP-340 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

AGP-436 Advanced Precision Farming: Hardware

3 credits—Examine the installation, operation, and troubleshooting of precision farming hardware components. Install equipment and various components used within precision agriculture and operate various precision agriculture hardware systems and technologies. Trouble shoot and diagnose various problems on precision hardware technologies. Justify and examine the cost and benefits of various precision hardware technologies.

Lecture Hours: 32   Lab Hours: 32

AGP-450 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.

Lecture Hours: 32   Lab Hours: 32

AGS: Agriculture — Science, Animal

◆ **General Education course**

AGS-113 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

AGS-211 Issues Facing Animal Science

2 credits—Overview of the factors that define contemporary ethical and scientifically based issues facing the animal industry.

Lecture Hours: 32

AGS-216 Equine Science

3 credits—This course presents the basic management and production practices for horses including nutrition, health care, reproductive management, facilities and evaluation.

Lecture Hours: 32   Lab Hours: 32

AGS-218 Domestic Animal Physiology

4 credits—Introduction to the functional anatomy and physiological activities governing the animal body; including cells, senses, nerves, skeletal, circulatory, respiratory, digestive, urinary, muscular, reproductive, and endocrinology.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): A minimum grade of D- in AGS-113.

AGS-225 Swine Science

3 credits—Introduces principles, practices, and decisions impacting swine production.

Lecture Hours: 32   Lab Hours: 32

AGS-226 Beef Cattle Science

3 credits—This course will introduce the principles, practices, and decisions impacting beef cattle production.

Lecture Hours: 32   Lab Hours: 32

AGS-272 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.

Lecture Hours: 64   Lab Hours: 32

Prerequisite(s): A minimum grade of D- in AGS-113.

AGS-275 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

AGS-305 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.

Lecture Hours: 32   Lab Hours: 32

AGS-319 Animal Nutrition

3 credits—Examines the nutritional principles, digestive systems, composition, and nutritional characteristics of common feedstuffs, ration formulation, and recommended animal feeding programs.

Lecture Hours: 32   Lab Hours: 32

AGS-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

AGT: Agriculture – Technology

AGT-700 Special Topics: Agriculture Education

1 credits—This course is designed for career and technical 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

AGT-805 Employment Experience

5 credits—This course provides students with opportunities to gain on-the-job experience in the agriculture, natural resource or horticulture industries. Students will gain an understanding of qualities and skills needed for success. Coordination and guidance will be provided by department instructors.

Co-op Hours: 320

AGT-928 Independent Study

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content.

May be taken for up to 5 credits.

Lecture Hours: 16

AGV: Agriculture – Vet Technology

AGV-101 Veterinary Assisting

3 credits—This is a capstone course that will provide students with the necessary skills and competencies that are needed to successfully perform the duties of a veterinary assistant.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D- in AGV-154 or instructor approval.

AGV-121 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

AGV-123 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.

Lecture Hours: 32   Lab Hours: 32

AGV-140 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 AGS-218.

AGV-154 Veterinary Reception and Administration Skills

4 credits—This course will cover all aspects of record keeping, reception, and administration skills required in a veterinary hospital. Furthermore, students will become familiarized with a computer software used in a veterinary practice.

Lecture Hours: 64

ART: Art

ART-101 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

ART-120 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

ART-123 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.

Lecture Hours: 32   Lab Hours: 32

ART-133 Drawing ◆

3 credits—This course concentrates on fundamental 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

ART-134 Drawing II ◆

3 credits—This course concentrates on more advanced drawing problems: gesture, contour,proportions,mapping techniques and value are studied through the use of props and clothed models addressed in Drawing 1. The focus will be more creative interpretation with various media and approaches.

Lecture Hours: 32   Lab Hours: 32

ART-143 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

ART-144 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): ART-143, equivalent, or instructor approval.

ART-173 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

ART-174 Ceramics II   ◆

3 credits—This course develops the methods of clay forming as a means of expression. Topics may include hand building, wheel-throwing, glazing, design and the functional and aesthetic aspects of ceramics. Upon completion, students should demonstrate improved craftsmanship and aesthetic quality in the production of ceramic art.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D- in ART-173.

ART-184 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. In this hands-on class, students will complete specific technique-based assignments and participate in class demonstrations, discussions and critiques.

Lecture Hours: 32   Lab Hours: 32

ART-203 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

ART-204 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

ART-924 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. This class may be taken for up to 3 credits.

May be taken for up to 3 credits.

Lecture Hours: 16

ART-928 Independent Study ◆

1 credits—This course provides students with an opportunity to explore a topic, medium, or project of interest that is outside the regular course offerings. Faculty consultation is required prior to registration for this course. This course can be repeated with different content for credit. This course can be taken for 1–5 credit hours.

May be taken for up to 5 credits.

Lecture Hours: 16

ART-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

ART-999 Study Abroad ◆

1 credits—This course explores relative differences between the student's country and another country with emphasis in discipline of study. Topics include history, geography, culture, food, language, and discipline specific topics. This course can be repeated with different content for credit. This course can be taken for up to 5 credits.

Lecture Hours: 16

ATR: Automation Technology and Robotics

ATR-145 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

AUT: Automotive Technology

AUT-106 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

AUT-109 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

AUT-164 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

AUT-204 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

AUT-307 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

AUT-315 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

Pre/Co-requisite(s):

AUT-404 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

AUT-504 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

AUT-537 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

AUT-610 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

AUT-631 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

AUT-643 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

AUT-704 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

AUT-827 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 AUT-842.

AUT-834 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

AUT-842 Automotive 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

AUT-886 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 AUT-106, AUT-109, AUT-164, AUT-610I, AUT-504, AUT-643l, and AUT-307.

BCA: Business Computer Application

BCA-132 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): CSC-110 or ADM-105 and BCA-134.

BCA-134 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): ADM-105 Introduction to Keyboarding.

BCA-183 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): WDV-102.

BCA-205 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 RDG-039 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.

BCA-213 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 BCA-205, BCA-201, and BCA-134.

BCA-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

BIO: Biology

◆ General Education course

BIO-105 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

BIO-112 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

BIO-113 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

BIO-151 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

BIO-154 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

Pre/Co-requisite(s):

BIO-163 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. Each student must enroll for one laboratory section.

Lecture Hours: 48   Lab Hours: 32

BIO-166 Fundamentals of Anatomy and Physiology ◆

4 credits—This introductory course provides an overview of basic anatomy and physiology of all body systems. It is designed primarily for the non-professional majors as an introductory course. Laboratory includes microscopy, the study of human anatomy, computer simulations, preserved specimens and the study of physiological processes.

Lecture Hours: 48   Lab Hours: 32

BIO-168 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.

Lecture Hours: 48   Lab Hours: 32

BIO-173 Human Anatomy and Physiology II ◆

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 BIO-168.

BIO-186 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

Pre/Co-requisite(s):

BIO-269 Foodology   ◆

3 credits—This course explores the physical, biological, and chemical study of food and examines food science by presenting topics relevant to the modern day diet. Topics will include food processing, food distribution, organic foods, genetically modified foods, macro and micronutrients, and the obesity epidemic.

Lecture Hours: 48

BIO-924 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. This course can be repeated with different content for credit. This course can be taken for 1–3 credit hours.

Lecture Hours: 16

BIO-928 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. This course can be repeated with different content for credit.

Lecture Hours: 16

BIO-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

BUS: Business

BUS-102 Introduction to Business   ◆

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

BUS-108 Business College Experience

1 credits—This course is designed to orient technical business students to the college campus, business and general resources, college services, and expectations. This course will provide an introduction to career portfolios and certifications

Lecture Hours: 16

BUS-128 Foundation to Entrepreneurship

3 credits—This course is suitable for anyone who dreams of one day becoming his/her own boss. Students will learn how to identify and evaluate opportunities, analyze feasibility, and plan to create and grow successful businesses. The course provides an overview of entrepreneurship and its importance in society and inspires students to recognize entrepreneurial characteristics within themselves.

Lecture Hours: 32

BUS-180 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

BUS-183 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

BUS-210 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): MAT-156 or equivalent or appropriate placement score.

BUS-220 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

BUS-230 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): MAT-156.

BUS-295 Workplace Professionalism

2 credits—This course is designed to prepare students to enter the workplace with the skills required in a professional setting. This course will cover workplace behaviors such as communicating in a professional manner, conflict resolution, accountability, and business etiquette. This course will also cover career development skills.

Lecture Hours: 32

BUS-903 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

BUS-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

BUS-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

BUS-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

CAD: Computer Aided Drafting

CAD-118 Technical Drawing and CAD

3 credits—This course will introduce hands-on technical drawing and computer-aided drafting and design. Basic drawing tools and computer hardware, software and file management will be discussed. Basic manual drawing and two-dimensional engineering CAD drawing creation will be covered. Various editing techniques in CAD will be examined. Manual drawings will be created; CAD drawings will be created, edited and plotted.

Lecture Hours: 16   Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of D- in CSC-110, or EGT-108, or EGT-410. For non-majors, a student with basic computer proficiency can be enrolled with instructor consent.

CAD-200 CAD SoftPlan

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 CON-102.

CAD-208 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 CAD-200.

CET: Civil Engineering Technology

CET-123 Constr Drawings and Cont

3 credits—The course examines typical building and civil construction (highway) plans and introduces the methods of bidding and contracting for various types of building projects.

Lecture Hours: 48

Prerequisite(s): Non-majors may enroll with instructor consent.

CET-133 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): A minimum grade of D- in MAT-741 or MAT-121.

CET-142 PC Concrete, HMA, and Testing

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

CET-160 Surveying

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: 64

Pre/Co-requisite(s): A minimum grade of D- in MAT-741 or MAT-121 or instructor consent.

CET-183 Structural Detailing and Civil Drafting

3 credits—Structural Detailing uses computer-aided drafting (CAD) techniques to prepare drawings for sites and highway structures which include structural steel, reinforced concrete and structural timber. Course introduces the preparation of bar bend details, reinforcing bar lists, and quantity calculations for various types of projects. Topics from the Department of Transportation Highway and Bridge Standard Specifications are also covered.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D- in CAD-118 or instructor consent.

CET-213 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: 64

Prerequisite(s): Minimum grade of D- in CET-160.

CET-223 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: 16   Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of D- in MAT-741 or MAT-121.

CET-233 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): CET-160.

CET-253 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

Pre/Co-requisite(s): A minimum grade of D- in MAT-063 or equivalent placement score.

CET-256 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: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D- in CET-160.

CET-262 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): A minimum grade of D- in MAT-121 or MAT-741.

CET-285 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): EGT-243

CET-296 Site Planning and Development

3 credits—The course will examine procedures for developing site plans for main types of construction projects. Various aspects of the development of a job site will be examined by considering feasibility studies, zoning requirements, site survey and design, required permits and other pertinent information. The general outline of the policies used by local municipalities will be used as examples.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D- in CAD-118, EGT-460, and CET-123.

Pre/Co-requisite(s): A minimum grade of D- in CET-213 and CET-262.

CHM: Chemistry

◆ **General Education course**

CHM-122 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 MAT-063.

CHM-132 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): CHM-122.

CHM-165 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 MAT-102, MAT-110, or MAT-156.

Pre/Co-requisite(s):

CHM-175 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): CHM-165.

CHM-260 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 CHM-165 and CHM-175.

CHM-270 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 CHM-260 or equivalent.

CHM-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

CHM-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content.

May be taken for up to 5 credits.

Lecture Hours: 16

CHM-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

CIS: Computer Programming

CIS-102 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

CIS-121 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

CIS-152 Data Structures

3 credits—This course provides a strong foundation in commonly used data structures, including collections, linked lists, stacks, queues, trees, maps and heaps, etc. Students will use an object-oriented programming language to design, write, and test medium-sized programs that implement data structures.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C- in CIS-121.

CIS-169 C#

3 credits—This course is an introduction to the C# language. Object-oriented programs will be developed by students.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C- in CIS-121.

CIS-174 Advanced C# Programming

3 credits—Students learn ASP.NET development with C# and relational database management systems and build dynamic websites, web applications and XML web services. The course includes advanced topics, such as state preservation techniques and object-oriented programming. After completing the course, students will be able to use C# and ASP.NET to build professional-quality database-driven websites.

Lecture Hours: 32   Lab Hours: 32

Pre/Co-requisite(s): Minimum grade of C- in CIS-169.

CIS-184 Programming Algorithms

3 credits—This course surveys computer algorithms every programmer should know. This course will also explore common design patterns.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of C in CIS-217 and CIS-225.

CIS-206 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 sites. Students will explore the Document Object Model as well as other advanced techniques.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of C in CIS-121, CIS-215, or CIS-231.

CIS-215 Server Side Web Programming

3 credits—This course is designed to give the student the tools and the knowledge to program web applications using the web programming language ASP.NET C# 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 C in WDV-102 and CIS-121.

CIS-217 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 CIS-231 PHP Programming.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of C in CIS-231.

CIS-225 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 CIS-215.

Pre/Co-requisite(s):

CIS-231 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 C in WDV-102, CIS-121, and CIS-355.

CIS-234 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): WDV-102 and minimum grade of C in CIS-231.

CIS-249 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 C in CIS-121 and WDV-102.

CIS-274 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): Minimum grade of C in CIS-231.

CIS-303 Introduction to Database

3 credits—This course will introduce students to data management using databases. Multiple DBMS's will be discussed and utilized to experience similarities and differences. SQL language will be used to create databases, populate tables and query data.

Lecture Hours: 32   Lab Hours: 32

CIS-355 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

CIS-364 Game Development I

3 credits—This course delves into the development of games from idea to prototype to a first stage functional game. A variety of platforms will be explored.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C in CIS-215 and CIS-121.

CIS-440 PLTW—Computer Science Essentials

3 credits—With emphasis on computational thinking and collaboration, this course provides an excellent entry point for students to begin or continue the PLTW Computer Science experience. This course will expose students to a diverse set of computational thinking concepts, fundamentals, and tools, allowing them to gain understanding and build confidence. Students will use visual, block-based programming and seamlessly transition to text-based programming with computer languages to create apps and develop websites, and learn how to make computers work together to put their design into practice. Students will apply computational thinking practices, build their vocabulary, and collaborate just as computing professionals do to create products that address topics and problems important to them.

Lecture Hours: 16   Lab Hours: 64   Clinic Hours: 0   Co-op Hours: 0

CIS-450 PLTW—Computer Science Principles

3 credits—This course implements the College Board's CS Principles framework. Incorporating multiple platforms and languages for computation, this course aims to develop computational thinking, generate excitement about career paths that utilize computing, and introduce professional tools that foster creativity and collaboration. Projects and problems include app development, visualization of data, cybersecurity, and simulation. The course aligns with CSTA 3B standards.

Lecture Hours: 16   Lab Hours: 64

CIS-504 Structured Systems Analysis

3 credits—Course will provide student knowledge in the complete process of systems analysis and design and the steps involved. Actual systems analysis and design lab practices will measure student's understanding. Concepts in Project Management will also be covered.

Lecture Hours: 32   Lab Hours: 32

CIS-604 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   Lab Hours: 32

Pre/Co-requisite(s):

CIS-750 Project Management

3 credits—This course provides students exposure to project management and its importance to successful Information Technology project implementation. Topics include the triple constraints of project management, project life cycle, cost estimates, motivation theory and team building. Tools and techniques important to project management will also be presented including project selection methods, proposal and planning documents, work breakdowns, network diagrams and critical path analysis.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in NET-313 and NET-213.

CLS: Cultural Studies

◆ **General Education course**

CLS-130 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 selected aspects of the political, economic, social, religious, environmental, and gender issues and realities facing Africa today. Lastly, it will expose students to significant African contributions and trends in the Fine Arts: literature, cinema, music, and the visual arts.

Lecture Hours: 48

CLS-141 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

CLS-150 Latin American History and Culture   ◆

3 credits—This course will explore the development of Latin American civilization form 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

CLS-160 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

CLS-164 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

CLS-172 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

CLS-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

CLS-928 Independent Study　　◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content.

Can be taken for up to 5 credit hours.

Lecture Hours: 16

CNS: Conservation Technology

◆ **General Education course**

CNS-104 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.

Lab Hours: 32

Prerequisite(s): A minimum grade of D- in RDG-038.

CNS-107 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.

Lab Hours: 32

CNS-108 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

CNS-109 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 CNS-121.

CNS-110 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

CNS-121 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

CNS-134 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 CNS-121.

Co-requisite(s): CNS-106.

CNS-136 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 CNS-121.

CNS-138 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

CNS-143 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): CNS-121.

CNS-180 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 CNS-121.

CNS-200 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 CNS-121.

CNS-204 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

CNS-205 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): CNS-107.

CNS-228 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

COM: Communication

COM-140 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

COM-143 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

COM-144 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

COM-147 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

COM-148 Diversity and the Media   ◆

3 credits—Diversity and the Media presents a historical perspective and current analysis of various minority groups and how the media depicts 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 others.

Lecture Hours: 48

COM-151 ETC: Art and Literary Magazine   ◆

3 credits—This course will teach students to produce the annual art and literary magazine, ETC, at Hawkeye Community College. Visual and editorial content will be developed based on themes connected to the institution's "Common Read" book, adopted each academic year. New Spring 2022.

Lecture Hours: 48

COM-152 ETC: Art and Literary Magazine   ◆

2 credits—This course will teach students to produce the annual art and literary magazine, ETC, at Hawkeye Community College. Visual and editorial content will be developed based on themes connected to the institution's "Common Read" book, adopted each academic year.

Lecture Hours: 32

COM-155 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

COM-730 Communications

3 credits—This course presents elements of professional verbal and written communication. In this course, students will go through the real world hypothetical process of locating and applying for a job, then practicing communication skills needed while at work.

Lecture Hours: 48

COM-763 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): ENG-105

COM-781 Written Communication in the Workplace

3 credits—This course focuses on applying the writing process to job application materials and workplace-related written communication.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in ENG-060 or appropriate placement score.

COM-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

COM-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

COM-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

CON: Construction

CON-102 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

CON-108 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

CON-109 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

CON-113 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

CON-121 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): CON-102 and CON-133.

CON-124 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): CON-113 and CON-135.

CON-125 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): CON-124 and ARC-175.

CON-130 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

CON-131 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

CON-133 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

CON-140 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): A minimum grade of C in CON-130.

CON-146 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): CON-133.

CON-201 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

CON-217 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

CON-228 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

CON-243 Advanced Framing Techniques

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 and Optimum Value Engineering techniques.

Lecture Hours: 16   Lab Hours: 64

Prerequisite(s): A minimum grade of C in CON-201.

CON-266 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

CON-290 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 CON-510.

CON-302 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

CON-372 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.

CON-373 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.

CON-486 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 CON-302, MAT-772, or equivalent placement score.

CON-510 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): CON-146.

CON-512 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): CON-510.

CON-933 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.

Co-op Hours: 256

Prerequisite(s): A minimum grade of C in CON-102.

CRJ: Criminal Justice

CRJ-100 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

CRJ-120 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

CRJ-135 Criminal Evidence

3 credits—Rules of evidence are essential to criminal justice system operations. This course will examine historical developments concerning evidence, types of evidence, witnesses, and the procedures used to regulate evidence.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in CRJ-100.

Co-requisite(s): Must program major.

CRJ-141 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 CRJ-100.

CRJ-143 Police Operations

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):

CRJ-151 Defensive Tactics

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 CRJ-100.

Pre/Co-requisite(s): A minimum grade of C in CRJ-237 and CRJ-320.

CRJ-200 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

CRJ-201 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

CRJ-233 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): CRJ-100 and CRJ-120.

CRJ-234 Traffic Law

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

CRJ-237 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

CRJ-244 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 CRJ-100.

CRJ-252 Basic Firearms

1 credits—This course covers the fundamentals of using a firearm with emphasis on safe practices, responsible firearm care, and proficient use of firearms to law enforcement standards.

Meet with an advisor to register for course.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in CRJ-100.

CRJ-254 Advanced Firearms

1 credits—This course expands skills developed in Basic Firearms by enhancing skill and proficiency with pistols and introduces safe use and handling of shotguns.

Meet with an advisor to register for course.

Lab Hours: 32

Prerequisite(s): A minimum grade of C in CRJ-100.

Pre/Co-requisite(s): A minimum grade of C in CRJ-252.

CRJ-266 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 ENG-105 and CRJ-100.

CRJ-282 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 CRJ-100.

CRJ-285 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

CRJ-315 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 CRJ-100 and CRJ-237.

CRJ-316 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 CRJ-100.

CRJ-317 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 CRJ-100 and CRJ-237.

CRJ-318 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 CRJ-100.

CRJ-320 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

CRJ-322 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 CRJ-151, CRJ-254, and EMS-114.

CRJ-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

CRJ-928 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

CRJ-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

CRJ-952 Internship

2 credits—Internship requires 128 hours of supervised volunteer work with a law enforcement agency. Course eligibility requires Advisor consent based on the ability of the student to successfully complete a criminal background check, and be accepted by an agency. Agency placement is dependent on agency assessment of student fitness to meet hiring requirements. Internship is offered during the 16 week Fall & Spring semesters, and during the 8 week Summer term.

Must be in program major. Instructor consent required to enroll.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C in CRJ-100.

CRJ-955 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): CRJ-110 or CRJ-120.

CRR: Collision Repair and Refinish

CRR-304 Introduction to Collision Repair

4 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: 32   Lab Hours: 64

CRR-361 Collision Lab I

4 credits—The intent of this class is to prepare the students to gather all the resources for there structuring of the automobile. Material conservation, deadlines, human relation skills, leadership qualities and teamwork are closely monitored. This is an important class to prepare the student for their employment in industry.

Lecture Hours: 32   Lab Hours: 64

Pre/Co-requisite(s): Minimum grade of D- in CRR-304.

CRR-511 Collision Production Technician

4 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: 32   Lab Hours: 64

CRR-658 Advanced Collision Repair

4 credits—In this course students will receive hands on experience involving high production practiced used by industry collision repair technicians. Students will receive training on frame machines and attachment equipment used in collision repair shops.

Lecture Hours: 32   Lab Hours: 64

CRR-659 Advanced Collision Production Tech

4 credits—In this course students will receive training in collision related suspension and steering systems. Additional training will be received in drive train repairs and wheel alignment and brakes.

Lecture Hours: 32   Lab Hours: 64

CRR-751 Electronic Estimating

2 credits—Introduce students to various aspects of computerized estimating software while reinforcing repair procedures.

Lecture Hours: 16   Lab Hours: 32

CRR-821 Introduction to Refinishing I

3 credits—Students will receive a thorough understanding of personal health and safety, use of sanding abrasives, air power tools and equipment, and paint guns.

Lecture Hours: 16   Lab Hours: 64

CRR-822 Introduction to Refinishing II

3 credits—Students will receive training in refinishing products, masking procedures, corrosion protection, and paint preparation.

Lecture Hours: 16   Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of D- in CRR-821.

CRR-874 Advanced Refinishing

4 credits—This course combines lecture and lab activities to develop advanced automotive refinishing shop production skills by refinishing paint damaged automobiles to pre-accident condition. Paint manufacturers recommendations and refinishing shop standards are used to repair the vehicle to pre-accident condition.

Lecture Hours: 32   Lab Hours: 64

CRR-879 Refinishing Production Technician

4 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: 32   Lab Hours: 64

CRR-886 Advanced Refinishing II

4 credits—This course will provide students with advance paint techniques, training in basic electrical fundamentals and training in Airbag Systems as they apply to collision and refinishing repairs.

Lecture Hours: 32   Lab Hours: 64

Pre/Co-requisite(s): Minimum grade of D- in CRR-874.

CSC: Computer Science

◆ **General Education course**

CSC-110 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 RDG-039.

CSC-116 Information Computing　　◆

3 credits—This course presents the basic concepts of information systems and computer literacy. The course incorporates theory as well as hands-on practice, which focuses on spreadsheets and database management systems (DBMS).

Lecture Hours: 32　　Lab Hours: 32

Prerequisite(s): Minimum grade of D- in MAT-063.

DEA: Dental Assistant

DEA-103 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

DEA-258 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

DEA-262 Dental Sciences

1 credits—This course provides students with basic understanding of biomedical and dental sciences including: oral pathology and disease processes, pharmacology and therapeutics, emergency treatment, nutrition and dietary considerations for dental patients.

Lecture Hours: 16

DEA-302 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

DEA-412 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

DEA-417 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 DEA-412.

Pre/Co-requisite(s):

DEA-513 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

DEA-514 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 DEA-513.

DEA-556 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.

Lab Hours: 0   Clinic Hours: 192

DEA-578 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.

Co-op Hours: 320

DEA-591 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): Minimum grade of C in DEA-262, DEA-417, DEA-514, DEA-556, DEA-603, and DEA-701

Co-requisite(s): DEA-578

Pre/Co-requisite(s):

DEA-603 Dental Specialties

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

DEA-701 Dental Office Procedures

1 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: 16

Prerequisite(s): A minimum grade of C in BIO-163, or BIO-168 and BIO-173.

DHY: Dental Hygiene

◆ **General Education course**

DHY-111 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.

DHY-116 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: 0   Lab Hours: 32

Prerequisite(s): Admission to Dental Hygiene program.

DHY-121 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.

DHY-131 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 BIO-173 and CHM-132.

DHY-141 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 DHY-121.

Pre/Co-requisite(s): A minimum grade of C in BIO-173.

DHY-160 Oral Radiology

3 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, digital radiography and operation of standard and panoramic x-ray equipment. Lifelike mannequins for student practice are utilized, and emphasis is placed on radiation safety procedures for both patient and operator.

Required admission to the Dental Hygiene program.

Lecture Hours: 32   Clinic Hours: 48

DHY-175 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   Lab Hours: 96

Prerequisite(s): Admission to the Dental Hygiene program.

DHY-187 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): Minimum grade of C in DHY-175 and DHY-160.

Co-requisite(s): DHY-188

DHY-188 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): Minimum grade of C in DHY-160 and DHY-175.

Co-requisite(s): DHY-187

DHY-210 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 DHY-121.

Co-requisite(s): DHY-141.

DHY-211 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 DHY-141 and DHY-210.

DHY-222 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 CHM-122.

Co-requisite(s): A minimum grade of C in CHM-132.

DHY-240 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 DHY-175.

DHY-254 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 DHY-188 and SOC-110.

DHY-259 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 DHY-254.

Pre/Co-requisite(s):

DHY-262 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 DHY-175.

DHY-271 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 DHY-113 and DHY-185.

Co-requisite(s): A minimum grade of C in DHY-131.

DHY-272 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 DHY-254 and DHY-297.

DHY-297 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 DHY-187 and DHY-188.

Co-requisite(s): DHY-211 and DHY-298.

DHY-298 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 DHY-187 and DHY-188.

Co-requisite(s): DHY-271 and DHY-297.

DHY-307 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 DHY-271, DHY-197, and DHY-298.

DHY-308 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 DHY-271, DHY-197, and DHY-298.

Co-requisite(s): DHY-307.

DHY-901 Independent Study Clinical Dental Hygiene

1 credits—This course is designed to remediate the skills of exploring, calculus detection and removal, and patient evaluation skills previously learned in the clinical portion of the dental hygiene program in preparation of the student retaking the clinical dental hygiene board exam. This course can be taken for 1–3 credit hours.

Lab Hours: 32

DHY-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

DHY-928 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

DRA: Drama — Film and Theatre

◆ **General Education course**

DRA-107 Theatrical Arts and Society ◆

3 credits—This course introduces students to the literary genre of drama throughout history. Emphasis will be on reading, discussing, and evaluating various plays representative of their era and genre. Students will respond to drama through informal and formal written assignments that foster skill in analysis and interpretation. Students will also learn about how the genre of drama has evolved and how these kinds of dramatic narratives interrelate with societies of the past and present.

Lecture Hours: 48

DRA-110 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

DRA-130 Acting I ◆

3 credits—This course introduces the basic acting techniques with emphasis on concentration, movement, voice, and play script analysis. Students will experience the acting process by engaging in various exercises and performing monologues and scenes.

Lecture Hours: 48

DSL: Diesel

◆ **General Education course**

DSL-360 Advanced Diesel Engines, Emissions, and Fuel Systems ◆

4 credits—This course introduces the latest engine advancements. Emission systems such as Exhaust Gas Recirculation (EGR), Diesel Particulate Filters (DPF), and Selective Catalytic Reduction (SCR) are covered along with common rail fuel systems.

Lecture Hours: 16   Lab Hours: 96

Prerequisite(s): Minimum grade of C- inDSL 444 Fuel Systems

DSL-377 Diesel Engine Rebuild

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

DSL-404 Diesel Truck Power Transfer Systems ◆

4 credits—A study of the diesel truck 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: 16   Lab Hours: 96

Prerequisite(s): Minimum grade of C- in AGM-119, AGM-104, AGM-124, AGM-333, and AGM-224

DSL-411 Equipment Repair I ◆

4 credits—This course is designed to give students the opportunity to apply competencies previously achieved to repair and service projects.

Lecture Hours: 16   Lab Hours: 96

Prerequisite(s): Minimum grade of C- in AGM-401

Co-requisite(s): Minimum grade of C- in DSL 404

DSL-424 EFI Engine Systems ◆

4 credits—This course provides a thorough explanation and hands-on experience in the theory, operation, diagnosis, maintenance and repair of electronic fuel injected diesel engines. Learning activities include the use of testing equipment to diagnose EFI engines. Lab activities are designed to reinforce the understanding and maintenance of these engines.

Lecture Hours: 16   Lab Hours: 96

Prerequisite(s): Minimum grade of C- in AGM-104, AGM-124, and AGM-333

DSL-444 Fuel Systems ◆

4 credits—The Fuel Systems course is designed to provide information about diesel fuel injection systems. Mechanical and electronic injection systems, which are commonly used throughout the diesel industry, are studied. Basic system design, pump operation, and tune-up adjustments are covered. Computer diagnostics and software applications used in relation to the heavy-duty engine maker are covered.

Lecture Hours: 32   Lab Hours: 64

DSL-831 Preventative Maintenance

4 credits—This course covers routine and extended vehicle maintenance. The course will also cover information on general pre-operational checks and performing planned maintenance repairs to vehicles. Course will also cover DOT inspections, air and hydraulic brake systems, and basic SMAW welding and oxyacetylene cutting.

Lecture Hours: 32   Lab Hours: 64

Prerequisite(s): A minimum grade of C- in AGM-124.

ECE: Early Childhood Education

◆ **General Education course**

ECE-103 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

ECE-125 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

ECE-133 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

ECE-158 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

ECE-159 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

Pre/Co-requisite(s):

ECE-170 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

ECE-221 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

ECE-243 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

ECE-250 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): EDE-158 and ECE-159.

ECE-260 Current Topics and Issues in Child Care

2 credits—National, state and local topics and issues impacting childcare are examined.

Lecture Hours: 32

ECE-274 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.

Co-op Hours: 128

Prerequisite(s): ECE-221.

Co-requisite(s): ECE-994.

Pre/Co-requisite(s): ECE-158, ECE-159, ECE-170, and ECE-243.

ECE-284 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 ECE-274 and ECE-944.

Co-requisite(s): ECE-945.

ECE-290 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): ECE-158 and ECE-159.

ECE-298 Career Strategies for Early Childhood

2 credits—Career Strategies for Early Childhood 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.

Lecture Hours: 32

ECE-299 Early Childhood Professional Portfolio

1 credits—Develop professional portfolio for Early Childhood, including artifact collections, resume, and teaching philosophy.

Lecture Hours: 16

ECE-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

ECE-944 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

ECE-945 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): ECE-284.

ECN: Economics

ECN-110 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

ECN-120 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 MAT-063 or appropriate math placement score.

ECN-130 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 MAT-063 or appropriate math placement score.

EDU: Education

EDU-130 Home, School, and Community Relations   ◆

3 credits—Focuses on the importance of collaborative efforts of the school, home, and community to the promotion of the children's healthy development. Research relating to parental involvement, impact of inclusion, and factors which place families at risk are examined. Explores attitudes, philosophies, and practical techniques with emphasis on building respectful, culturally sensitive relationships with families, utilizing community resources and working with diverse families.

Lecture Hours: 48

EDU-210 Foundations of Education   ◆

3 credits—Examines American education from a historical, philosophical, and sociological perspective. Challenges and issues in education today will be discussed in the context of school organization, politics, funding, curriculum, professionalism, legal issues, and effective school and teacher characteristics.

Lecture Hours: 48

EDU-214 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

EDU-223 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

EDU-235 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

Pre/Co-requisite(s):

EDU-240 Educational Psychology   ◆

3 credits—The study of learning as it relates to cognitive, affective, and psychomotor processes; personal, social, and moral development; abilities and exceptionality and motivation, measurement and classroom management, exceptionality and individual differences; curriculum development and assessment; motivation and classroom management.

Lecture Hours: 48

Prerequisite(s): PSY-111 and PSY-121.

Co-requisite(s): EDU-920.

EDU-246 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

EDU-255 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): EDU-240 or EDU-235.

EDU-901 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

EDU-920 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. May be taken for 1 or 2 credits.

Lab Hours: 32

Co-requisite(s): EDU-240

Pre/Co-requisite(s):

EDU-924 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. This course can be repeated with different content for credit.

Can be taken for 1 – 3 credits.

Lecture Hours: 16

EDU-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

EDU-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

EGR: Engineering

EGR-410 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

EGR-450 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): EGR-400.

EGT: Engineering Technology

◆ **General Education course**

EGT-108 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

EGT-140 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

EGT-144 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

EGT-149 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): EGT-140.

EGT-152 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): EGT-149 and EGT-144.

EGT-154 Pneumatics

2 credits—This course will teach the skills and knowledge for pneumatic devices, uses, connections and maintenance.

Lecture Hours: 16   Lab Hours: 32

Pre/Co-requisite(s):

EGT-212 Hydraulics Troubleshooting

2 credits—This course will teach the skills necessary for safe performance testing and troubleshooting of hydraulic components and systems.

Lecture Hours: 16   Lab Hours: 32

Prerequisite(s): A minimum grade of D in EGT-149.

EGT-243 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 PHY-162 or PHY-183.

EGT-400 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

EGT-410 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

EGT-416 Civil Engineering and Architecture   ◆

3 credits—This is a combined lecture and lab course to introduce students to the interdependent fields of civil engineering and architecture; students explore various systems of architecture and civil engineering, learn project planning, and basic building design using specialized building information modeling software.

Lecture Hours: 16   Lab Hours: 64

EGT-420 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

Pre/Co-requisite(s):

EGT-450 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

EGT-470 PLTW - Engineering Design and Development

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

ELT: Electronics

ELT-104 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 EGT-108 or EGT-140.

ELT-120 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 ELT-139, EGT-140, ELT-215, and ELT-234, or instructor approval.

ELT-133 Electric Motor Drives

2 credits—This course in 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

ELT-139 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): MAT-772

ELT-156 Industrial Electronics

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

Prerequisite(s): Minimum grade of D- in ELT-322.

ELT-192 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 Word Processing, Spreadsheet, and BASIC programming language.

Lecture Hours: 32   Lab Hours: 32

ELT-215 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): ELT-139.

ELT-216 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 ELT-139.

ELT-234 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 ELT-139.

Pre/Co-requisite(s): ELT-215.

ELT-239 Advanced Electrical Systems

3 credits—This class stresses electrical distribution systems, electrical transformers, AC and DC motor theory, operation and repair, manual and magnetic starters, and motor overload protection. Specific topics will include types of electrical distribution systems, transformer theory and operation, lockout/ tagout techniques, use of motor testing devices, and construction, sizing, and installation of motor overload devices.

Lecture Hours: 16   Lab Hours: 64

Prerequisite(s): A minimum grade of C- in ELT-139.

ELT-240 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 ELT-234.

ELT-245 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 ELT-139.

ELT-290 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 MAT-504.

ELT-291 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 ELT-290 or MAT-504.

ELT-315 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 combinational 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 ELT-139.

ELT-321 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): ELT-291.

Pre/Co-requisite(s): MAT-514.

ELT-322 Electronics Devices

4 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: 16   Lab Hours: 96

Prerequisite(s): A minimum grade of D- in ELT-291.

Pre/Co-requisite(s): A minimum grade of D- in MAT-154.

ELT-403 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 ELT-600.

ELT-415 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 ELT-322.

ELT-417 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 EGT-108, EGT-410, ELT-469, or EGT-420.

ELT-444 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 ELT-234.

Pre/Co-requisite(s):

ELT-469 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 ELT-322 and ELT-600.

ELT-494 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 ELT-600.

ELT-497 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 ELT-415.

ELT-532 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 ELT-139.

ELT-600 Applied Computer Programming

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

Pre/Co-requisite(s):

ELT-703 Introduction to Networking

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 ELT-494.

ELT-704 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.

Lab Hours: 64

Prerequisite(s): A minimum grade of D- in ELT-494.

ELT-736 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 ELT-139.

ELT-802 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

ELT-803 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): ELT-802.

Pre/Co-requisite(s): ELT-156.

ELT-818 Electrical Troubleshooting

2 credits—Electrical Troubleshooting course will provide students with a systematic approach to electrical troubleshooting. This includes the use of test equipment to test components or entire systems. Students will use critical thinking to analyze the state of an electrical system.

Lecture Hours: 16   Lab Hours: 32

Prerequisite(s): A minimum grade of D in ELT-239 and ELT-215.

EMS: Emergency Medical Services

EMS-114 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

EMS-201 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

EMS-363 Emergency Medical Technician I

3 credits—Prepares the student to provide emergency care at an Emergency Medical Technician (EMT) level as outlined by the National Emergency Medical Services Education standards. Introduces basic emergency care concepts including fundamental knowledge of the EMS system, safety/well-being of the EMT and medical/legal and ethical issues to the provision of emergency care. Focuses on adult patient assessment, care and, transportation. Students receive Mandatory Reporting for child/adult training and earn American Heart Association Basic Life Support certification.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C in ENG-060 AND RDG-039 or equivalent assessment score.

EMS-364 Emergency Medical Technician II

3 credits—Introduces shock and resuscitation, patient assessment, care and transportation of the acutely ill, trauma patient, special patient populations, and EMS operations. Focuses on Geriatric Education for EMS (GEMS), Hazmat Awareness, and Incident Command. Students will be required to demonstrate proficiency for skills within the scope of practice for patients of all ages.

Lecture Hours: 32   Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of C in EMS-363.

EMS-365 Emergency Medical Technician II Clinical

1 credits—Prepares students to provide emergency medical assessment, care, and transportation of acutely ill or injured patients of all ages. Develops student proficiency in previously learned skills when providing direct patient care in selected clinical settings. Requires student participation in and documentation of patient contacts and field experience approved by the medical director and the EMS program director. Students must demonstrate competency in skills for patients of all ages within the scope of practice.

Co-op Hours: 64

Pre/Co-requisite(s): A minimum grade of C in EMS-364.

EMS-541 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.

Co-op Hours: 192

Prerequisite(s): A minimum grade of C- in HSC-113, BIO-168, and BIO-173.

Co-requisite(s): EMS-610, EMS-619, EMS-641, and EMS-674.

EMS-546 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.

Co-op Hours: 192

Prerequisite(s): A minimum grade of C in EMS-541, EMS-610, EMS-619, EMS-641, and EMS-674.

EMS-610 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 BIO-168, BIO-173, and HSC-113.

EMS-619 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 BIO-168, BI0-173, and HSC-113.

Pre/Co-requisite(s):

EMS-641 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 BIO-168, BI0-173, and HSC-113.

EMS-650 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 EMS-541, EMS-610, EMS-619, EMS-641, and EMS-674.

EMS-654 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 EMS-546.

EMS-655 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.

Lab Hours: 32   Co-op Hours: 192

Prerequisite(s): A minimum grade of C in EMS-546.

EMS-674 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 BIO-168, BIO-173, HSC-113.

Pre/Co-requisite(s):

EMS-677 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 EMS-619, EMS-641, EMS-610, EMS-541, and EMS-674.

EMS-678 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 EMS-641, EMS-619, EMS-610, EMS-674, and EMS-541.

EMS-856 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

EMS-900 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

ENG: English Composition

◆ **General Education course**

ENG-060 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.

ENG-061 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): ENG-060 or appropriate placement scores or equivalent.

ENG-105 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 placement scores or equivalent.

ENG-106 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 ENG-105.

Pre/Co-requisite(s):

ENG-221 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

ENG-230 Creative Writing: Fiction ◆

3 credits—This course will focus on the study and practice of fiction. The content emphasis is on writing the short story with practice and study of the proper elements of writing. These elements are also applicable to the writing of the novel.

Lecture Hours: 48

Pre/Co-requisite(s): A minimum grade of D- in ENG-221.

ENG-235 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

ENG-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

ENG-928 Independent Study ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

ENG-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

ENV: Environmental Science

◆ **General Education course**

ENV-115 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

ENV-116 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): ENV-115

ENV-155 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

ENV-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

ENV-928 Independent Study

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

ENV-949 Special Topics

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

ESL: English as a Second Language (Non-intensive)

ESL-005 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.

ESL-011 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.

ESL-014 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.

ESL-020 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.

ESL-083 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): ESL-011 or appropriate placement scores or equivalent.

ESL-084 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): ESL-005 or appropriate placement scores or equivalent.

ESL-089 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): ESL-014 or appropriate placement scores or equivalent.

FIN: Finance

FIN-121 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

FIR: Fire Science

FIR-124 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

FIR-127 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

FIR-130 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

FIR-139 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: 16   Lab Hours: 96

FIR-145 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

FIR-149 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

Pre/Co-requisite(s):

FIR-152 Fire Protection Systems

3 credits—This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special fire hazard suppression systems, water supply for fire protection, and portable extinguishers.

Lecture Hours: 48

FIR-158 Fire Officer I

3 credits—This course is designed to meet NFPA 1021, Standard for Fire Officer Professional Qualities, for Fire Officer I. Throughout this course, students will participate in various classroom activities and exercises designed to reinforce the lectures. Topics will include the company officer's role, effective communications, management of resources, leadership, personnel safety, fire prevention, and investigation and planning. Students will be required to complete a class project that will be due within 2 months after conclusion of the course.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C- in FIR-139.

FIR-160 Fire Inspector I

3 credits—This course is designed to provide a basic understanding of fire prevention and fire inspection efforts. Students will develop a basic understanding of fire prevention; administration of codes and standards; impact of fire behavior on buildings; building construction; fire detection and protection systems; identification and correct of hazards; and field inspections.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of C in FIR-124.

FIR-200 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

FIR-213 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

Pre/Co-requisite(s):

FIR-214 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

FIR-235 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

FIR-236 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 FIR-235.

FIR-291 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 FIR-139.

FIR-300 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 FIR-213.

FIR-322 Hazardous Materials: Operations Level

1 credits—Hazardous Materials Operations level follows the requirements of NFPA 472 for the standard for competence of responders to hazardous materials/weapons of mass destruction incidents.

Lecture Hours: 16

Prerequisite(s): Minimum grade of C- in FIR-139.

FIR-335 Fire Instructor I

3 credits—This course will focus on the presentation skills that new instructors need to deliver prepared lesson plans. Upon successful completion of this course, students will be eligible to attempt the State of Iowa Fire Instructor I certification exam.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in FIR-139.

FIR-400 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

FIR-655 Fire Science Capstone

2 credits—Students who have completed all required courses will complete a field internship with an approved Fire Department during this course.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C in FIR-291.

FLF: Foreign Language — French

FLF-145 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

FLF-245 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): FLF-145.

FLS: Foreign Language — Spanish

◆ **General Education course**

FLS-128 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

FLS-131 Elementary Spanish I   ◆

3 credits—This course is student-centered and introduces the four phases of the Spanish language: speaking, listening, reading, and writing. Concepts of vocabulary and grammar are introduced to develop a low beginner's level of the Spanish language. Cultural and geographic aspects of the Spanish-speaking world will introduce traditions and customs.

Lecture Hours: 48

FLS-132 Elementary Spanish II   ◆

3 credits—This course is a continuation of Elementary Spanish I and will use the communicative approach to expand basic language skills for comprehension of spoken and written Spanish. Students will be exposed to activities involving cultural diversity of the Spanish-speaking people.

Minimum grade of C- in FLS-131.

Lecture Hours: 48

FLS-231 Intermediate Spanish I   ◆

3 credits—This course 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.

Minimum grade of C- in FLS-132.

Lecture Hours: 48

FLS-232 Intermediate Spanish II   ◆

3 credits—This course promotes further linguistic development as a continuation of Intermediate Spanish I. Instruction will expand nuances of the Spanish culture while increasing grammatical proficiency and spontaneous vocabulary usage.

Lecture Hours: 48

Prerequisite(s): Minimum grade of C- in FLS-231.

GEO: Geography

GEO-115 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

GEO-121 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

GEO-131 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

GEO-132 Physical Geography Lab   ◆

1 credits—An introductory laboratory course to complement GEO-131 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): GEO-131.

GRA: Graphic Design

◆ **General Education course**

GRA-105 Drawing and Composition

4 credits—This course provides students with the experience of creating hand drawn art using a variety of drawing mediums, tools and techniques. Emphasis is placed on the fundamentals of drawing, artistic expression, artistic perception, visual organization, and composition. Articulating viable design concepts and solutions for common graphic design problems through drawing will be presented.

Lecture Hours: 32   Lab Hours: 64

GRA-124 Electronic Illustration

4 credits—This course provides students with the experience of creating vector graphics for print media. Emphasis is placed on rendering digital artwork using Adobe Illustrator. Various 2D and 3D illustration drawing techniques along with creating intricate vector type and type effects will be presented.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): GRA-133.

GRA-133 Desktop Publishing

4 credits—This course provides students with the experience of producing and preparing various types of page layout and design formats for print media. Emphasis is placed on building print ready publications using Adobe InDesign. Desktop computer setup, color management, project management, and printing technologies will be presented.

Lecture Hours: 32   Lab Hours: 64

GRA-142 Graphic Imaging

4 credits—This course provides students with the experience of producing and preparing raster graphics for print media. Emphasis is placed on generating print quality photographic imagery using Adobe Photoshop. Image acquisition, color management, color correction, retouching, extracting, layering, compositing, and painting techniques along with creating raster type effects will be presented.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): GRA-133.

GRA-160 Interactive Multimedia

3 credits—This course provides students with the experience of delivering dynamic content to a consumer. Emphasis is placed on producing interactive media via visual storytelling, personalized content, layered information, and/or two-way interaction platforms. An introduction to presentation, animation, dynamic pdf, data merge, e-mail newsletter, and augmented reality software will be presented.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-124, GRA-133, and GRA-142.

GRA-162 Web Page Graphics

3 credits—This course provides students with the experience of producing and preparing raster and vector graphics for screen display. Emphasis is placed on generating quality website graphics using Adobe Photoshop, Adobe Illustrator, and other emerging technologies. Incorporating, sizing, positioning, and styling responsive high-density web page graphics into a website will be presented.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-124 and GRA-142.

GRA-196 Design and Layout I

4 credits—This course provides students with the experience of designing single page layout formats for print media. Emphasis is placed on making effective design and layout decisions to visually communicate information to a targeted audience. An introduction to the Graphic Design profession, design process, elements of design, principles of design, and typography will be presented.

Lecture Hours: 32   Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of D- in GRA-133.

GRA-197 Design and Layout II

4 credits—This course provides students with the experience of designing single-page double-sided multi-panel print publications. Emphasis is placed on projects such as brochure, leaflet, pamphlet, folder, album cover, and/or dust jacket design and layout. An introduction to spot color, layout grids, folds, die cuts, single-page-multi-panel construction, and duplex printing will be presented.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-196 and GRA-133.

GRA-205 Design and Layout III

4 credits—This course provides students with the experience of designing brand identity elements and multi-page print publications. Emphasis is placed on projects such as logo, business card, letterhead, style guide, newsletter, magazine, and/or catalog design and layout. An introduction to signature construction, style sheets, auto page numbering, finishing, and binding will be presented.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-124, GRA-197, and GRA-142.

GRA-206 Advanced Design and Layout

4 credits—This course provides students with the knowledge and experiences needed to design an effective advertisement used to promote a product, service, or event. Emphasis is placed on advertising and advertisement formats and design for print media. Digital visual advertising media will be discussed.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): A minimum grade of C in GRA-205.

GRA-221 Principles of Illustration

3 credits—This course provides students with the experience of creating hand drawn illustration art using a variety of mediums, tools and techniques. Emphasis is placed on producing illustrations that will clarify, enhance, illuminate, or demonstrate the message of written text. Illustration approaches and Illustrating for various types of publications will be discussed.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-105 or ART-133 and ART-134.

GRA-232 Photo Direction

3 credits—This course provides students with the experience of directing a photographer during a commercial photo shoot. Emphasis is placed on communication between a graphic designer and commercial photographer. An introduction to the basics of digital photography, photography studio setup and lighting, digital camera operation, and still photography for advertising design will be presented.

Lecture Hours: 32   Lab Hours: 32

GRA-238 Web Design and Layout

4 credits—This course provides students with the experience of designing and developing a static Website. Emphasis is placed on making effective web design and layout decisions that comply with current web development standards. An introduction to the web design process, HTML and CSS programming languages, search engine optimization, and website hosting will be presented.

Lecture Hours: 48   Lab Hours: 32

GRA-239 CMS Web Design

3 credits—This course provides students with the experience of designing and developing a dynamic Website. Emphasis is placed on utilizing open source Web Content Management System (CMS) software to build a website. CMS installation, page and post construction, navigation deployment, plugins, widgets, theme design, and site administration will be presented.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-238.

GRA-290 Portfolio Preparation

3 credits—This course provides students with the knowledge and experiences needed to find gainful employment in a graphic design and web design related occupation. Emphasis is placed on developing a quality resume, portfolio development, job search strategies, and interviewing skills.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D in GRA-205.

Pre/Co-requisite(s):

GRA-924 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. This course can be repeated with different content for credit.

Can be taken for 1 – 3 credits.

Lecture Hours: 16

GRA-928 Independent Study

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course can be repeated with different content for credit.

Lab Hours: 32

GRA-932 Internship

1 credits—This course provides students with an opportunity to pursue career-related work experience. Internships are on-site and under the direction of an experienced professional. An internship learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course can be repeated with different content for credit.

Co-op Hours: 64

GRA-949 Special Topics

1 credits—This course provides students with an opportunity to earn credit for specialized study or project under the supervision of a faculty member. The topic of study may not duplicate any topic listed within any active program course. This course can be repeated with different content for credit.

Lecture Hours: 16

HCM: Hospitality, Culinary Arts, and Management

HCM-205 Dinner and Front of the House

3 credits—This is a capstone, project-driven course where all of the students will complete the entire planning process and execution of a formal dinner event.

Lecture Hours: 16   Lab Hours: 64

HCM-240 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

HCM-242 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

HCM-249 A la Carte Cooking Lab

4 credits—A la Carte Cooking Lab introduces students to line cooking skills for fine dining as well as time budgeting and management. Students work in stations which include salads, broiler, sauté, expeditor, and preparation. Students plan and prepare upscale theme menus. (0/12)

Lecture Hours: 16   Lab Hours: 96

HCM-251 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: 16   Lab Hours: 32

Prerequisite(s): A minimum grade of C- in MAT-772. A minimum grade of D- in HCM-309.

HCM-309 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

HCM-336 Event Planning and Customer Service 1

3 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.

Lecture Hours: 16   Lab Hours: 64

HCM-341 Catering and Banqueting

2 credits—This course reinforces skills specific to banquet and catering preparation and service. Emphasis is on quality, quantity, setup, timing, service, event planning, and execution of catering and banquet techniques.

Lecture Hours: 0   Lab Hours: 64

HCM-593 Restaurant Management

4 credits—Principles of modern restaurant and food service management is studied. Preparation for effective management through studies in purchasing, storage, inventory, food service equipment, menu design, marketing, and food service operations are stressed. Introduces the principles of modern restaurant and food service management: purchasing, storing, inventory, food service equipment, menu design, restaurant design and food service operations.

Lecture Hours: 48   Lab Hours: 32

HCM-605 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

HCM-608 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

HCM-905 Hospitality Internship

3 credits—This course will provide students with an opportunity to gain hands on experience in the hospitality industry. This course can be taken for 3–5 credit hours.

Can be taken for up to 5 credit hours.

Co-op Hours: 192

Prerequisite(s): A minimum grade of C- in HCM-608 and HCM-605.

HCR: Heating and Air Conditioning

HCR-115 Residential Heating Systems

4 credits—The purpose of this course is to introduce the student to the various types of residential heating systems. Areas and concepts covered include combustion theory, basic air distribution, furnace construction, filters, humidifiers, installation techniques, and maintenance procedures.

Lecture Hours: 16   Lab Hours: 96

HCR-137 Hydronic Heating Systems

3 credits—To provide experiences in the operation, layout, selection, and troubleshooting of residential and light commercial boilers.

Lecture Hours: 32   Lab Hours: 32

HCR-143 Alternative Heating and Cooling Systems

4 credits—This course is designed to introduce students to new and alternative air conditioning equipment.

Lecture Hours: 16   Lab Hours: 96

HCR-171 Refrigeration

4 credits—This course focuses on all thing's refrigeration, from small dehumidifiers to large commercial refrigeration. In this course the students will also study for and take the EPA 608 refrigeration licensing exam.

Lecture Hours: 32   Lab Hours: 64

HCR-181 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

HCR-200 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 CON-102.

HCR-204 Principles of Air Conditioning

4 credits—To provide a working knowledge of electrical controls, sealed system components, troubleshooting, and maintenance on air conditioners.

Lecture Hours: 16   Lab Hours: 96

HCR-264 Applied Practices

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.

Lab Hours: 96

HCR-429 HVAC App Controls with Automated Systems

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

HCR-455 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

HCR-456 Applied Electricity II

4 credits—This course expands on the basic electrical knowledge gained in HCR-455 and introduces students to electrical troubleshooting.

Lecture Hours: 16   Lab Hours: 96

HCR-933 Internship — Air Conditioning

1 credits—This course provides on-the-job training giving the student experience and practical application of the competencies learned in the air conditioning portion of the Air Conditioning, Heating, and Refrigeration Program. The internship is coordinated by the college instructor and supervised by an industry professional at the work site.

This course can be taken for 1–4 credits, 64–256 co-op hours.

Co-op Hours: 64

HIS: History

HIS-117 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

HIS-118 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

HIS-119 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

HIS-151 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

HIS-152 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

HIS-201 Iowa History ◆

3 credits—This history course is a survey of social, political, economic, and cultural developments in Iowa from prehistoric times to the present.

Lecture Hours: 48

HIS-204 Rock to Hip Hop — A History ◆

3 credits—This introductory course is a study of the evolution of Rock & Roll as well as other popular genres from the 1950's to the present and how historical events impacted the music. This musical history will be traced from its fusion of African-American, white, and Latin music traditions in America to its present state as an internationally diverse musical style. The course will examine the historical relationship between the music of the period and political and social trends as well as events of the era.

Lecture Hours: 48

HIS-251 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 HIS-152.

HIS-257 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

HIS-277 History of Women in the U.S. ◆

3 credits—This course explores U.S. history from the perspective of women. Topics include women's roles, contributions, and challenges in political, economic, familial, religious, and social life. Central to the course is the intersection of gender with race, class and other social identities in shaping the diverse historical experiences of women. Also key is the influence of women on American intellectual thought, and their enhanced participation in electoral politics.

Lecture Hours: 48

HIS-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

HIS-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

HIS-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. Can be taken for 1–3 credits.

Lecture Hours: 16

HIT: Health Information Technology

HIT-125 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

HIT-215 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

Pre/Co-requisite(s): Minimum grade of C- in HSC-116.

HIT-240 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 HIT-250.

HIT-250 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): Minimum grade of C- in HSC-116.

HIT-280 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 HIT-215.

HIT-290 Reimbursement Methods

3 credits—During this course, you will examine reimbursement methodologies, including prospective payment, utilized in a variety of health care settings. You will explore data quality for optimal reimbursement, data auditing, and compliance processes. You will also be introduced to billing procedures and requirements for claims submissions.

Lecture Hours: 48

HIT-352 Health Information Systems

3 credits—Course will examine the development of the electronic health record in the management of health care. Explores common computer and networking terminology and guidelines for selection of and security implementation in the EHR.

Lecture Hours: 48

HIT-450 Health Statistics

2 credits—This course covers the collection, analysis, verification and display of health statistics. Students will learn uses for health statistics, basic statistical principles, commonly computed rates, vital health statistics, uniform reporting requirements, and research fundamentals.

Lecture Hours: 32

HIT-510 Coding Certification Review

2 credits—The nature of this revision is to align the student learning outcomes to the new format.

Lecture Hours: 32

HSC: Health Science

HSC-108 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

HSC-113 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

HSC-116 Beginning Medical Terminology

4 credits—This course introduces the concepts necessary for building a basic medical vocabulary and studies the anatomy and physiology, common diseases and surgeries of the body systems.

Lecture Hours: 32   Lab Hours: 64

HSC-124 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 HSC-116.

HSC-168 Nurse Aide

3.5 credits—Required to meet the training requirements for nurse aides in long-term care facilities. Emphasizes achievement of a basic level of knowledge and demonstration of skills to provide safe and effective resident care. Integrates 30 hours of clinical, outside of normal class times, at a long-term care facility under the supervision of an RN. Requires your own transportation.

Lecture Hours: 32   Lab Hours: 16   Clinic Hours: 48

HSC-217 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

HSV: Human Services

◆ **General Education course**

HSV-109 Introduction to Human Services ◆

3 credits—Introduces the value base of human services and evaluates problems that can be encountered in working with people when these values conflict with client needs. Introduces the framework of human services approach, specifically information of individual values, systems analysis, problem solving and conflict resolution. Concepts of systems analysis are accompanied by application of these concepts to problems.

Lecture Hours: 48

HUM: Humanities

HUM-130 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

HUM-140 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

HUM-141 J.R.R. Tolkien: Mythology and Methodology   ◆

3 credits—This course will explore the major fiction and non-fiction works of Tolkien, paying special attention to themes drawn from the humanities. This course will be interdisciplinary and draw upon a range of liberal arts methodologies and specializations in its presentation.

Lecture Hours: 48

HUM-924 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

HUM-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

HUM-949 Special Topics ◆

1 credits—This course offers a specialized study or project under the supervision of a faculty member. It may not duplicate any course already in the catalog. Students earn credit based upon the agreed upon credit and contact hours. This course may be repeated for credit with different content. This course may be taken for 1-3 credits.

Lecture Hours: 16

HUM-999 Study Abroad ◆

1 credits—This course explores relative differences between the student's country and another country with emphasis in discipline of study. Topics include history, geography, culture, food, language, and discipline specific topics. This course can be repeated with different content for credit.

This course can be taken for 1–5 credit hours.

Lecture Hours: 16

IND: Industrial Technology

IND-100 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

IND-111 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

IND-145 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 IND-100.

IND-157 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

IND-949 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

LIT: Literature

LIT-101 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 RDG-040 and ENG-061 or appropriate placement scores (Placement Reading 82 and Placement Writing 65)

LIT-133 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, Asian-Americans, Latinx, Native Americans, Lesbians/Bisexuals/Gays/Transgender Individuals, and Women. Genres 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.

Lecture Hours: 48

LIT-142 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

LIT-160 Short Story/Novel   ◆

3 credits—This course explores the short story and novel as meaningful literary forms, with emphasis on structure and technique. Students will be introduced to the elements of fiction, various literary genres, and their cultural and historical contexts incorporating materials with diverse voices. Students will analyze fiction critically in class discussions and through formal and informal writings.

Lecture Hours: 48

LIT-189 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

LIT-949 Special Topics   ◆

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

MAP: Medical Assistant

◆ **General Education course**

MAP-111 Medical Office Management I

3 credits—This course provides an introduction to the administrative skills needed for a medical office. Students will learn information management, how to organize and maintain medical records, manage appointments, and perform routine office administration duties. Focus is on the financial aspects of the medical office including essential financial management concepts and procedures, medical office bookkeeping, cash control, accounts payable, accounts receivable, billing and collection procedures. The student will be prepared to work with commercial software, computerized medical records, billing, and patient scheduling. Communication skills are applied to deliver strong customer service. Ethical and legal rules concerning consents and the confidentiality of health information is presented with particular emphasis on the Health Insurance Portability & Accountability Act. Principles of legal liability, contracts, release of medical information, reporting, operation of the legal system and how it relates to the role of the office employee will be presented.

Lecture Hours: 48

MAP-117 Medical Office Management II

3 credits—This course covers advanced medical administrative procedures using insurance and billing software to determine physician reimbursement through accurate claim submission. Topics including maintaining files, entering patient data, inputting insurance, posting transactions, and generating reports. Students will learn how to complete and submit electronic and paper insurance claim forms, perform referrals, and apply the correct procedure and diagnostic codes. This course is designed to teach students to correctly complete the universal Form CMS-1500 (Health Insurance Claim Form) and the coding rules for the Current Procedural Terminology (CPT) , International Classification of Disease, Clinical Modification (ICD-10-CM) and HCPCS level II coding systems (products, supplies, and services not included in the CPT codes, such as ambulance services and durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS) when used outside a provider's office), and then apply the rules to code patient services, medical billing and insurance claims. A variety of payment systems and other topics of Medicare fraud/abuse, Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs) and patient-centered medical home (PCMH) and other legal acts are also reviewed. Compliance reporting will be addressed.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in MAP-111.

MAP-123 Administrative Medical Office Procedures

3 credits—Administrative Medical Office Procedures provides the students with the knowledge and skills needed to work with patients, patient records, and manage other administrative responsibilities in the medical office.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C- in ADM-105, ADM-157, and HSC-116.

MAP-132 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

MAP-225 Med Lab Procedures I

4 credits—This course introduces the role of the medical assistant in performing diagnostic procedures, laboratory techniques, collecting, processing, and testing specimens. Students will demonstrate competency in the theory and practice of bloodborne pathogen standards, OSHA, safety in the laboratory, CLIA government regulations, quality assurance, microscope usage, urinalysis procedures, disinfection and sterilization procedures. Emphasis is on safety, infection prevention, proper patient identification, collecting, handling and labeling of specimens, processing, accessioning, and quality assurance. Point of Care Testing (POCT) for waived laboratory procedures, inventory control and management to efficiently maintain the laboratory are also studied.

Lecture Hours: 32   Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of C in MAP-111 and MAP-342.

MAP-230 Medical Laboratory Procedures II

4 credits—This course is an advanced laboratory introduction to medical diagnostic and laboratory techniques and offers skill development in a wide variety of low and moderately complex diagnostic procedures, microscopic and chemical analysis of blood. Students will develop skill in specimen collection on varying age groups and in using a variety of blood collection methods including; vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture. Topics covered will include hematology, body chemistry, microbiology, ABO/Rh test, immunology testing, and blood typing. Specimen collections with specialty examinations and diagnostic tests such as electrocardiograms, pulmonary function and throat cultures will be included.

Lecture Hours: 32   Lab Hours: 64

Prerequisite(s): Minimum grade of C+ in MAP-111, MAP-225, and MAP-342.

MAP-342 Clinical Assisting I

3 credits—This course is designed to provide the basic clinical knowledge and skills necessary for the medical assistant to provide care, maintain safety and prevent infection. Maintaining asepsis, managing the clinical environment, basic patient interactions of varying ages, assisting with physical exams and testing will be included. Safe medication administration and knowledge, following all legal considerations, will be expected. This course focuses on diseases frequently diagnosed and treated in the medical office setting; and the associated anatomy and physiology. Diet and nutrition will be introduced with diseases, as applicable.

Lecture Hours: 16   Lab Hours: 64

Prerequisite(s): A minimum grade of C in MAP-111 and MAP-225.

MAP-343 Clinical Assisting II

3 credits—This course will provide an understanding of best practices in a medical office setting including infection control, risk management, preparing the patient for and assisting with examinations and treatments, and the management of supplies and equipment. Students will prepare and administer medications via several routes including oral, parenteral (excluding intravenous), transdermal, and inhalation. Emphasis is placed on safe and accurate administration and maintaining federal and state healthcare legislation and regulations. Students will demonstrate therapeutic communication and deliver patient-centered health promotion teaching plans meeting the specific nutritional needs. This course will provide the skills, within the medical assistant scope of practice, to provide first aid and volunteer effectively to respond to a disaster.

Lecture Hours: 16   Lab Hours: 64

Prerequisite(s): A minimum grade of C in MAP-342, MAP-111, and MAP-225.

MAP-402 Medical Law and Ethics

2 credits—Course will provide the student with the legal and ethical implications of practice in a medical setting. Issues covered will include scope of practice, confidentiality, HIPAA privacy and security requirements, legal terms and elements in the delivery of care, ethical guidelines of practice, and legal documentation requirements.

Lecture Hours: 32

MAP-511 Pharmacology for the Medical Office

1 credits—The basic knowledge, understanding, and skills necessary to use common pharmaceutical references and spell commonly used drugs.

Lecture Hours: 16

Pre/Co-requisite(s): Minimum grade of C- in HSC-116.

MAP-512 Medical Assisting Pharmacology   ◆

2 credits—This course provides a basic background in the classification and understanding of drugs and their sources, uses and legal implications. This course will also provide discussion on the characteristics of typical drugs, side effects, precautions, interactions, and patient education of each category.

Lecture Hours: 32

Prerequisite(s): Minimum grade of C in MAP-111, MAP-225, MAP-342

MAP-841 Medical Assisting Capstone

2 credits—Within this course, the student will begin the job-seeking process and identify job opportunities. Students will create a personalized resume and cover letter, and successfully participate in mock job interviews. This course will provide students a systematic comprehensive review to prepare for the CMA (AAMA) Certification exam. Students will complete the application for the CMA (AAMA) Certification exam.

Lecture Hours: 32

Prerequisite(s): Minimum grade of C+ in MAP-111, MAP-117, MAP-225, MAP-230, MAP-342, and MAP-343.

MAP-941 Medical Assistant Practicum

3 credits—The practicum provides the students the opportunity to apply classroom theory to on the job experiences in a medical facility approved by the Practicum Coordinator. Primary objective is to provide students with a variety of experiences in the administrative, clinical and laboratory areas of an ambulatory care clinic. This opportunity allows the students to enhance communication skills by interacting with physicians, clinic staff and patients. Students are evaluated by the clinic supervisors and the practicum coordinator.

Co-op Hours: 192

Prerequisite(s): Minimum grade of C+ in MAP-117, MAP-230, MAP-343, and PNN-207.

MAT: Mathematics

MAT-045 Fundamentals of Math

4 credits—This course is designed to include the study of arithmetic operations on whole numbers, fractions, and decimals. The topics covered also include percent, ratio, proportions, and strategies for solving application problems.

Lecture Hours: 64

Prerequisite(s): Appropriate placement scores or equivalent.

MAT-048 Preparatory Math for Elementary Algebra

4 credits—This course is designed to include the study of arithmetic operations on whole numbers, fractions, decimals, and percent. The course also introduces basic algebra concepts, including simplifying and evaluating algebraic expressions and solving simple equations. Topics covered also include strategies for solving application problems, such as working with ratios, proportions, and formulas.

Lecture Hours: 64

Prerequisite(s): Appropriate placement score.

MAT-052 Pre-Algebra

3 credits—This course is designed to provide a review of basic math operations with whole numbers, integers, fractions, decimals, and percent. It also introduces basic algebra concepts including simplifying and evaluating algebraic expressions, solving simple equations, and applications.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in MAT-045 or equivalent placement score.

MAT-063 Elementary Algebra

4 credits—This course is designed to provide students with an introduction to basic algebra. The topics covered include signed numbers, exponents, algebraic expressions, polynomials, factoring, linear equations and inequalities, systems of equations, graphing, and applications.

Lecture Hours: 64

Prerequisite(s): A minimum grade of D in MAT-048 or MAT-052.

MAT-102 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

MAT-110 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 MAT-063 or appropriate placement score.

MAT-117 Math for Elementary Teachers ◆

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, measurement, and geometry and spatial sense. Activities and models appropriate to elementary school mathematics are used to represent these topics. This course does not count towards the mathematics requirement for the AA or AS degree.

Lecture Hours: 48

Prerequisite(s): Minimum grade of C in MAT-063 or equivalent placement score.

MAT-121 College Algebra ◆

4 credits—This course provides an intensified study of algebraic techniques and prepares students for future study in mathematics. The central theme is the concept of functions, their properties, graphs and applications. Functions studied include polynomial, rational, exponential, and logarithmic.

Lecture Hours: 64

Prerequisite(s): A minimum grade of C- in MAT-102 or equivalent placement score.

MAT-128 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 Test Scores: ACT Math Score of 25 OR Compass Score of 51-100 in the College Algebra Domain or 31-50 in the Trigonometry Domain.

MAT-134 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): A minimum grade of C- in MAT-121 or equivalent placement score.

MAT-156 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): MAT-063.

MAT-210 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 MAT-128 or MAT-134 or appropriate placement scores (ACT: 27; COMPASS TRIGONOMETRY: 51-100).

MAT-216 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 MAT-210.

MAT-219 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): MAT-216.

MAT-504 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): MAT-063 or appropriate placement score.

Co-requisite(s): ELT-291.

Pre/Co-requisite(s):

MAT-514 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): MAT-504.

MAT-741 Technical Mathematics I

3 credits—This course is designed to provide students with the mathematical skills to succeed in technical programs. Topics covered will include algebraic operations, solving linear equations, ratios, proportions, unit conversions, functions, geometry, and introductory trigonometry.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in MAT-063 or equivalent placement score.

MAT-748 Technical Math II

3 credits—The second of a two-course sequence designed to communicate the mathematics principles, concepts and manipulative skills needed for technical programs. Topics covered will include systems of equations, advanced trigonometry, vectors, polynomials, logarithmic and exponential functions.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in MAT-741.

MAT-764 Math for Welders

2 credits—This course introduces the basic mathematics principles that are using 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

MAT-772 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, introduction to geometry, and applied statistics. Instruction includes use of scientific hand-held calculators and emphasis placed on critical thinking, problem solving skills.

Lecture Hours: 48

Pre/Co-requisite(s):

MAT-778 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): MAT-772 or equivalent placement score.

MAT-924 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

MAT-928 Independent Study ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

MAT-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

MFG: Manufacturing

MFG-107 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

MFG-122 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

MFG-142 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): MFG-122.

MFG-157 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

MFG-158 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 MFG-157 and MFG-302.

MFG-193 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

MFG-211 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

MFG-214 Advanced Machine Theory

2 credits—Learn advanced machining processes and concepts used while operating machine shop equipment.

Lecture Hours: 32

MFG-222 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.

Lab Hours: 128

Pre/Co-requisite(s): A minimum grade of D in MFG-211.

MFG-228 Machine Operations II

4 credits—This is an advanced hands-on machining course.

Co-op Hours: 128

MFG-302 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.

Lab Hours: 96

Pre/Co-requisite(s):

MFG-309 CNC Programming Theory II

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 MFG-157 and MFG-158.

Co-requisite(s): MFG-335.

MFG-320 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

MFG-335 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.

Lab Hours: 96

Prerequisite(s): A minimum grade of D- in MFG-302, MFG-157, and MFG-158.

MFG-364 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 MFG-214 and MFG-228.

MFG-365 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

Pre/Co-requisite(s):

MFG-366 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

MFG-380 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

MFG-408 Basic Diemaking

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 MFG-214, MFG-228, and MFG-364.

Pre/Co-requisite(s): A minimum grade of D in MFG-410.

MFG-410 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

MFG-431 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 MFG-408.

Pre/Co-requisite(s):

MFG-452 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 MFG-408.

MFG-525 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 MFG-142.

MFG-924 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. This course can be repeated with different content for credit.

May be taken for 1 – 3 credits.

Lecture Hours: 16

MGT: Management

MGT-101 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

MGT-110 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

MGT-142 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

MGT-170 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

MGT-174 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

MGT-177 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

MGT-178 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

MGT-180 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

MGT-190 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 severing as the overall foundation for development and implementation.

Lecture Hours: 48

MGT-208 Introduction to Information Systems   ◆

3 credits—The purpose of the course is to provide the student with a broad understanding of management information systems (MIS) and also to provide more detailed hands-on use of application programs for better preparation for employers. The course covers management information topics, spreadsheets, databases, HTML and visual basic for applications (VBA).

Lecture Hours: 48

MGT-210 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

MGT-222 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

MIL: Military and ROTC

◆ **General Education course**

MIL-103 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

MIL-110 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

MIL-115 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

MIL-120 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

MIL-121 Leadership and Decision Making   ◆

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., lab arranged, plus 1 field trip.

Lecture Hours: 16   Lab Hours: 32

MIL-122 Leadership in Changing Environment   ◆

2 credits—

Lecture Hours: 32

MKT: Marketing

MKT-110 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

MKT-140 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

MKT-142 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

MKT-152 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

MKT-160 Principles of Retailing

3 credits—Organized learning activities emphasize the status of retail environments, operations, locations, merchandising, pricing and promotions.

Lecture Hours: 48

MKT-198 Sports Marketing

3 credits—This course will explain the basics of sports marketing, research, and delivery.

Lecture Hours: 48

MKT-924 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. This course can be repeated with different content for credit.

May be taken for up to 3 credits.

Lecture Hours: 16

MLT: Medical Laboratory Technology

MLT-101 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

MLT-103 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

MLT-110 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

MLT-120 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

MLT-130 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 MLT-110.

MLT-230 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 MLT-130.

Pre/Co-requisite(s):

MLT-233 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 MLT-110.

MLT-240 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 CHM-122, MLT-110, and MLT-103.

MLT-250 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 BIO-186

Co-requisite(s): A minimum grade of C in MLT-110

MLT-252 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

MLT-260 Immunohematology

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 MLT-110.

Pre/Co-requisite(s):

MLT-270 Immunology and Serology

2 credits—In this course, the focus in 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 MLT-110.

MLT-283 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 MLT-120.

MLT-284 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 MLT-260.

MLT-285 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 MLT-240.

MLT-286 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 MLT-270.

Pre/Co-requisite(s):

MLT-287 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 MLT-130 and MLT-230.

MLT-288 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 BIO-186, MLT-250, and MLT-252.

MLT-291 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 MLT-283, MLT-284, MLT-285, MLT-286, MLT-287, and MLT-288.

MMS: Mass Media Studies

MMS-105 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

MMS-111 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

MMS-117 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

MMS-124 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 MMS-111.

MMS-128 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

MMS-134 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

Pre/Co-requisite(s):

MMS-208 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 MMS-105 and MMS-111.

MMS-213 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 MMS-111.

MMS-214 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 MMS-105.

MMS-218 Editing and Color Grading

3 credits—This course explains the theory and execution of video editing and color grading. It addresses technical competencies, such as workflow, formats, and the use of industry standard software. Students will also explore artistic techniques in video post-production including visual storytelling, sound design, and color. Students will produce final projects to demonstrate their understanding of key concepts.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of D in MMS-111

MMS-219 Digital Audio Workstation

3 credits—The digital audio workstation, referred to by DAW, is the primary tool for recording, editing, and mixing audio in the modern audio industry. Avid's Pro Tools DAW software is the industry standard in studios everywhere. As an industry professional it is important to know the fundamentals of Pro Tools and DAW software. This course is designed to thoroughly explore the operation and application of the digital audio workstation using Pro Tools.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of D in MMS-105

Pre/Co-requisite(s):

MMS-265 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

MMS-302 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 MMS-111.

MMS-310 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 MMS-111 and MMS-213.

MMS-320 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 MMS-105 and MMS-214 .

MMS-321 Electronic Studio Production

3 credits—This course emphasizes audio production techniques and sound creation by electronic means, as opposed to acoustic sound capture and manipulation. Emphasis on MIDI technology and music production, audio synthesis, and audio sampling in a recording studio environment.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS-105 and MMS-214.

Pre/Co-requisite(s):

MMS-330 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 MMS-111 and MMS-213 .

MMS-331 Motion Graphics II

3 credits—This class will advance the skills of students in creating brand-appropriate animations, short stories, and visual effects compositions using industry standard motion graphics software. The end goal is provide the student with a solid portfolio of motion graphic related media to use in job application and career building.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of D in MMS-330.

MMS-340 Live Sound Production

3 credits—This course introduces students to the components and operation of public address sound systems. The course will cover equipment, setup, operation, and personal communication in a live sound production environment. This course offers students hands on lab and real world experiences with industry audio equipment.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of D in MMS-105 and MMS-214.

MMS-400 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 MMS-111 and MMS-213 .

MMS-420 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 MMS-105, MMS-214, and MMS-320.

Pre/Co-requisite(s):

MMS-425 Mixing and Mastering Audio

3 credits—Theory and practice in the various styles of mixing and mastering audio. Students will be given instruction on the various techniques used in the craft of mixing such as: equalization, panning perspectives, dynamics processing (compressors, limiters, gates, expanders), spatial effects (reverb and delay), modulation effects (chorus, flange, filters), and basic automation of audio and its corresponding effects. The mastering portion of the class will focus on the use of equalization, dynamics control, song sequencing, and correct formats of final delivery. This course will provide multiple styles of mixing and mastering including hardware-based instruction, in-the-box digital audio workstation methods, and hybrid workflows that utilize both analog and digital tools.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of D in MMS-105 and MMS-214

MMS-430 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 MMS-111 and MMS-213.

MMS-431 Group Film

3 credits—This class will focus on group production of independent, short films from concept to delivery. Emphasis will be on learning the roles and responsibilities as well as the technical and creative aspects of film making by working on small production teams. The instructor will function as "Executive Producer," technical advisor and critical mentor.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of D in MMS-111 and MMS-213

MMS-901 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

MMS-905 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.

Co-op Hours: 64

MMS-949 Special Topics

1 credits—This course offers a specialized study or project under the supervision of a faculty member. It may not duplicate any course already in the catalog. Students earn credit based upon the agreed upon credit and contact hours. This course can be repeated with different content for credit. Course may be taken for 1-3 credits.

Lecture Hours: 16-32   Lab Hours: 32-64

MUA: Music — Applied

◆ **General Education course**

MUA-101 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

MUA-106 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

MUA-119 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

MUA-120 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

MUA-121 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

MUA-180 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

MUA-181 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 MUA-180.

MUA-401 Applied Voice II   ◆

2 credits—Applied Voice II meets individual needs based upon the student's background and training while providing 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 repertory. This course can be repeated with different content for credit.

Lecture Hours: 32

MUS: Music — General

MUS-100 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

MUS-102 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

MUS-154 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

MUS-202 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

NET: Networking — Computer

◆ **General Education course**

NET-109 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 computers, including troubleshooting basic network and internet connectivity. Additionally, this course will also cover the latest memory, bus, peripherals, and wireless technologies.

Lecture Hours: 32   Lab Hours: 64

NET-115 College Experience

1 credits—This course is designed to orient Information Technology students to the college campus, resources, services, and expectations. This course will introduce information technology careers, certifications and preview key IT concepts and systems.

Lecture Hours: 16

NET-166 Applied Computer Security

3 credits—This course will discuss the basic concepts of practical computer and Internet security: passwords, firewalls, antivirus software, malware, social networking, surfing the Internet, phishing, and wireless networks. This class is intended for students with little or no background in information technology or security. Basic knowledge of word processing required.

Lecture Hours: 32   Lab Hours: 32

NET-168 Administering Windows Server

3 credits—This course focuses on implementing, managing, maintaining, and provisioning services and infrastructure in a Windows Server environment. This course will include the administration tasks necessary to maintain a Windows Server infrastructure such as configuring and troubleshooting name resolution, user and group management with Active Directory Domain Services (AD DS) and Group Policy, implementing Remote Access solutions such as DirectAccess, VPNs and Web Application Proxy, implementing Network Policies and Network Access Protection, PowerShell scripting, Data Security, deployment and maintenance of server images, as well as update management and monitoring of Windows Server environments. It covers the current objectives for the Microsoft Certification Exam.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of C in NET-313.

NET-178 Intro to Cyber Security

3 credits—This course will provide an overview of the vulnerabilities that exist in most information systems. Students will learn how policies, user education, software and hardware tools can help protect systems during an attack. This course will help students refine their critical thinking skills as they evaluate various technology topics and concepts while searching for underlying connections between the technology and how to apply those concepts in a lab setting, which is a skill that should be beneficial in any/all types of technology careers. This course will also help students gain hands on technology literacy which will be of vital significance when making important work- related decisions.

Lecture Hours: 32   Lab Hours: 32

NET-202 Programming for Network Administrators

3 credits—This course introduces basic programming techniques using the Python programming language to automate system administration tasks. Students will design, code, and test Python applications. Students will also be introduced to PowerShell and other scripting tools, and see how these tools compare to Python. The focus of scripting use in this course is to aid in automation of regular system administration tasks.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C- in NET-178

NET-213 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 MAT-063 or equivalent test score: ACT 19 Math, COMPASS 42 Algebra.

NET-225 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 NET-213.

NET-228 Cisco Networking II   ◆

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 static routing, virtual LANS, and inter-VLAN routing in both IPv4 and IPv6 networks. Students will be able to perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): Minimum grade of C in NET-213

Pre/Co-requisite(s):

NET-229 Cisco Networking III   ◆

4 credits—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 OPSF, NAT, ACL's and wide area networking.

Lecture Hours: 48   Lab Hours: 32

Prerequisite(s): Minimum grade of C in NET-228

NET-268 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 issued 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 NET-225.

NET-269 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 NET-268.

NET-310 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 NET-313.

Pre/Co-requisite(s):

NET-313 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 Windows Server operating system. Students will study the design, implementation, and support of 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 NET-109.

NET-346 Windows Exchange Server

3 credits—This course provides students with the knowledge and skills that are needed to install, 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 support Microsoft Exchange Server.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C- in NET-313.

Pre/Co-requisite(s): Minimum grade of C- in NET-310.

NET-350 Cisco Security

4 credits—The Cisco Networking Security course provides a next step for individuals who want to enhance their introductory networking skill set and help meet the growing demand for network security professionals. The curriculum introduces the core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and devices.

Lecture Hours: 32   Lab Hours: 64

Prerequisite(s): Minimum grade of C- in NET-228

NET-412 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

NET-474 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.

NET-475 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.

NET-612 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): Minimum grade of C- in NET-313.

NET-619 Network Attacks: Detection, Analysis & Countermeasures

3 credits—This course provides students the opportunity to attack computer networks to test their defenses and teaches them how to analyze attacks. Topics include attacks and attack analysis, intrusion detection and analysis, and advanced defense countermeasure configuration using firewalls, routers and intrusion detection systems.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): Minimum grade of C- in NET-178

NET-710 SQL Database

2 credits—This course is designed to teach the student the basics of computer database administration. This course will cover 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): Minimum grade of C- in CIS-303 and NET-313.

NET-916 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): Minimum grade of C in NET-310 and NET-346.

Pre/Co-requisite(s):

NET-932 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. This course may be taken for 2–3 credit hours.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C- in NET-109. Must be in program major and have completed 30 credits in one of the following programs: Network Administration and Engineering or Information Systems Management.

NET-932 Internship

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. This course may be taken for 2–3 credit hours.

Co-op Hours: 128

Prerequisite(s): A minimum grade of C- in NET-109. Must be in program major and have completed 30 credits in one of the following programs: Network Administration and Engineering or Information Systems Management.

NET-949 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. This course can be taken for 1 – 3 credit hours.

Lecture Hours: 16

OTA: Occupational Therapy Assisting

◆ **General Education course**

OTA-101 Introduction to OT

3 credits—This course introduces the key concepts of occupational therapy as a health and wellness profession. The roles of occupational therapists are explored, including in traditional and emerging health care, community-based, and education settings. The course will introduce foundational and philosophical concepts, professional ethics, and the emergence of occupational therapists and occupational therapy assistants in the profession. Students will participate in activities to developing an understanding of the occupational therapy process and the skills needed by a healthcare professional.

Lecture Hours: 48

OTA-102 Human Movement and Occupation

3 credits—This course studies 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 utilize assessment data for the occupational therapy process in collaboration with the occupational therapist to plan client-centered treatment sessions.

Lecture Hours: 16   Lab Hours: 64

Prerequisite(s): Minimum grade of B in BIO-168 and BIO-173. Minimum grade of C in PSY-111, SPC-101, ENG-105, MAT-110, HSC-108, HSC-113, OTA-101, and OTA-120.

OTA-103 Task Analysis

3 credits—The course will introduce the development and emergence of human occupational performance throughout the lifespan 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): Minimum grade of B in BIO-168 and BIO-173. Minimum grade of C in PSY-111, SPC-101, ENG-105, MAT-110, HSC-108, HSC-113, OTA-101, and OTA 120.

OTA-105 OTA and Professional Issues I   ◆

2 credits—This is the first of three courses that focuses on the various aspects of professional issues which will allow the student increase their skills as they transition to a clinician. The course will focus on various types of documentation, advocacy, types of research, and locating, selecting, and comprehending scholarly reports.

Lecture Hours: 32

Prerequisite(s): Minimum grade of C in SPC-101, MAT-110, HSC-113

Pre/Co-requisite(s):

OTA-120 Neuroanatomy for the OTA

3 credits—This course provides a comprehensive study and in-depth knowledge of the structure and function of the central, peripheral, somatosensory, motor, and autonomic nervous systems. Special emphasis is placed on examining the functions of the nervous system and the neurological basis of dysfunction related to occupational performance.

Lecture Hours: 48

Prerequisite(s): Minimum grade of B in BIO-168 and BIO-173. Minimum grade of C in PSY-111, SPC-101, and ENG-105.

OTA-201 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 OTA-102, OTA-103, and OTA-105.

OTA-202 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 OTA-102, OTA-103, and OTA-105.

OTA-204 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 OTA-102, OTA-103, and OTA-105.

OTA-221 Level I Fieldwork Pediatrics   ◆

1 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.

Co-op Hours: 64

Prerequisite(s): Minimum grade of C in OTA-102, OTA-103, OTA-105

Pre/Co-requisite(s):

OTA-222 OTA and Professional Issues II   ◆

1 credits—This is the second of three courses that focuses on the various aspects of professional issues which will allow the student increase their skills as they transition to a clinician. This course will concentrate on principles of teaching and learning process in various settings, health literacy, advocacy, billing, measuring outcomes and documentation, supervision, communication, health and wellness for the client and occupational therapy practitioner, managing one's career, and intraprofessional role of occupational therapist and occupational therapy assistant.

Lecture Hours: 16

Prerequisite(s): Minimum grade of C in OTA-102, OTA-103, and OTA-105

OTA-311 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 OTA-201, OTA-202, OTA-204, OTA-221, and OTA-222.

OTA-312 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 OTA-201, OTA-202, OTA-204, OTA-221, and OTA-222.

OTA-313 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 application of didactic information, development of professional work habits, and supervisory collaboration.

Co-op Hours: 64

Pre/Co-requisite(s): A minimum grade of C in OTA-201, OTA-202, OTA-204, OTA-221, and OTA-222.

OTA-314 Management and the OTA ◆

3 credits—This course will investigate the business and management issues as well as the role and responsibility of the occupational therapy assistant. Topics include literacy education, teaching and learning process for educational settings, evidence-based practice, leadership and management in occupational therapy, organizational planning, culture in the work place, changes that occur, management and supervision, financing and budgeting, professional standards, ethical and legal considerations, interprofessional and intraprofessional relationships.

Lecture Hours: 48

Prerequisite(s): Minimum grade of C in OTA-201, OTA-202, OTA-204, OTA-221, and OTA-222

OTA-315 Adult Physical Conditions and Occupations ◆

2 credits—The second in a sequence of courses addressing physical 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 including conditions, and circumstances affecting this period of human development.

Lecture Hours: 32

Prerequisite(s): Minimum grade of C in OTA-311, OTA-312, OTA-313, and OTA-314

OTA-316 Physical OTA Skills ◆

2 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: 32

Prerequisite(s): Minimum grade of C in OTA-311, OTA-312, OTA-313, and OTA-314

OTA-401 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 OTA-311, OTA-312, OTA-313, and OTA-314.

Pre/Co-requisite(s):

OTA-402 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 OTA-311, OTA-312, OTA-313, and OTA-314.

OTA-403 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 profesional work habits and supervisory collaboration.

Co-op Hours: 64

Prerequisite(s): A minimum grade of C in OTA-311, OTA-312, OTA-313, and OTA-314.

OTA-502 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 OTA-315, OTA-316, OTA-401, OTA-402, and OTA-403.

OTA-503 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 OTA-502 including a passing score of the AOTA Fieldwork Performance Evaluation (FWPE) for the Occupational Therapy Assistant Student

OTA-504 Student to Clinician   ◆

1 credits—This course is the final course of three for aspects of professionalism which focuses on the various topics as a student increases their skills with transitioning to a clinician. The course will concentrate communicating the distinct nature of occupational therapy to variety of individuals, increasing knowledge of the occupational therapy practice's aspect of business management, process of the requirements credentialing for and licensure, competency-based supervisory process, scholarly activity and communication of information, strategies for ongoing professional development in practice and academic settings, and professional responsibility in regards to liability.

Lecture Hours: 16

Prerequisite(s): Minimum grade of C in OTA-502. Passing score of the AOTA Fieldwork Performance Evaluation (FWPE) for the Occupational Therapy Assistant Student

PEA: Physical Education — Activities

◆ **General Education course**

PEA-117 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

PEA-123 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

PEA-145 Crosstraining and Core Fitness ◆

1 credits—This aerobic course, designed to improve physical fitness levels, provides the opportunity for participants of all levels to progress at their own pace. Various types of cardiovascular exercise modalities will be utilized throughout the course. Core stability and strengthening are also emphasized.

Lab Hours: 32

PEA-150 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

PEA-187 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

Prerequisite(s): A minimum grad of D in PEA-187.

PEA-191 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

PEA-194 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

PEA-287 Weight Training II ◆

1 credits—This skill course emphasizes the importance of variation in the weight training regimen by incorporating different training systems.

Lab Hours: 32

Prerequisite(s): Minimum grade of D in PEA-187 Weight Training I

PEA-294 Weight Training III ◆

1 credits—Weight Training III provides consistent routine instruction in the performance of weight training exercises with emphasis on complex biomechanics of lifting.

Lab Hours: 32

PEC: Physical Education − Coaching / Officiating

◆ **General Education course**

PEC-110 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

PEC-115 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

PEC-123 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

PEC-127 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

PEH: Physical Education and Health — General

PEH-111 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

PEH-141 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

PEH-160 Fundamentals of Health Coaching ◆

3 credits—This course reviews health coaching and its relevance in today's health care industry. Includes information on coaching psychology, insight on weight management psychology, the physiology of obesity, techniques for lifestyle coaching, and the relationship between exercise and nutrition for weight control.

Lecture Hours: 48

PEH-162 Introduction to Physical Education ◆

3 credits—Career exploration course into the fields of physical education, sport, health, and recreation. Philosophies, principles and historical perspectives will be introduced.

Lecture Hours: 48

PEH-191 Sports Nutrition ◆

3 credits—This course will present basic principles of human nutrition and the nutritional needs of athletes and/or physically active populations. Examination of nutrition's effects on health and human performance, focusing on fuel sources, metabolism, hydration, supplement use and ergogenic aids, maintaining a healthy body composition, and eating disorders will also occur.

Lecture Hours: 48

PEH-193 Sports Nutrition ◆

2 credits—Basic nutrition concepts and nutritional needs of athletes and physically active individuals will be the focus. Nutrient timing, metabolism and digestion, adequate hydration, body composition, and supplements and ergogenic aids will be discussed.

Lecture Hours: 32

PEH-909 Cooperative Education   ◆

1 credits—Cooperative Education provides an observation and participation experience to explore duties, roles, and responsibilities in settings related to wellness, athletics, exercise science, physical education, and/or a similar agency. This takes place in area agencies under the direction of a supervisor. This course can be repeated with a different agency for credit.

Lab Hours: 32

Prerequisite(s): A minimum grade of C- in PEH-162.

PEH-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

PEH-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

PEH-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

PHI: Philosophy

PHI-101 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

PHI-105 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

PHI-121 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

PHS: Physical Science

PHS-120 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 MAT-063.

PHS-142 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 D- in MAT-063 or appropriate placement score.

PHS-152 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 D- in MAT-063 or appropriate placement score.

PHS-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

PHS-928 Independent Study ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

PHS-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

PHT: Photography — Commercial

PHT-102 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

PHT-106 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

PHT-108 Camera I

3 credits—This course is an introduction to the basics of camera handling, exposure and meter usage.

Lecture Hours: 48

PHT-109 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): PHT-108.

PHT-110 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): Minimum grade of D- in PHT-108.

PHT-111 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): PHT-109 and PHT-106.

Pre/Co-requisite(s): PHT-202 or PHT-204.

PHT-202 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 PHT-106, PHT-108, and PHT-109.

PHT-204 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 and demonstrated.

Lecture Hours: 48

Prerequisite(s): A minimum grade of D in PHT-106, PHT-108, and PHT-109.

PHT-210 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

PHT-212 Intermediate Electronic Imaging

3 credits—This course will develop skills needed for adjusting and enhancing photographic images after image capture and before going to a final output. The emphasis will be on images used in the photography professions of Portrait, Commercial and Photojournalism. All image manipulations will be accomplished with computer imaging software.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): PHT-106.

Pre/Co-requisite(s):

PHT-215 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): PHT-106.

PHT-216 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): PHT-106 and PHT-111.

PHT-217 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): PHT-215.

PHT-218 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): PHT-216.

PHT-220 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 PHT-202.

Pre/Co-requisite(s):

PHT-227 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: 48

Prerequisite(s): A minimum grade of D in PHT-204.

PHT-240 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 PHT-220.

PHT-241 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 PHT-202.

PHT-242 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 PHT-110 or MMS-103.

PHT-244 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): PHT-220.

Pre/Co-requisite(s):

PHT-245 History of Photography

3 credits—This course introduces the student to the history of the photographic profession and it's 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

PHT-247 Commercial Production and Portfolio

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 PHT-227.

PHT-248 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 PHT-204.

PHT-249 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 PHT-204.

PHT-251 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 PHT-111.

Pre/Co-requisite(s):

PHT-253 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 PHT-204.

PHT-928 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. This course can be repeated with different content for credit. This course can be taken for 1–5 credit hours.

May be taken for up to 5 credits.

Lab Hours: 32

PHY: Physics

PHY-100 Physics in Everyday Life   ◆

3 credits—Basic laws and concepts of physics introduced and applied to activities to help students investigate how physics applies to everyday life.

Lecture Hours: 48

PHY-162 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 MAT-741 or MAT-121. Or equivalent placement score.

PHY-172 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 PHY-162.

PHY-183 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 C- in MAT-504, MAT-741, or MAT-121.

PHY-212 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 MAT-210.

PHY-222 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 PHY-212 and MAT-216.

PHY-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

PHY-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

PHY-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

PNN: Practical Nursing

◆ **General Education course**

PNN-115 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 B in HSC-108, BIO-168, BIO-173, and ENG-105.

PNN-116 Introduction to Nursing Skills Lab

2 credits—This course provides students the opportunity to demonstrate the practical application of basic nursing skills. There is 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 B in HSC-108, BIO-168, BIO-173, and ENG-105.

Pre/Co-requisite(s): A minimum grade of B in PNN-115 and PNN-1222. Minimum grade of Pass in PNN-117.

PNN-117 Nursing Clinical I

1 credits—This course provides students with an introduction to clinical nursing. Emphasis is placed on utilizing the nursing process as a basis for clinical decision-making. Nursing professionalism and basic nursing skills are introduced.

Clinic Hours: 48

Prerequisite(s): A minimum grade of B in HSC-108, BIO-168, BIO-173, and ENG-105.

Pre/Co-requisite(s): A minimum grade of B in PNN-115, PNN-116, and PNN-122.

PNN-118 Nursing Clinical II

1 credits—This course provides students with a continuation of clinical nursing. Emphasis is placed on utilizing the nursing process as a basis for clinical decision making and development of critical thinking. Nursing professionalism standards are reinforced and basic essential nursing skills such as SBAR hand off report, data analysis and trends are introduced.

Clinic Hours: 48

Prerequisite(s): Minimum grade of B in PNN-115, PNN-122, and PNN-116. Minimum grade of Pass in PNN-117.

Pre/Co-requisite(s):

PNN-122 Introduction to Pharmacology ◆

2 credits—This course introduces students to the basic principles of pharmacology and medication administration. The course 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, administration, and client education will be discussed.

Lecture Hours: 32

Prerequisite(s): Minimum grade of B in HSC-108, ENG-105, BIO-168, and BIO-173

Pre/Co-requisite(s): Minimum grade of B in PNN-115 and PNN-116. Minimum grade (P/F) in PNN-117

PNN-214 Basic Health Alterations A

3 credits—This course builds on concepts learned in previous coursework from bio/psycho/social sciences, humanities, and nursing as well as from current evidence-based literature. Emphasis is placed on applying the nursing process to clients and families across the life span 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 cardiovascular, hematology/oncology, fluids/ electrolytes, integumentary, gastrointestinal, and urinary/male reproductive.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in MAT-102, or MAT-128, or MAT-134, or MAT-156, or MAT-210, or MAT-216, or MAT-219. A minimum grade of B in PNN-115, PNN-116, and PNN-122. Grade of Pass in PNN-117.

Pre/Co-requisite(s): A minimum grade of C in BIO-151. Grade of Pass in PNN-218.

PNN-215 Basic Health Alterations B

3 credits—This course builds on concepts learned in previous coursework from bio/psycho/social sciences, humanities, and nursing as well as from current evidence-based literature. Emphasis is placed on applying the nursing process to clients and families across the life span 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 respiratory, endocrine, musculoskeletal, neurological, sensory, pain, and immune disorders.

Lecture Hours: 48

Prerequisite(s): A minimum grade of B in PNN-115, PNN-116, and PNN-122. Minimum grade of Pass in PNN-117 and PNN-118.

Pre/Co-requisite(s): A minimum grade of B in PNN-319. Minimum grade of Pass in PNN-221.

PNN-216 Health Promotion & Maintenance Across the Lifespan

2 credits—This course builds on concepts learned in previous coursework from bio/psycho/social sciences, humanities, and nursing as well as from current evidence-based literature. Exemplars from maternal-child nursing and mental health nursing will be used in demonstrating the integration of principles of the nursing process and healthcare agencies. Cultural, ethical, and legal challenges will be discussed.

Lecture Hours: 32

Prerequisite(s): A minimum grade of C in MAT-121, or MAT-110, or MAT-102, or MAT-128, or MAT-134, or MAT-156, or MAT-210, or MAT-216, or MAT 219.

Pre/Co-requisite(s): A minimum grade of B in PNN-115, PNN-116, and PNN-122. Minimum grade of Pass in PNN-117 and PNN-118.

PNN-218 Nursing Clinical III ◆

1 credits—This clinical course provides opportunities for students to incorporate concepts from course work in bio/psycho/social sciences, humanities, nursing and current evidence-based literature to provide safe, competent care of adult clients experiencing common basic alterations in body systems. The course utilizes the nursing process in order to achieve best practice outcomes in a medical/surgical setting. Particular emphasis is placed on concepts of holistic care, client education and critical thinking for cardiovascular, hematology/oncology, fluids/electrolytes, integumentary, gastrointestinal, urinary/male reproductive health alterations.

Clinic Hours: 48

Prerequisite(s): Minimum grade of B in PNN-115 and PNN-116. Minimum grade of Pass in PNN-117.

PNN-219 Foundations of Nursing Skills Lab ◆

2 credits—This course provides practical application of basic nursing skills while incorporating concepts learned in previous coursework from bio/psycho/social sciences, humanities, and nursing as well as from current evidence-based literature. Students learn, practice and demonstrate basic nursing skills competency in skills. Emphasis is on the critical elements of nursing procedures and the scientific rationale for performing the procedures correctly.

Lecture Hours: 16   Lab Hours: 32

Prerequisite(s): Minimum grade of B in PNN-115, PNN-116, and PNN-122. Minimum grade of Pass in PNN-117.

Pre/Co-requisite(s): Minimum grade of B in PNN-214. Minimum grade of (P/F) in PNN-218.

PNN-221 Nursing Clinical IV ◆

1 credits—This clinical course provides opportunities for students to incorporate concepts from course work in bio/psycho/social sciences, humanities, nursing and current evidence-based literature to provide safe, competent care of adult clients experiencing common basic alterations in body systems. The course utilizes the nursing process in order to achieve best practice outcomes in a medical/surgical setting. Particular emphasis is placed on concepts of holistic care, client education and critical thinking for respiratory, endocrine, musculoskeletal, neurological, sensory, pain, and immune disorders health alterations.

Clinic Hours: 48

Prerequisite(s): Minimum grade of B in PNN-115, PNN-116, and PNN-122. Minimum grade of Pass in PNN-117 and PNN-118.

Pre/Co-requisite(s): Minimum grade of B in PNN-219. Minimum grade of (P/F) in PNN-215

PNN-319 Issues and Trends in Practical Nursing Leadership ◆

2 credits—This course is an overview of the role of the licensed practical nurse and introduces students to legal and ethical requirements, scopes of practice, career opportunities, and job searches. Preparation for the licensing exam is also included.

Lecture Hours: 32

Prerequisite(s): Minimum grade of B in PNN-115, PNN-116, and PNN-122. Minimum grade of (P/F) in PNN-117, PNN-118.

Pre/Co-requisite(s): Minimum grade of B in PNN-214, PNN-215, PNN-216, and PNN-219.

POL: Political Science

◆ **General Education course**

POL-111 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

POL-121 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

POL-125 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

POL-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

POL-928 Independent Study ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

POL-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

PSY: Psychology

◆ **General Education course**

PSY-102 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

PSY-111 Introduction to Psychology   ◆

3 credits—This course provides an introduction to the study of behavior and mental processes with emphasis in such areas as 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

PSY-121 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

PSY-241 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): PSY-111.

PSY-251 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): PSY-111 and SOC-110 or instructor approval.

PSY-261 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

PSY-262 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): PSY-111.

PSY-924 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. This course can be repeated with different content for credit.

May be taken for 1 – 3 credits.

Lecture Hours: 16

PSY-928 Independent Study   ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

PSY-949 Special Topics   ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

PTA: Physical Therapist Assistant

PTA-111 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

Prerequisite(s): A minimum grade of C in PGA-120, PTA-150, and PTA-310.

PTA-113 Fundamentals for PTA II

3 credits—Introduction to physical disabilities and community barriers, independent activities of daily living, prosthetics, orthotics, static/dynamic splints, casts, braces, relaxation training, cardio-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 PTA-111, PTA-194, PTA-211, PTA-231, and PTA-350.

PTA-120 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): A minimum grade of B in BIO-168 and BIO-173. A minimum grade of C in ENG-105, SPC-101, PSY-111, PSY-121, MAT-110, and HSC-113.

Pre/Co-requisite(s): A minimum grade of C in HSC-108.

PTA-150 Pathophysiology

3 credits—Describes the etiology, signs, symptoms, and treatment of diseases and disorders commonly encountered in physical therapy.

Lecture Hours: 48

Prerequisite(s): A minimum grade of B in BIO-168 and BIO-173. A minimum grade of C in ENG-105, SPC-101, PSY-111, PSY-121, MAT-110, and HSC-113.

Pre/Co-requisite(s): A minimum grade of C in HSC-108.

PTA-194 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): A minimum grade of C in PTA-120, PTA-150, and PTA-310.

PTA-195 Therapeutic Agents II

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 PTA-111, PTA-194, PTA-211, and PTA-231 and PTA-350.

PTA-211 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): A minimum grade of C in PTA-120, PTA-150, and PTA-310.

PTA-212 Musculoskeletal II

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 PTA-111, PTA-194, PTA-211, PTA-231, and PTA-350.

PTA-231 Therapeutic Exercise for PTA

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, and motor control. Age and gender will be taken into consideration when exploring treatment interventions involving a variety of condition-specific diagnoses.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of C in PTA-120, PTA-150, and PTA-310.

Pre/Co-requisite(s):

PTA-248 PTA Neurology

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 PTA-111, PTA-194, PTA-211, PTA-231, and PTA-350.

PTA-284 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

Prerequisite(s): A minimum grade of C in PTA-113, PTA-195, PTA-212, PTA-248, and PTA-400.

PTA-310 PTA Clinical I

1 credits—The course will allow for observation and application of physical therapy interventions and elemental principles of patient care to uncomplicated patients under direct supervision and discretion of the Clinical Instructor. The experience will occur at the end of the summer term, including on-site clinical experience in local settings. This course ensures the student maintains all required health care certifications and documentation.

Co-op Hours: 64

Pre/Co-requisite(s): A minimum grade of C in PTA-120 and PTA-150.

PTA-350 PTA Clinical II

2 credits—This course consists of clinical experiences occurring at the end of 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: 128

Prerequisite(s): A minimum grade of C in PTA-310.

Pre/Co-requisite(s): A minimum grade of C in PTA-111, and PTA-194, and PTA-211, and PTA-231.

PTA-400 PTA Clinical III

2 credits—This course consists of clinical experiences occurring at the end of 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: 128

Prerequisite(s): A minimum grade of C in PTA-350.

Pre/Co-requisite(s): A minimum grade of C in PTA-113, PTA-195, PTA-212, and PTA-248.

PTA-450 PTA Clinical IV

5 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 clinical staff. Location of clinical sites may require travel away from the local region, including out-of-state.

Co-op Hours: 320

Prerequisite(s): A minimum grade of C in PTA-113, PTA-195, PTA-212, PTA-248, and PTA-400.

PTA-901 Review for Physical Therapist Assistant Board Exam

1 credits—This course is designed to remediate the content included on the Physical Therapist Assistant board exam.

Lecture Hours: 16

RCP: Respiratory Therapy

RCP-100 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

RCP-260 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 RCP-100.

RCP-315 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 RCP-100 and RCP-260.

Co-requisite(s): A minimum grade of C in RCP-680.

RCP-350 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 RCP-315.

RCP-410 Cardio/Pulmonary 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 RCP-565 or RCP-690.

RCP-561 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 RCP-100 and RCP-260.

Pre/Co-requisite(s): A minimum grade of C in RCP-315 or RCP-680.

RCP-565 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 RCP-315 and RCP-561.

Co-requisite(s): A minimum grade of C in RCP-690.

RCP-600 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 RCP-100 and RCP-260.

Pre/Co-requisite(s): A minimum grade of C in RCP-680.

RCP-680 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 RCP-100 and RCP-260.

RCP-690 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 RCP-350, RCP-561, and RCP-680.

Pre/Co-requisite(s): A minimum grade of C in RCP-565.

RCP-875 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 RCP-350, RCP-561, and RCP-315.

Pre/Co-requisite(s): A minimum grade of C in RCP-410, RCP-565, and RCP-690.

RCP-900 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 RCP-680 and RCP-690.

RCP-910 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

RDG: Reading

RDG-039 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): RDG-038, appropriate placement scores, or equivalent.

RDG-040 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): RDG-039, appropriate placement score, or equivalent.

REL: Religion

REL-101 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

REL-130 Introduction 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

SDV: Student Development

SDV-108 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

SDV-109 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

SDV-131 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

SDV-149 Exploration of Engineering Careers   ◆

3 credits—This course introduces students to the field of engineering and takes a look at careers in a wide variety of settings. This class will include a number of career exploration methods and experiences, with a focus on college and career readiness and employability skills.

Lecture Hours: 48

SDV-159 Exploration of Business Careers   ◆

3 credits—This course introduces students to the different fields of business and takes a look at careers in a wide variety of settings. This class will include a number of career exploration methods and experiences, with a focus on college and career readiness and employability skills.

Lecture Hours: 48

SDV-161 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

SOC: Sociology

◆ General Education course

SOC-110 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

SOC-115 Social Problems ◆

3 credits—This course introduces students to a sociological examination of contemporary social problems. Specifically, this course focuses on the interconnection of various social problems, the significance of social inequality in creating and maintaining social problems, and the roles of both human agency and social policy in providing solutions to these problems.

Lecture Hours: 48

SOC-120 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, diverse family structures, and functions of the family and dysfunctions. This course examines courtship and marriage, family life cycle, parenthood, interpersonal relationships, and marital adjustments. Upon completion, students should be able to analyze the family as a social institution, and identify social forces which influence its development and change.

Lecture Hours: 48

SOC-135 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

SOC-160 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.

Lecture Hours: 48

Pre/Co-requisite(s):

SOC-180 Social Work Interactional Skills ◆

3 credits—This course focuses on students gaining an understanding and beginning mastery of interpersonal and interactional helping skills utilized by social workers in practice. The organization of the course and the learning methods used focus on both didactic and experiential learning. The content of the course is taught through lecture, discussion, and interactional sessions in which the students learn through individual and group exercises, role play, and activity experiences.

Lecture Hours: 48

Prerequisite(s): A minimum grade of C in SOC-160 Introduction to Social Work.

Pre/Co-requisite(s): Passing grade in SOC-181 Field Experience.

SOC-181 Field Experience ◆

1 credits—This course provides students with a beginning "hands-on" experience to examine the operations of a social service agency, to observe the functions and activities of social service workers, and to develop entry-level social service skills with clients. Students will complete a field experience with a social service agency and provided professional supervision by an agency representative who has the educational and professional experience in the student's field of interest. This initial field experience is helpful to students in determining the compatibility of their own values, personal qualities, skills, and level of commitment to the social work practice. Students will have the opportunity to assess their field experience to make an informed decision on future educational and career plans.

Lab Hours: 32

Pre/Co-requisite(s): Minimum grade of C in SOC-180 Social Work Interactional Skills.

SOC-200 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

SOC-205 Diversity in America ◆

3 credits—This course provides an introduction to the sociological study of group relations in the United States. The focus will be on race, class, and gender. However, other identities (such as religion, sexual orientation, age, and abilities) will also be explored. Students will gain a better understanding of the relationship between individuals and society, as well as the experiences of various minority groups.

Lecture Hours: 48

SOC-208 Introduction to 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

SOC-220 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

SOC-230 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

SOC-240 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

SOC-251 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): PSY-111, SOC-110, or instructor approval.

SOC-261 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

SOC-820 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

SOC-850 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

SOC-924 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.

Lecture Hours: 16

SOC-928 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

SOC-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

SOC-999 Study Abroad ◆

1 credits—This course explores relative differences between the student's country and another country with emphasis in discipline of study. Topics include history, geography, culture, food, language, and discipline specific topics. This course can be repeated with different content for credit.

This course can be taken for 1–5 credits hours.

Lecture Hours: 16

SPC: Speech

◆ **General Education course**

SPC-101 Fundamentals of Oral Communication   ◆

3 credits—This course introduces students to the oral communication process and how it affects human interaction There will be an 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

SPC-112 Public Speaking   ◆

3 credits—This course studies the fundamentals of public speaking, emphasizing the process of speech preparation and delivery in various contexts.

Lecture Hours: 48

SPC-120 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

SPC-122 Interpersonal Communication   ◆

3 credits—Interpersonal Communication applies communication theories and concepts to real world friendships, romantic partnerships, families and workplace relationships. The course focuses on improving interpersonal skills and increasing communication competence.

Lecture Hours: 48

SPC-132 Group Communication   ◆

3 credits—This course focuses on the principles, theories, and processes of small group communication. The primary goal of this course is for students to apply content to group communication situations to function more effectively.

Lecture Hours: 48

SPC-140 Oral Interpretation   ◆

3 credits—This course will explore literature through performance. Students will learn to select, analyze, interpret and perform literature of various types using vocal and physical techniques.

Lecture Hours: 48

SPC-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

SPC-928 Independent Study ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

SPC-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16

TDT: Truck Driving and Transportation

TDT-101 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

TDT-115 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

TDT-118 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): TDT-115.

TDT-125 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.

Lab Hours: 96

Prerequisite(s): A minimum grade of D in TDT-115.

TDT-938 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.

Co-op Hours: 192

Prerequisite(s): A minimum grade of D in TDT-100, TDT-115, and TDT-118.

WBL: Work-Based Learning

WBL-100 Exploring Careers

1 credits—This course will provide guidance in choosing a career goal and preparing for employment. Emphasis will be placed on identifying interests, abilities, and values, and exploring options for careers. Students will learn how to access labor market information and employment trends. Additionally, students will develop the skills and aptitudes necessary to obtain employment, emphasizing the development of characteristics associated with job success. This course can be taken for 1 – 3 credits.

Lecture Hours: 16

WBL-102 Exploring Careers: Science, Technology, Engineering, and Mathematics

1 credits—This course will provide guidance in choosing a career goal and preparing for employment in Science, Technology, Engineering, or Manufacturing careers. Emphasis will be placed on identifying interests, abilities, and values, and exploring options for careers. Students will learn how to access labor market information and employment trends. Additionally, students will develop the skills and aptitudes necessary to obtain employment in these fields, emphasizing the development of characteristics associated with job success. This course can be taken for 1 – 3 credits.

Lecture Hours: 16

WBL-104 Exploring Careers: Health Sciences

1 credits—This course will provide guidance in choosing a career goal and preparing for employment in Health Sciences careers. Emphasis will be placed on identifying interests, abilities, and values, and exploring options for careers. Students will learn how to access labor market information and employment trends. Additionally, students will develop the skills and aptitudes necessary to obtain employment in these fields, emphasizing the development of characteristics associated with job success. This course can be taken for 1 – 3 credits.

Lecture Hours: 16

WBL-105 Exploring Careers: Business, Finance, Marketing, and Management

1 credits—This course will provide guidance in choosing a career goal and preparing for employment in Business, Finance, Marketing, and Management careers. Emphasis will be placed on identifying interests, abilities, and values, and exploring options for careers. Students will learn how to access labor market information and employment trends. Additionally, students will develop the skills and aptitudes necessary to obtain employment in these fields, emphasizing the development of characteristics associated with job success. This course can be taken for 1 – 3 credits.

Lecture Hours: 16

WBL-110 Employability Skills

1 credits—This course is designed to assist students in developing the skills necessary to obtain employment and to learn and practice the skills and attitudes required for job success. Students will practice resume writing, job application completion, and interviewing techniques. Additionally, students will practice workplace problem solving strategies, and demonstrate skills required to work in a diverse environment. This course can be taken for 1 – 3 credits.

Lecture Hours: 16

WBL-110 Employability Skills

2 credits—This course is designed to assist students in developing the skills necessary to obtain employment and to learn and practice the skills and attitudes required for job success. Students will practice resume writing, job application completion, and interviewing techniques. Additionally, students will practice workplace problem solving strategies, and demonstrate skills required to work in a diverse environment. This course can be taken for 1 – 3 credits.

Lecture Hours: 32

WBL-140 Workplace Project Based Learning: Information Solutions

3 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies. Projects are developed under the supervision of a college faculty member. This course can be taken for 2 or 3 credits.

Lecture Hours: 16   Lab Hours: 96

WBL-140 Workplace Project Based Learning: Information Solutions

2 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies. Projects are developed under the supervision of a college faculty member. This course can be taken for 2 or 3 credits.

Lecture Hours: 16   Lab Hours: 64

WBL-142 Workplace Project Based Learning: Science, Technology, Engineering, and Mathematics

2 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Applied Sciences, Technology, Engineering, and Manufacturing employment sector. Projects are developed under the supervision of a college faculty member. This course can be taken for 2 or 3 credits.

Lecture Hours: 16   Lab Hours: 64

WBL-142 Workplace Project Based Learning: Science, Technology, Engineering, and Mathematics

3 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Applied Sciences, Technology, Engineering, and Manufacturing employment sector. Projects are developed under the supervision of a college faculty member. This update has been made.

Lecture Hours: 16   Lab Hours: 96

WBL-144 Workplace Project Based Learning: Health Sciences

2 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Health Sciences employment sector. Projects are developed under the supervision of a college faculty member. This course can be taken for 2–3 credits.

Lecture Hours: 16   Lab Hours: 32

WBL-144 Workplace Project Based Learning: Health Sciences

3 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Health Sciences employment sector. Projects are developed under the supervision of a college faculty member. This course can be taken for 2–3 credits.

Lecture Hours: 16   Lab Hours: 64

WBL-145 Workplace Project Based Learning: Business, Finance, Marketing

2 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Business, Finance, Marketing, and Management employment sector. Projects are developed under the supervision of a college faculty member. This course can be taken for 2–3 credits.

Lecture Hours: 16

WBL-145 Workplace Project Based Learning: Business, Finance, Marketing

3 credits—Students in this course learn the concept of project based learning in the workplace, and develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Business, Finance, Marketing, and Management employment sector. Projects are developed under the supervision of a college faculty member. This course can be taken for 2–3 credits.

Lecture Hours: 16   Lab Hours: 64

WBL-146 Workplace Project Based Learning: Information Solutions

2 credits—Students in this course learn the concept of project based learning in the workplace and will develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Information Solutions employment sector. Projects are developed under the supervision of a college faculty member. This course can be taken for 2–3 credit hours.

Lecture Hours: 0   Lab Hours: 64

WBL-146 Workplace Project Based Learning: Information Solutions

3 credits—Students in this course learn the concept of project based learning in the workplace and will develop and implement projects in cooperation with local businesses, community organizations, or non-profit agencies in the Information Solutions employment sector. Projects are developed under the supervision of a college faculty member.

Lecture Hours: 0   Lab Hours: 96

WDV: Web Development

WDV-102 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

WDV-105 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

WDV-221 JavaScript

3 credits—The course will introduce the concepts of the JavaScript programming language and its related logic structures within an Internet browser. This course will discuss the concepts of Dynamic HTML which is the interactions of JavaScript, Cascading Style Sheets (CSS), HTML, and the Document Object Model. Students will create dynamic forms, change content, and perform client-side user-driven activities within a web page application.

Lecture Hours: 32   Lab Hours: 32

WDV-300 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 the students 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 CIS-121 and CIS-231.

WDV-321 Advanced Javascript

3 credits—Use Javascript to implement client-side form data validation, browser compatibility, and motion as well as other dynamic content changes. Create dynamic cross-browser compatible user-driven presentation and content with Javascript and CSS.

Lecture Hours: 32   Lab Hours: 32

WDV-600 Project Development

3 credits—This course is designed to allow students to create a showcase project of their skills in a format and language of the student's choice. Project management skills introduced from other classes will be reinforced.

Lecture Hours: 32   Lab Hours: 32

Prerequisite(s): A minimum grade of C in CIS-217 and CIS-225.

WDV-800 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.

WDV-928 Independent Study

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course can be repeated with different content for credit. This course can be taken for 1–3 credit hours.

Lecture Hours: 32

WDV-930 Internship

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): A minimum grade of C in CIS-217 and CIS-225 and CIS-206.

WDV-931 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 CIS-231, CIS-215, and instructor approval.

WEL: Welding

WEL-106 Welding Design

1 credits—This course will examine the principles behind joint design of welded fabrications, the contributing stress imposed by the welding and heating of materials during construction and the calculated measures taken to ensure sound welding design. Different procedures of joint design and weld strength will also be discussed.

Lecture Hours: 16

WEL-201 Procedures and Qualifications

1 credits—This is a facilitated course designed to make the student aware of proper welding procedures, qualification records, and procedure specifications found in industry. This course helps prepare the student who will become a welding supervisor or inspector.

Lecture Hours: 16

WEL-228 Introduction to Welding, Safety, and Health of Welders: SENSE1

1 credits—Provides students with orientation to the welding profession and will cover the basics of safety and health within the welding profession. This course aligns to SENSE Level 1, Module 1 and Module 2 – Key Indicators 1-6.

Lecture Hours: 16

WEL-233 Print Reading and Welding Symbol Interpretation: SENSE1

3 credits—Provides instruction in interpreting elements of welding prints (drawings or sketches), focusing on measurement, American Welding Society welding symbols, and fabrication requirements. Students will demonstrate how to prepare, assemble and tack weld parts according to drawings or sketches, using proper materials and tools. This course aligns to SENSE Level 1 Module 3: Drawing and Welding Symbol Interpretation, Key Indicators 1 and 2.

Lecture Hours: 48

WEL-244 Gas Metal Arc Welding Short Circuit Transfer: SENSE1

2 credits—Focuses on proper weld safety, machine setup and welding techniques of Gas Metal Arc Welding Short-Circuiting Transfer. Students perform American Welding Society compliant welds on carbon steel, in flat, horizontal, vertical and overhead positions. This course will prepare students to take an AWS welder certification test, which is recommended for its successful completion. This course aligns with SENSE Level 1 Module 5: Gas Metal Arc Welding Key Indicators 1-7. Also aligns to SENSE Level 3, Drawing and Welding Symbol Interpretation, Key Indicator 3.

Lecture Hours: 16   Lab Hours: 32

Prerequisite(s): A minimum grade of C- in WEL-228.

Pre/Co-requisite(s):

WEL-245 Gas Metal Arc Welding Spray Transfer: SENSE1

2 credits—Focuses on proper weld safety, machine setup and welding techniques of Gas Metal Arc Welding Spray Transfer. Students perform American Welding Society compliant welds on carbon steel in flat and horizontal positions. This course will prepare students to take an AWS welder certification test, which is recommended for its successful completion. It aligns with SENSE Level 1 Module 5 Key Indicators 1, 2 and 8-12, as well as Module 2 - Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lecture Hours: 16   Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of C- in WEL-228.

WEL-251 Gas Tungsten Arc Welding for Carbon Steel: SENSE1

2 credits—Focuses on proper weld safety, machine setup and welding techniques for Gas Tungsten Arc Welding. Students perform American Welding Society compliant welds on carbon steel in flat, horizontal, vertical and overhead positions. This course will prepare students to take an AWS welder certification test, which is recommended for successful completion of this course. This course aligns to SENSE Level 1, Module 7 – Key Indicators 1-7, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lecture Hours: 16   Lab Hours: 32

Prerequisite(s): A minimum grade of C- in WEL-228.

Co-requisite(s): A minimum grade of C- in WEL-252 and WEL-253.

WEL-252 Gas Tungsten Arc Welding for Aluminum: SENSE1

1 credits—Focuses on proper weld safety, machine setup and welding techniques for gas tungsten arc welding. Students perform American Welding Society compliant welds on aluminum in flat and horizontal positions. This course will prepare students to take an AWS welder certification test, which is recommended for successful completion of this course. This course aligns to SENSE Level I, Module 7 Key Indicators 1, 2 and 13 – 17, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lab Hours: 32

Prerequisite(s): A minimum grade of WEL-228.

Co-requisite(s): A minimum grade of C- in WEL-251 and WEL-253.

WEL-253 Gas Tungsten Arc Welding for Austenitic Stainless Steel: SENSE1

1 credits—This course focuses on proper weld safety, machine setup and welding techniques for Gas Tungsten Arc Welding. Students perform American Welding Society compliant welds on austenitic stainless steel in flat, horizontal, and vertical positions. This course will prepare students to take an AWS welder certification test, which is recommended for successful completion of this course. This course aligns to SENSE Level I, Module 7 Key Indicators 1, 2 and 8-12 as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lab Hours: 32

Prerequisite(s): A minimum grade of C- in WEL-228.

Co-requisite(s): A minimum grade of C- in WEL-251 and WEL-252.

WEL-254 Welding Inspection and Testing Principles: SENSE1

1 credits—Students will visually examine test weldments and thermally cut surfaces per multiple welding codes, standards, and specifications. This course aligns to SENSE Level I, Module 9: Welding Inspection and Testing Principles.

Lecture Hours: 16

Prerequisite(s): A minimum grade of C- in WEL-233.

WEL-262 Thermal Cutting Processes I - Manual and Mechanized OxyFuel Cutting: SENSE1

2 credits—Focuses on proper safety, equipment setup and cutting techniques for manual and mechanized OxyFuel cutting on carbon steel. Students perform American Welding Society compliant cutting operations in the flat position. The student will also perform scarfing and gouging operations to remove base and weld metal in flat and horizontal positions on carbon steel. This course aligns to SENSE Level 1 Module 8 - Units 1 and 2, as well as Module 2 - Key Indicator 7 and Module 9 – Key Indicator 1.

Lecture Hours: 16   Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of C- in WEL-228.

WEL-263 Thermal Cutting Processes II - Plasma and Carbon Steel Arc: SENSE1

2 credits—Focuses on proper safety, equipment setup and cutting techniques for Plasma and Carbon steel Arc cutting on carbon steel, austenitic stainless steel, and aluminum. Students perform American Welding Society compliant cutting operations in the flat position. The student will also perform scarfing and gouging operations to remove base and weld metal in flat and horizontal positions. This course aligns to SENSE Level 1 Module 8 - Units 3 and 4, as well as Module 2 - Key Indicator 7 and Module 9 – Key Indicator 1.

Lecture Hours: 16   Lab Hours: 32

Pre/Co-requisite(s): A minimum grade of C- in WEL-228.

WEL-274 Shielded Metal Arc Welding I: SENSE1

3 credits—Focuses on safety, amperage settings, polarity and the proper selection of electrodes for the shielded metal arc welding process. Students will perform American Welding Society compliant welds on carbon steel, using visual and destructive methods for determining weld quality. This course aligns to SENSE Level 1 Module 4 - Key Indicators 1-7 for the flat and horizontal positions, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lecture Hours: 16   Lab Hours: 64

Pre/Co-requisite(s): A minimum grade of C- in WEL-228.

WEL-275 Shielded Metal Arc Welding II: SENSE1

3 credits—Focuses on safety, amperage settings, polarity and the proper selection of electrodes for the Shielded Metal Arc Welding (informally known as stick welding) process. Students perform American Welding Society complaint welds on carbon steel, in vertical up and overhead configurations, using visual and destructive methods for determining weld quality. This course aligns to SENSE Level 1 Module 4: Shielded Metal Arc Welding Key Indicators 1-7 for the flat and horizontal positions, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lecture Hours: 16   Lab Hours: 64

Prerequisite(s): A minimum grade of C- in WEL-228.

Pre/Co-requisite(s): A minimum grade of C- in WEL-274.

WEL-280 Flux Cored Arc Welding (Self-Shielded): SENSE1

2 credits—Focuses on proper weld safety, machine setup and welding techniques for Flux Cored Arc Welding Self-Shielded. Students perform American Welding Society compliant welds on carbon steel in flat, horizontal, vertical and overhead positions. This course will prepare students to take an AWS welder certification test, which is recommended for its successful completion. It aligns to SENSE Level 1 Module 6 - Key Indicators 1, 2 and 8-12, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lecture Hours: 16   Lab Hours: 32

Prerequisite(s): A minimum grade of C- in WEL-288 and WEL-245.

WEL-281 Flux Cored Arc Welding (Gas-Shielded): SENSE1

2 credits—Focuses on proper weld safety, machine setup and welding techniques for Flux Cored Arc Welding (Gas Shielded). Students perform American Welding Society compliant welds on carbon steel in flat, horizontal, vertical and overhead positions. This course will prepare students to take an AWS welder certification test, which is recommended for its successful completion. It aligns to SENSE Level 1, Module 6 - Key Indicators 1-7, as well as Module 2 - Key Indicator 7, Module 3- Key Indicator 3, and Module 9 – Key Indicator 2.

Lecture Hours: 16   Lab Hours: 32

Prerequisite(s): A minimum grade of C- in WEL-228 and WEL-245.

WEL-296 Pipe Welding GTAW

5 credits—Students will learn how to appropriately prepare, fit, and subsequently weld pipe in the 2G and 5G positions on carbon steel with the GTAW process.

Lecture Hours: 16   Lab Hours: 128

Pre/Co-requisite(s): A minimum grade of C- in WEL-303, WEL-251, and WEL-253.

WEL-303 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: 96

Prerequisite(s): A minimum grade of C- in WEL-275 and WEL-375.

WEL-339 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

WEL-344 GMAW Developmental I

2 credits—This lab course will be a continuance of Gas Metal Arc Welding methods. Students will perform within compliance of American Welding Society codes, standards and regulations.

Lab Hours: 64

Co-requisite(s): WEL-244.

WEL-345 GMAW Developmental II

2 credits—This lab course will supplement content from Gas Metal Arc Welding II. Students will have the opportunity to further develop the skills for spray transfer welding including, but not limited to, manipulation of electrodes, determining changes in operating variables and applying welding methods to the five basic joints.

Lab Hours: 64

Co-requisite(s): WEL-245.

WEL-353 GTAW Developmental

1 credits—This lab course will be a continuance of GTAW methods. Students will perform within AWS codes, standards and regulations.

Lab Hours: 32

Co-requisite(s): WEL-251, WEL-252, and WEL-253.

Pre/Co-requisite(s):

WEL-374 SMAW Developmental I

2 credits—This lab course will be a continuance of Shielded Metal Arc Welding methods. Students will perform within compliance of American Welding Society codes, standards and regulations.

Lab Hours: 64

Co-requisite(s): WEL-274.

WEL-375 SMAW Developmental II

2 credits—This lab course will supplement content from Shielded Metal Arc Welding II. Students will have the opportunity to further develop the skills for out of position welding including, but not limited to, manipulation of electrodes, determining changes in operating variables and applying welding methods to the five basic joints.

Lab Hours: 64

Co-requisite(s): WEL-275.

WEL-402 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

WEL-701 Robotic Welding

3 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.

Lecture Hours: 16   Lab Hours: 64

WEL-928 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 1 or 2 credits. This course is repeatable with different content for credit.

Lab Hours: 32

WST: Women's Studies

WST-101 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

WST-924 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. This course can be repeated with different content for credit. This course may be taken for 1–3 credits.

Lecture Hours: 16

WST-928 Independent Study ◆

1 credits—This course provides students with an opportunity to pursue or investigate a topic of interest that does not fit within the framework of regular course offerings. An independent study self-directed learning agreement must be discussed with and submitted to a faculty advisor prior to registration. This course may be repeated for credit with different content. Course can be taken for 1–3 credits.

Lecture Hours: 16

WST-949 Special Topics ◆

1 credits—Special Topics expands the curriculum by allowing students to enroll for up to three credits in a specific course or program area. Subject matter may be an in-depth extension of the particular area and is developed by the teaching faculty to meet unique interests and needs of the students. This course may not duplicate another one already in the catalog. This course may be repeated for credit with different content. This course can be taken for 1–3.

Lecture Hours: 16